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Global Innovation of Teaching and Learning in Higher Education

Transgressing Boundaries

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Foreword by James Wisdom

Global Innovation of Teaching and Learning in Higher Education: Transgressing Boundaries

This is an ambitious book, for reasons which signal the ways that Higher Education is moving.

Firstly, it reveals the complexity of the process of reforming higher education. Across the world higher education is seen as a modern success story, but there are many in the global academy who would rather not put that success at risk by significantly reshaping its processes. However, there are countervailing forces. The comparative statistics generated through the Organisation for Economic Cooperation and Development sometimes encourage national governments—concerned for prestige and income—to press for reform. Within universities, the international and national competitive rankings—no matter how flimsy their foundations—can push university leaders into rapid reform campaigns. More important (I hope) than either of these are the outcomes of the steady growth in the scholarship of teaching and learning, and focussed enquiry into ensuring that students have a rich and rewarding experience when they engage with the academy to learn.

From the simple impulse of wanting to do the best for and with our students, we have developed the range of responses we may need to deploy, as is shown through the structure of this book. Central to this work are the assumptions behind our current practices and being able to work successfully either in challenging them or incorporating them into enhanced teaching and learning. It is commonplace that within educational institutions, good quality research into practice does not of itself lead to change. We have to engage at the same time in making shifts in the cultural context. This is why there is so much to learn from the experience of the practitioners whose work is reported here. Their challenges may be particular, but the challenge is generic.

The second reason is to note just how rapidly the promotion of the scholarship of learning and teaching has moved from a personal interest in the first place, through to its establishment within the local institution, then into a national discourse, and from that to opportunities to learn from experience across the world. This is an international book, offering learning from many different places—countries of course, but also from institutions and disciplines. What binds it together are

students—learners whose experience is at the core of each change, each transformation. To take a scholarly approach to educational practice is to honour the student, to hear, to listen and to appreciate the texture of the lives of those who try to learn.

The third direction of movement lies with the authors of this book. The growth of interest in the scholarship of learning and teaching has been as much amongst higher education teachers as amongst the educational professionals. The desire for innovation and improvement, and the capacity to design and research it, is now widespread throughout all those individuals and groups who support students' learning. We succeed when we rely on a strong values base, a rigorous approach to scholarship and the full engagement of our students in the work of developing higher education—for all our citizens, at all stages of their lives.

James Wisdom is Visiting Professor in Educational Development at Middlesex University, UK and President, the International Consortium for Educational Development

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Preface

This book examines current trends in higher education and the Scholarship of Teaching and Learning. It introduces readers to pedagogical strategies that instructors worldwide are using to overcome some of the challenges they face in higher education. To maximize their students' learning, this book argues that institutions are compelled to innovate their policies and instructors must be collaborative and creative in their practices in response to students' growing demands and needs, challenges to their learning, and the shifting terrain of a rapidly globalizing world. The text explores the idiosyncrasies and challenges that drive innovation across particular cultures, disciplines and institutions. It suggests that the responses to these drivers offer some universal and compatible lessons that not only optimize teaching and learning, but also transgress institutional, cultural, and disciplinary boundaries in higher education.

The contributors to this collection work in the United States, the United Kingdom, Africa, Asia, Australia, Scandinavia and the Middle East. They represent a broad range of disciplines, fields and institutional types. They teach in varied contexts, durations, delivery modes, and formats, including online, study abroad, blended, accelerated, condensed, intensive and mortar-and-brick settings. Their higher education students are equally as diverse, in age, cultural backgrounds and needs, but willingly lend their voices and experiences to their instructors' study of teaching and learning in their particular contexts. This book harnesses the rich diversities and range our contributors represent and shares the results of their expertise, research, and assessments of some of the most creative and effective ways to improve student learning in the face of stagnant practices, limited resources, and other challenges that educators and students face in higher education.

About the Book's Organization

We designed this book for higher educational instructors and professions around the globe, who are interested in contesting the challenges that impede their ability to innovate and create new and expanded forms of teaching and learning. We begin

by examining some of the fundamental elements of higher education and teaching and learning that demand change. We make the assertion that teaching and learning in twenty-first century higher education have reached a crossroads, poised to transition to new and refurbished ways of serving our students' educational needs. We locate this assertion in historical and current, student-focused contexts in the section, "Transforming the 'Traditional' in Higher Education." The chapters in this section examine and challenge, among other things, centuries-old adherence to and privileging of organizational systems and structures based on the agrarian academic calendar, the higher education institution, the discipline, lecture-style pedagogies, unidirectional hierarchical knowledge and assessment.

As we attempt to expand readers' traditional ways of regarding these large, aforementioned concepts, the second section of this work, "Global Innovations in Teaching and Learning," makes it clear that these universal concerns must occur across diverse contexts. The chapters in this section introduce readers to some of the global innovations and approaches of our contributors. Their theory and practice-based approaches and case studies reveal their research-oriented, student-driven experimentations that privilege student voices. In this section in particular, we explore the growing dimensions of what it means to teach and learn locally and globally. In this section, contributors tackle ways to help students become more active and engaged citizens in their communities and the rest of the world and to gain intercultural competency not simply by travelling the world, but by bringing the world to them.

Technology represents the most widely used mechanism transforming higher education and our approaches to teaching and learning. The chapters of Sect. 3, "Transgressing Boundaries Using Technology," demonstrate the range of possibilities available to transform teaching and learning in higher education. Not only are our students more globally diverse, their lives are more distinctly virtual, with the majority of their interactions occurring online. Our authors in this section demonstrate the use of technology that adapts teaching to meet the realities of students' lives3 and like the to refashion ideas about the course and to transform traditional practices such as student note-taking, pedagogies and formats such as online teaching and disciplines such as Composition. Their discussions lead to the final section of the book, "Restructuring Delivery, Formats & Modes." In these final chapters, our contributors provide educators with research-based strategies for restructuring students' and educators' ways of comtemparizing their thinking about traditional concepts addressed in Section 1 in historical terms. These pedagogically-focused chapters examine students' cognitive, performative and affective behaviours.

Finally, in our concluding statements, we suggest that whether institutions, instructors, disciplines/fields stand at the crossroads of change, the decisions we make to stand still or move forward will have tremendous consequences for our students. We must never let fear and boundaries limit our innovations to engage our students more effectively in higher education.

Acknowledgements

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Chapter 1
Introduction: Teaching and Learning at the Crossroads

Prudence Layne and Peter Lake

This book began as part of an Elon University two-year study investigating the role of course format, delivery, and duration in teaching and learning. Since then, the project has become a global collaboration among higher education professionals who are making conscious decisions to develop, sound innovative pedagogical practices that accelerate, broaden, codify and deepen their students' cognition, skills, and affect. This book provides a space for these "academic adventurers" to articulate their exciting explorations. We investigate learning within the context of students as whole beings—mind, body, and spirit—engaging all their senses. Similarly, we study effective teaching as a highly reflective praxis in which student, instructor, and institution collaborate, innovate and share in partnership.

As the Scholarship of Teaching and Learning continues to grow, the question of what other instructors and institutions are doing successfully to dismantle the boundaries of normality and in response to changes in higher education are vital to students' learning and success. We are also assured that these inquiries and innovations are happening all over the world, in different kinds of institutions, across varied disciplines and fields, and for students of all types. Out of traditionally rigid frameworks, exciting, pedagogical innovations across boundaries, aimed at engaging student learning and animating our teaching, are emerging. We are fortunate that practitioners and students from across the globe have lent their voices to this collection, one in which we hope readers will be able to see reflections of themselves, their fields, and institutions.

As instructors who have taught in virtual environments, study abroad programs, condensed formats and in the traditional mortar-and-brick classroom, each of us has operated on anecdotal evidence and informal observations about students'

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impressions of the positive impact of different kinds of experiences, environments and techniques on their learning. Whereas students in the traditional 12–15 week semester or term might accept that they saw some transformations in their perspectives, these accounts were not as widespread or universally true. For us, the troubling distinction students were making between traditional and non-traditional modes of delivery, formats and durations puzzled us. Surely we could replicate these successes and techniques regardless of course format, delivery, or duration? In other words, how could teaching, without distinction, demonstrate the kind of practices students found engaging and innovative? Should we accept that accelerated, condensed, concentrated, or similar courses/modules should be different?

Teaching Innovatively

In collaborating on this project, what we have discovered is that culture (institutional, individual or national) dictates the meaning of terms and their usage. Throughout our collaborative process? for example, we have both reached the end of a conversation only to realize that while one of us was talking about a course (referred to as a module in the UK), the other was talking about a degree program (called a course in the UK). Confused? So were we! While we wish we could provide universal definitions, the glossary we have included as a resource at the end of this book offers definitions based on the ways in which our contributors are using the terms in their respective chapters, understood usage, and the distinctions across particular cultural contexts. The discussions of non-standard and other terms may be different, but they share a need to improve students' learning and our teaching.

Before we invite readers to use the glossary, we want to explore the ways we understand and use "non-traditional" or "non-standard," interchangeably throughout the book. We recognize that in its most popular usage, anything that has not been done in the same way as before may constitute an unconventional practice for the particular institution, instructor, and even the student. For example, an institution that does not encourage the use of social media like Facebook or Twitter in the classroom, as described in Abigail Scheg's chapter "Can Technological Codeswitching be Taught?", may be moving its practices forward by allowing the use of the technology in a first-year writing course. More broadly, however, when we use the term non-traditional in this collection, we are referring to any course/module taught wholly outside the 12–15 week semester and outside the mortar and brick walls of the physical classroom environment on a college/university campus. In his chapter, "Concentrated Learning: A Linear Approach to Knowledge for Higher Education," John Baun provides an excellent genealogy, dating back to Socrates and Erasmus, of how we have reached this stage in teaching and learning: the intersection of the traditional and non-traditional. Rebecca Strachan and Lalith Liyanage's chapter "Active Student Engagement: The Heart of Effective Learning" advances the discussion by providing additional insight of various engagement activities for instructors.

Drivers for Change

Student demographics around the world are changing significantly and these changes are dictating the need for colleges and universities to balance resources with sound and efficient pedagogical practices. Institutions across various national contexts face additional challenges: they must recruit across a broad range of disciplines or fields, and balance size with a limited infrastructure, including the allocation of classroom spaces for lectures or seminars. Staffing also remains a resource shortage, as well as the timetabling of courses, which can also become a driver to course design.

Why are demographics shifting so drastically and how are institutions adapting to these changes? Globalization is certainly one factor. People move around as much as raw materials. Developing nations, such as India, Brazil, and China, also three of the world's most populous nations, have seen a burgeoning middle class desiring and able to send their children abroad seeking further educational/social opportunities. At both our home institutions, Elon University in the United States and Sheffield Hallam University in the United Kingdom, the student bodies have certainly become more international. For example, Elon made the transition from college to university in 2001, increasing its range of postgraduate/professional degrees, most recently adding Elon Law School in 2006 and the Elon School of Health Sciences in 2011. In her chapter, "Transforming Higher Education," Prudence Layne examines some of the institutional strategies used to engage most effectively the community in the best teaching and learning strategies, examines some of the institutional challenges in moving from the "traditional," and discusses student, administrative, and faculty responses to teaching and learning strategies of engagement. SHU, on the other hand, was formerly a polytechnic campus, which now prides itself on having an employability focus. The shift was governed by the government, which encouraged the move. As a result, no polytechnic universities now exist across the United Kingdom. In India, the government also dictates a university's status. They are either "deemed" a university or not. If they are deemed, they have autonomy to choose which courses they run, develop their syllabi, and determine their fees. Students from Asia have increasingly found their way to SHU, especially in the technology sector. On the other end of the spectrum, Sean Michael Morris and Jesse Stommel explore the building of a community as the main catalyst for change and learning in their chapter, "The Course as Container: Distributed Learning and the MOOC." The authors write: "It quickly became clear that structures like courses and curricula are often driven, not by learning itself, but by our educational system's fetishization of non-ambiguous qualitative and quantitative measures for learning". "In other words, when we look at data, we do not see the information we're looking for. We have to look at the spaces between data points, the space beyond the statistics, to understand how learning works within a course" (p. 177). Their discussion of MOOCs is vital to this collection because of the ways it encourages us to transgress the boundaries, limits and trappings of traditional ways of organizing or, in their terms, "containing," higher education institutions: courses, calendars, and assessment. Learning, they argue, should be lifelong and fluid. As they argue, the mechanisms and approaches to supporting this learning do not.

In their chapter, "Digital Storytelling in Industrial Design," authors Veronica Barnes, Daniela Gachago and Eunice Ivala of the Cape Peninsula University of Technology in Cape Town, South Africa discuss the urgency of catering for a national student body, the majority of whom had been denied education under the country's apartheid government and who speak multiple languages from among the 12 that are officially recognized. Now part of higher education in a post-apartheid nation and critical to their country's success, these instructors reveal how embracing and using their students' oral cultures and life experiences have been successful within their field of industrial design. It is precisely these diverse cultures that are being tapped on the global front, as Lenora Helm and Emmanuel Oritsejafor describe in their chapter "Navigating the Performing Arts in a Globally Networked Classroom: The Case of Jazz! Born in America, Created Internationally." A COIL (Collaborative Online International Learning) project, this course united the University of South Africa (UNISA-South Africa's largest tertiary and distance learning institution) with the College of Music in Aarhus, Denmark and North Carolina Central University's Department of Jazz. The chapter explores the technological and other logistical challenges the instructors faced in the course and the innovative ways they navigated them.

Interestingly, the multicultural nature of colleges and universities around the world are derived differently, but all face difficult issues, including language. For example, with English as a Second Language (ESL) learners, even when university entrance criteria such as the TOEFL are required and pre-course training is encouraged, students may score well on these standardized measures, but have problems comprehending and communicating in daily situations, such as in the classroom. The discipline/field can also be important. For example, the non-domestic student studying Journalism will need greater initial dexterity with the language of instruction than the student entering the skills-driven field of Computer Science.

Universities with growing international student populations are now asking questions about whether it is right to change the assessment routine so that students' work is internationalized. So would it be acceptable, for example, for the Indian journalism student at SHU to write an article as he/she would for *The Times of India* versus *The Times* of London? Colleges and universities are also recognizing the importance of sending their domestic students abroad and internationalizing their experiences away from their home campuses. Katie Roller's "Pre-Service Teachers and Study Abroad" and Opal Leeman-Bartzis and Thalia M. Mulvihill's chapter "Student Teaching Abroad: Intercultural Learning in Context and a Changing Approach to U.S. Educator Preparation" argue for pedagogies that develop students' intercultural competencies as fundamental components of lifelong learning.

How does one accommodate all these diverse students' needs? Shifting student demographics, whether they comprise adults returning to school following joblessness, holding full-time employment while pursuing higher education, soldiers returning from war, or parents attending classes alongside their adolescent children, force us to examine our higher education "products." The default position in higher education has always been to do what is "normal" or "traditional," a stance that may

too often be defined by resources rather than pedagogy. Universities are saleable products, generating significant revenue, but competing interests battle for these finite resources. We have to maximize students' time and make sure we recognize what value our courses/modules provide. Higher education faces greater challenges of explaining why a higher education degree is relevant. "Just because things have always been like this" is no longer good enough as the courses are products in a competitive market. We cannot afford student-cantered learning and teaching to take a backseat in these battles.

How does the twenty-first-century university balance pedagogy and economics? Balancing economic resources with pedagogy is an important driver in how we teach. Universities may not want to pay for our time to engage students for long periods and students also do not have the time to sit locked away in rooms for long periods. However one delivers, one has to prove that the learning objectives have been achieved. Sometimes these objectives are set with knowledge of resource limitation. In much of the United Kingdom, for example, the process of developing new courses and degree programs is often group-driven, undergoing intense scrutiny and vetting. Recently at Sheffield Hallam, to bring a new MSc computing course to market, the process went something like this:

1. Several people interested in the new technology met to brainstorm what a new course might contain
2. That team made sure there were staff willing and able to teach the modules suggested
3. The proposal is put before the faculty in writing and this is followed up with two meetings with senior faculty managers who assess the likely financial and resource implications before granting (or not) permission to take the idea forward
4. The team then assembles a very detailed validation document, which can reach 100+pages. Rationale for the course content, structure and delivery methods have to be provided and then the content of each module is discussed in detail, including discussion of Learning Objectives, Typical Contents and Assessment.
5. The document then goes to a validation panel made up of staff, who are not from the same department as the proposers.
6. After a half-day review, either validation is granted, often with recommendations, or is denied.

This is a lengthy and time-consuming process. From the birth of the idea to gaining permission to start selling the new MSc took over 9 months and involved a lot of human resources. And for what, we might ask: to assure the university that this course (degree) is worthy of an M-level award? A sensible rationale, but the unseen side effect is that this tends to be a mechanism for killing, or at least laming, innovation. Either teams take the path of least resistance just to get the award validated, playing it safe and doing what is always done, or they need to gird themselves for some lengthy debates during the process. Indeed, as educational innovators we need to be aware that our cases have to be argued. Institutions rightly defend their existing status and if we want to do something that is new, we should be as sure as we can that these changes benefit the learning experience we offer the student.

Among the many developments shaping higher education around the world is the rapid expansion of the distance education market, with entire universities like the University of Phoenix, Kaplan University and Open University executing the majority of its operations online. Within distance education, MOOCS (Massive Open Online Courses) provide large-scale interactive participation and open access to traditional course materials and facilitate interactive user forums that help build a learning community among students and instructors. As a result, the traditional university has recognized the economic and learning potential of distance learning strategies.

Technology as a form of engaging student learning, for example, is a strategy not limited to the online/virtual environment. D. Roman Kulchitsky, Amir Zeid and Ahmed M. Hamza study the relationship between student interactions with digital information and learning in their chapter "***The Efficacy of LSA (Variant) -Based Feedback for Assessing Student Learning in an Introductory International Relations Course***." Their strategic objective is to identify new forms of digitally-enabled learning. On a related note, the other technique this collection examines involves students taking more ownership of their learning when classrooms are "flipped." Sara Smith, Donna Brown, Emma Purnell and Jan Martin's chapter "'Flipping' the Postgraduate Classroom: Supporting the Student Experience" discusses the results of their study of the 'flipped classroom' and traditional lecture sessions. They discuss whether 'flipping' enabled students from a range of backgrounds and abilities to take a more active part within lecture sessions. Using tutor contact time to support their application of knowledge to problems and case studies within the workshops allowed them to develop a greater depth of understanding of each topic covered and address any areas of concern, and allowed the instructors to analyse student engagement, motivation, and overall performance.

The Importance of 'Engaging Students

What can colleagues in Kuwait, for example, learn from colleagues in Ireland? What do Lego and digital storytelling have in common? Are challenges at a technical institution in South Africa distinctive or similar to a private liberal arts or Historically Black College/University in North Carolina? The book is a resource for helping practitioners think pragmatically and philosophically about their pedagogy. The wide response to our initial call for contributions demonstrated that colleagues around the world were also engaging with these issues, had experimented and assessed these methods, and all felt they had something to add to the debate. The breadth of institutional and national cultures represented by the contributors' work also allows us to explore these works in a global context, beyond the walls of our institutions and the boundaries of our nations.

Our contributors do not just play it safe. They have experimented and integrated techniques in their teaching that may have caused traditionalists to raise their eyebrows, but in forging ahead and keeping students first, we have all benefitted from

their daring. Collectively, we bring decades of teaching experience to bear on our work. Perhaps most importantly, however, some are students themselves and bring both learning and teaching foci to their contributions.

Finally, while each of the chapters can be read in isolation, the whole collection places these pedagogical reflections and innovations along an overall continuum within the Scholarship of Teaching and Learning that not only moves the field forward, but encourages colleagues to experiment and find ways to enrich student experiences across all course formats, modes, and deliveries.

Engaging Mind, Body and Spirit

Our contributors demonstrate the ways in which engaging students as sensory beings, not only provide models for all learning styles, but simultaneously meets cognitive, skill and affective learning outcomes. In "Contemplation and Mindfulness in Higher Education," Iddo Oberski, Sue Murray, Joe Goldblatt & Chris DePlacido share candidly with readers the results of a pilot, which introduced contemplative practices as keys to retention. Contemplative practices (CPs) consist of enhancing awareness of the 'here' and 'now', characterized by the foregrounding of 'being' and 'living', rather than 'doing' or 'knowing'. Similarly, in "Fostering the Affective and Cognitive Dimension of Learning in Exploratory Search," Valerie Mannix conducts a qualitative research study that examines the motivational capacity of individual and collective future self-guides and images that blend motivational, cognitive and affective experiences of learners in the formation of future identities in higher education. She suggests that creative activity pertaining to the formation of individual and collective future learner identities depends critically on the interplay of thought, feeling and action and is activated by both individual and collective appropriate emotions (reflecting ontogenic and situational dimensions) and a variety of task-specific cognitive plans, scripts, and self-regulatory strategies.

More specifically, contributors Abugail Scheg's "Can Technological Code-Switching be Taught? Utilizing Twitter as a Communications Tool" moves us into the realm of social media, perhaps the area where most college students interact outside of their physical environments, to examine the use of Twitter in a first-year undergraduate composition course. David Mathew's "Conflict in Online Learning" is sure to elicit lively discussion as he argues for conflict as an essential component of online learning design. He further suggests that when planned for, the creative urges of learners are engaged via the application of group conflict.

Alison James moves readers out of the realm of the world wide web, but keeps us immersed in a world of creative play through her discussion of "Learning in Three Dimensions: Using Lego Serious Play for Creative and Critical Reflection Across Time and Space." James discusses how critical reflection, as a quasi-mandated component of curricula, can be creatively supported through non-traditional delivery methods. Using examples of highly successful and innovative reflective practice of metaphorical modelling through Lego Serious Play (LSP, originally cre-

ated for the corporate sector). The technique can be used in small or large group teaching (subject to need), incorporates intensive face to face engagement through individual and joint building and discussion, uses digital media to share images, models, ideas and progress locally and over distance, and combines these activities in order to strengthen learning exchanges and connections in the face of potential isolation and anonymity. The democratic protocols of Lego Serious Play (everyone shares, everyone builds, everyone speaks) stimulate involvement, while learning activities which are often conducted through text, such as the keeping of reflective journals (paper or digital) can be re-energized through combining approaches.

Having these ideas and resources in one place helps readers meet the new challenges we are facing in higher education. We cannot afford to wait for our students to tell us that their investment in their education (finances and personal) was a poor investment at the end of a class or worse yet, their degree program. We have to get our products right for all our students. If we do not, we run the risk of failing entire households and communities invested in and 'banking' on their students' success.

What About Us? Instructors Need to Be Engaged Too!

How do tutors come to the idea that it is time to do something differently and what resources and training are at their disposal when they reach these decisions? Working outside the norm is challenging. For instructors teaching for decades, how do we generate the desire to do something else? Experience gathered from from our interaction with traditionalist colleagues that the evidence that these new methods of engagement work must be demonstrated in ways and by colleagues that are familiar, respected, and tested. Often, students themselves become the catalysts for change. They recognize what excites them and are eager to ask, demand, and share the method(s) of engagement that they perceive to have worked for them. Even our most conservative colleagues hate to temper students' enthusiasm. In their transition to embrace innovation, traditionalists have to hear directly from students and colleagues in their own departments the reasons for what works and they need to be able to demonstrate their learning through assessment. In "What's an Instructor to Do?" Royce Ann Collins garners her 20 plus years in adult education to discuss the most important time-on-task strategies, incorporation of new Web 2.0 learning techniques, active learning strategies, and questioning techniques to develop critical thinking skills that instructors in non-traditional formats should include in their teaching repertoire.

Does Duration Matter?

Inevitably, one of the questions most educators will ask is whether shorter semesters and different kinds of learning can achieve the same learning outcomes as the traditional semester. Some otherwise excellent texts on teaching and learning manage

to spend 200 plus pages discussing methods, techniques and innovations, and never once mention the duration of teaching period. Those that do very often work on the assumption that the semester is a given. If there is any debate about length, it is about whether a module will last one or two semesters. Ramsden says, "It is common for courses to be structured around a series of lectures, seminars and tutorials purely because of tradition and administrative convenience" (2003). As he goes on to say, this is a very teacher-centric approach.

In his chapter, Peter Lake looks at traditional and non-traditional lengths of study. In his university, the norm is to teach modules in semesters. The most frequent debate tutors have centers around whether a module should be taught "long-thin" (over two semesters) or "short-fat," over one semester. Whilst this debate throws up some interesting discussions of its own, Lake tells us of a pilot of an even shorter-fatter approach, which challenges some of the preconceptions we might have about our students' need for time to learn.

There can be little doubt that most modules on most courses, certainly in the UK, will last for either 12 or 24 weeks. Timetabling is notoriously difficult, especially in large intuitions with limited room availability. This can often result in the tail wagging the dog: timetabling driving the selection of delivery schedule for a module, rather than pedagogic rationale. As efficiencies in administration are sought, the desire to simply "roll over" last year's timetable also adds to this problem. As Ramsden says, "An 'administrative' view of course content is the enemy of an educationally sound sequence" (2003/138), In the author's discipline and experience, he has never come across a situation where 12 weeks is too much time; it is usually a case that one has to decide what content to omit rather than worry about empty weeks. But then, perhaps what is omitted because of lack of time should be included? Perhaps 13 weeks, or 15, or 20, would be the appropriate length for Handling Data in the Cloud, whereas perhaps 14 or 16 weeks would be ideal for Distributed Databases?

Of course, (degree in US terms) we have to be realistic. Some degree of standardisation of period is needed to ensure that a student can graduate within the overall length of their course (degree in US terms). Nonetheless, in an environment where challenging tradition is the norm, it is perhaps worth questioning the appropriateness of the semester in some circumstances. Often built into the "standard" timetable is an assumption of teaching methods. The default is often something like: 1×1 h lecture $+ 1 \times 2$ h seminar or lab per weeks for 12 weeks. Even in institutions where innovation in teaching and learning is encouraged, this framework can restrict staff's ability to do something different. At the very least it can impose a kind of inertia based on the assumption that the normal pattern is the desired pattern of delivery.

SoTL at a Crossroads

We have reached a crossroads in the Scholarship of Teaching and Learning. Here stand the students who may decide to take their own learning paths, not necessarily via "higher" education, if they perceive that some of the stuffy monoliths of today's

traditional universities may be inadequate at providing the level of service they need. At the same crossroads stand academic staff rooted in tradition, and gazing towards the green pastures of engaging and exciting education, wishing they had the courage to take the first steps in that direction. The twenty-first-century higher education institution also stands at this intersection, trying to assess which path will lead it the successful balance of pedagogical and material innovations. We share the experiences of students, academics, and institutions moving forward. Let's explore …

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Part I
Transforming the 'Traditional' in Higher Education

Chapter 2
Concentrated Learning: A Linear Approach to Knowledge for Higher Education

John T. Baun

Introduction

Accelerated, intensive and immersion learning are educational delivery methods that have been bandied about, experimented with, criticized and hailed as new, useful, useless or destructive, depending on one's point of view. Generally, the definition of accelerated learning is a course that is delivered in a shorter time than "normal" (Brookfield 2003; Lee and Horsfall 2012). Intensive learning, a version of accelerated learning, utilizes a longer daily time commitment than "normal," e.g., 4, 6 or even 8 h per day. Morgan-Short et al. (2011) argues that the concept of immersion learning, i.e., becoming involved with a discipline 24/7, has long held sway as a method for teaching languages, especially to adult learners. Csikszentmihalyi (1982) suggests that the combination of these methods should be labeled "concentrated learning" (22). We will use the term "concentrated" to mean a delivery of education that involves a shortened time span instead of the traditional 13–16 week semester, coupled with extended hours of study. Thus, students essentially immerse themselves in their study throughout their waking hours, in dialogue, group work, or solitary thoughtful pursuits. This chapter explores the question of whether concentrated learning can be a viable avenue for education. In truth, concentrated learning is not a new idea, but was the traditional learning pedagogy in the time of the Sophists. In addition to tracing the evolution of the pedagogy, this chapter examines the neurological and psychological implications for such concentrated learning in higher education, using two case studies based on real-life experiences.

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History

Some images of the ancient Greeks, most notably Socrates, Plato (1964), and Aristotle, show Socrates proceeding with lectures surrounded by an enthusiastic throng of students. This is not far from the truth. According to Marrou (1956), Socrates, seated in the center, surrounded himself with his students in the "shade of the sacred wood dedicated to the Academos" (67). There, Socrates conducted discussions with his students in rhetoric, the art of using words in oration (ostensibly to uncover the truths) (68). While we can envision students surrounding a Master, that is not to say that rhetoric was the sole discipline, i.e., subject of study, of the day. Aristophanes depicts Greek school children learning at the hands of their Master to include a variety of disciplines.

The focus here is not the disciplines per se, the individual subject of study, but rather the manner in which these subjects were taught; although, in practice, the delivery of a particular subject needs to be sympathetic to the subject taught. Plato (1964), in The Republic, depicts his ideal study where students would be engrossed in a particular study for years with little intervention of any other course of study. Marrou (1956) states, as per Plato (1964), that students would study "literature from 10–13, music from 13–16, and finally mathematic" (from 17 or 18) (76). Concentrated learning of a single subject was the hallmark of Plato's school, the Academy. This method of concentrated, in-depth discussions based around a single subject for a prolonged period began to change as society advanced and finally evolved into what we now term, "modern" education.

Marrou (1956) points to the Christian schools as the beginning of the transformation to "modern" education in the fifth to the seventh century AD (336). Here, instead of studying through prolonged and concentrated discussion of one of the ancient subjects, students learned the Sacred Text through rote memorization; discussion was not allowed. He states, "The child was supposed to read the passage again and again until he knew it by heart—a sort of equivalent of our general method" (338). Marrou (1956) considers the pedagogy of the Christian schools, with its rote memorization, as the precursor pedagogy of today's schools. However, similar to studying rhetoric through prolonged discussion of Plato's times, the student now, through the rote memorization, was still engaged in concentrated learning—the complete immersion and study of the sacred Christian texts.

The transition from discussion then rote memorization concentrated in a single discipline or subject, and then the subsequent expansion to include a variety of subjects studied simultaneously, according to Compayré and Payne (1905), began in the Renaissance and continued through the sixteenth century. Various subjects of study introduced during this time had their foundations distilled into small portions of essential principles. Through intense and severe rote memorization of these portions, students achieved the perfection of the subject under study. As noted by Compayré and Payne (1905), Erasmus, one of the leaders of this movement, claimed, "As the body is nourished in infant years by little portions distributed at intervals, so should the mind of the child be nurtured by items of knowledge and adapted to its weakness, and distributed little by little" (90). Thus, the idea of bites

(one can call them classes) of different subjects, rather than concentration in one subject, was introduced.

Distilling the fundamental tenets of a single discipline into discrete portions of essential principles is the foundation that supports the introduction of subsequently more difficult bits and pieces to build the students' knowledge base. It also instils the idea that to progress to discussion and application of a discipline, the student must master that discipline's basic fundamental principles, sequentially. Erasmus's theory directly opposed the prevailing idea of the Ancients that by the use of rhetoric, and through prolonged discussion of the world and the case studies within the world, the basic truths of a discipline, or even the world, could be discovered.

As the Renaissance progressed, the study of disciplines expanded beyond Sacred Texts, rhetoric, music, and physical acumen to incorporate the newly discovered fundamentals of the natural sciences. Due to the explosion of subjects, e.g., astronomy, alchemy, medicine, as well as the growing interest that students had in studying these subjects, time management became an issue. The education span of the student required a discrete and delineated approach to time and an apportioning of the student's time to various disciplines. Over the next 300 years, through efforts of educators such as La Chalotais, Talleyrand and Condorcet, the education of the student transformed from a continuum of study into stages of primary, secondary and post-secondary education. Included in these stages were the refinements of a discipline "by little portion(s) distributed at intervals" (90).Thus, by the eighteenth century, the idea that chunks of knowledge, separated by time, beginning with fundamental knowledge acquired through memorization, became the prevalent educational model.

Concentrated Learning

The study of several subjects in sequential small portions has been part of the American educational scene since the American Revolution, according to Scott and Conrad (1992) and Wlodkowski (2003), due to both the history of parcelling out education into interdisciplinary bites as well as to acquiescence to the agrarian calendar. Scott and Conrad (1992) report the first break from this paradigm with courses that could be labelled intensive, occurring during summer courses at Harvard in 1869 on a non-credit basis. Johns Hopkins and the University of Chicago followed Harvard's lead, and Chicago offered some of the courses year-round on a quarterly basis. These summer intensive, short-term, single subject courses, in part, "were designed to upgrade elementary and secondary school teaching skills" (413). Summer sessions expanded and transformed to include "interim" sessions, i.e., such sessions normally consisting of three to four weeks (or less) of a single subject and taught between semesters, or before or after normal semesters (Conrad 1978, 1992). Adult learners form one population in which interim courses are uniquely established. Interim schedules meet the needs of adults and other non-traditional learners who have schedules that restrict their participation in a "normal" post-secondary,

12–16 week semester environment. With the emergence of the for-profit university, targeted towards working adults, many for-profit schools now adhere to a shorter 8-week subject term. In addition to serving the needs of adult learners, a shortened term provides the ability to reap the financial rewards by catering to those non-traditional learners, a growing constituency in American higher education.

According to the National Center for Education Statistics (NCES 2011), the number of 18–24-year olds in higher education will increase from 12,374,000 (2011) to 13,130,000 in 2020. Likewise, the number of non-traditional adults (25+) will increase from 8998,000 in 2011 to 10,709,000 in 2020, or to nearly 45 % of the entire higher education student population. Due to this forecasted increase in student populations, institutions, neither for-profit, not-for-profit (private or public), do not want to lose any potential source of revenue (Wlodkowski 2003; Lee and Horsfall 2012). With the pressures of economics and space, especially in attracting and retaining older non-traditional students, the traditional 12–16 week semester format is difficult and thus a new, shorter timeframe is becoming a normal occurrence in higher education (Kasworm).

Issues

While concentrated learning in all its forms (intensive, accelerated, immersion) is a pedagogical method that is here to stay, it is not without its issues and critics. Wlodkowski (2003) points out the arguments against concentrated learning: (a) students need time to reflect and assimilate their learning; (b) time is required for neural networks to grow and establish new learning pathways; and (c) the amount of work required to complete a course simply cannot be accomplished in a shortened timeframe.

Previous Academic Studies

Csikszentmihalyi (1982) studied the relationship between concentrated time and learning in different studies and found that concentrated learning forms "deep concentration" (22). This deep concentration both enhanced the educational level and led to a higher level of satisfaction with the course subject as reported by students in the study who took a course in the concentrated format. Additionally, such concentration created a more rewarding environment for learning and absorption of a discipline's knowledge. As an added bonus to the absorption of learning, Scott (2003) showed that students felt their accelerated courses provided them a higher level of satisfaction than traditional courses. Students reported that they were able to "synthesize the material better," they were able to "really get into something without the class ending," and "felt there was less downtime in intensive courses" (35). As Scott (2003) reports, two different students state:

> I think that a lot of the way [sic] that people learn and retain information is [sic] directly related to how intense the experience is while they're learning it. If I have an experience that's not particularly intense, that's spread out over a long period of time, at no point … will I have my mind into it. I really won't have a devotion to the subject or to the material… I remember things that affect me intensely, and because this class for a period of six or eight weeks was really a big part of my life, and it was something that I was thinking about all the time, I think that will always occupy a space in my brain. (35–36)

And

> You were constantly studying this stuff, and you knew with the final only three weeks away … you didn't forget it… You didn't have to go back and re-learn it all. (36)

In the study by Lee and Horsfall (2012), where a traditional 12-week course was compressed to a 6-week course, the reactions from both faculty and students also were positive. Their study, conducted at Swinburne University in Australia, was conducted with over 500 students and taught by 12 faculty members, in both 12 and 6-week courses. Of these 500+students, one hundred and fourteen students responded to the survey. Of these students, 76% rated their experience with the accelerated course as positive while only 7% felt negative about such a delivery format. In addition, only 14% of the students felt that they were less confident in the material learned in the 6 weeks as opposed to the remaining 86% of students who felt more or equally confident about material learned in the 6-week courses versus a 12-week course (25% and 61%, respectively).

One interesting area came when the students reported a marked increase (74%) in the effort and motivation in the 6-week course (196). This increase in motivation might be reflective of Bandura's self-efficacy theory. As Onwuegbuzie and Jiao (2004) explain, Bandura's self-efficacy theory could show that an "individual's belief system influences his or her behavior choices, efforts expended, levels of persistence, and task success" (51).

While students respond well to concentrated learning, both Daniel (2000) and Wlodkowski (2003) found the adults respond particularly well to accelerated delivery formats (shortened from the traditional 12–16 week format) and recommend them as a format for teaching adults. Wlodkowski and Westover (1999) conducted research into three courses (Accounting, Law and Introduction Philosophy) adults took and found that in the accelerated delivery format, "adult students completed content mastery and performance-based assessments. These measures indicate that 80% of these students demonstrated learning rated as satisfactory or above by faculty experts" (1). In a similar study, Wlodkowski, Mauldin and Iturralde-Albert (2000) found that in a concentrated study of courses conducted in Spanish in Puerto Rico, the performance by older adults averaged higher than the performance by traditional-aged students taking the same courses in a conventional (traditional) post-secondary format.

At the University of Montana Western, Thomas and Roberts (2009) report that the traditional-aged students accept the accelerated course format well. This accelerated course structure was coupled with an eighteen-hour instruction day, one-class-at-a-time immersion format into a concentrated learning format. This program format has been so successful (detailed later in this chapter) that the University of Montana

Western became the first 4-year public university in the United States to adopt such a course delivery system for the majority of its classes.

Although student and faculty interest appeared positive for concentrated learning by 2007, there was not yet any evidence that concentrated delivery affected retention. Addressing this question, Baun (2009) found that in a comparative study between a 13-week legal skills course and the same course in a concentrated format, there was no statistically significant difference in learning and retention between the traditional and concentrated courses deliveries as measured at 2 weeks and 3 months after the completion of the course.

Neurological Studies

In light of the argument against single-class-at-a-time concentrated learning, neuroscientists have begun to investigate how concentrated learning relates to the development of neural pathways and brain plasticity as part of the overall research into learning and the human brain. As neuroscientists, and their technology, become more sophisticated in their ability to discover how learning affects the brain and how different educational formats affect the brain, more and more evidence becomes known regarding new and more effective ways to stimulate the learning pathways of students' minds.

Although research is ongoing, Rumsey (2011) states:

> Firstly, the person concerned must be aware of and pay close attention to the experiences. Secondly, the experiences should have some degree of challenge and novelty. Thirdly, the person concerned should diligently engage with the experiences, that is, have a conscious awareness, focus and participation. Fourthly, thinking is just as important as doing, for example, interpretation, analysis, reflection, mental rehearsing and meditation. Fifth, there needs to be substantial practice, repetition and reinforcement. Sixth, the person needs to be emotionally aroused by the experiences. This could be positive arousal as in rewarding and satisfying experiences or negative arousal as in situations involving fear and threat. Sixth, involvement in the experience must be active and passionate (not passive), requiring focus, effort, commitment and persistence. Seventh, the person concerned should have a positive attitude, commitment and enthusiasm for the activities involved in the experiences (and their outcomes). (55)

According to Davachi et al. (2011), the development of neural pathways requires the necessity of concentration and the disengagement from distraction. As Davachi et al. (2011) state, *"Focusing on multiple streams of information, including trying to multitask in the learning environment also results in neurons decreasing their firing and, hence, learning decreases significantly"* (2).

This study also argues against the mistaken idea that single focused "cramming" is a desirable way to learn. According to Karpicke and Roediger (2007), learning needs to be interspersed with delays in which a student can reflect upon his or her learning. However, these delays can vary from 10 min to 24 h, a practice defined as spacing. As Davachi et al. (2011) point out, neuroscientists know that spacing

helps retrieval and builds better long-term memory. Thus, neurologically speaking, concentrated learning sessions must be constructed in a manner so that information is parsed out in sections that are spaced within the learning timeframe and then recalled shortly within the shortened timeframe. These recalls, coupled with a feedback mechanism, appear to provide the strongest neuroplasticity build within the brain and to provide a student with optimal learning and retention.

Another factor coming from neurological studies concerns the amount of information "chunks" or packets that individuals can absorb at any one time. According to studies by Linden et al. (2003) and Bavalier (2012), the number of new concepts that individuals can retain within their brains is between three and seven distinct packets of information at any one time. According to Bavalier (2012), the low number of processing chunks is the norm for most individuals. Individuals who are heavily engaged in visual stimuli, such as action video games, scored toward the higher number of processing chunk ability.

While information needs to be parsed out, the amount of information that an individual can absorb is unknown (Davachi et al. 2011). These packets of information need "digestion time" (9). One of these digestion times is sleep (Peigneux et al. 2001). During certain parts of REM sleep, the brain forms synaptic connections. These connections are the elements, along with repetition, that provide a strong memory of a subject.

While the number of repetitions necessary for a particular knowledge chunk to cement itself within the brain is not fixed, sufficient repetition for the individual leads to "ownership" of the content and, through activation of the hippocampus, creates the associations that lead to a strong memory (Davachi et al. 2011, p. 4). In a study by Davachi and Wagner, enhanced memory was associated with an enhanced activation of the hippocampus. These associations rely on the learner comparing this content to their own knowledge and then going deeper, i.e., partaking in the "deep concentration" alluded to by Csikszentmihalyi (1982).

This integration of existing and new knowledge along with deep concentration can be stimulated by having students integrate their own knowledge with the content taught through exercises and personal experience integration of the content, which can be done within or outside of the classroom and through individual or group assignments. Another method of stimulating the hippocampus and integrating the content into memory is through questioning. Using open-ended questions that force the student to integrate personal experiences with content reinforces the repetition and the ownership of the content, and allows easier retrieval of content.

Time

One argument made by professors wedded to the traditional 16-week semester is that there simply is not enough seat time (time in the classroom) or outside time (time spent working outside of the classroom either individually or in groups) in

concentrated courses as there is in a traditional semester. A legitimate defense against that argument comes from Karweit (1984). In his major study of the synthesis of time and learning, he found that while some lapse time is "necessary for learning" (33), the amount of lapsed time is not dispositive, nor is it a sufficient condition of learning. Conrad (1978, 1992), Stuckey (2007), and Sullivan et al. (2007), all address this issue by arguing that simply by retraining professors to a new paradigm of concentrated learning and restructuring the syllabus, the time argument against concentrated learning can be mitigated.

Looking at the semester calendar suggested by the Western Association of Schools and Colleges (WASC) of 147 instructional days based on Carnegie units of 1 h of seat time and 2 h of outside time per week per credit hour, a one-credit course could meet the equivalent number of hours in five consecutive 8-hour days. A three credit hour course could meet the same instructional seat and outside time requirements in a 15-day concentrated course. If one assumes that the student only takes one course in a concentrated format at a time, and the deep concentration that Csikszentmihalyi (1982) refers to happen in off hours, the time a student would be working or thinking of a course could be reduced even further.

Coupled with the argument of time is the argument of interference, where other courses overload the mind, thus "interfering" with the knowledge in a current course. Interference may have a deleterious effect on learning. Conrad (1978, 1992) found that a multiple course load does not give a student the proper reflection time and thus may disturb the synaptic connections, as postulated by Milner (1999), before they are truly set, thus leading to loss of memory. However, Lusting et al. (2001) found that individuals who were subject to multiple stimuli demonstrate variance in retrieving memory and those individuals who are less efficient at retrieval may require a longer time span for accurate information retrieval. Subjecting a student to one course at a time of concentrated learning eliminates any argument of interference of multi-course studies.

Interference, as an argument against concentrated learning, was believed to be a factor that led to memory loss. However, a study by Boddy displaced this idea that interference was a mitigating factor in memory loss over time as opposed to retention and retrieval of concurrent learning. In his study, Boddy compared a compressed format with a traditional format at the University of Nebraska in courses of Computer Science, History, and Education Law, using the same instructor in both formats. In a multiple regression analysis, using final grades and seven independent variables, Boddy found that interference was not a determining factor.

Although Boddy used a compressed versus traditional higher education format, the main thrust of his research was interference's effects in memory loss as opposed to learning and retention. Conrad (1978, 1992) reports that up until 1992, only three studies comparing compressed formats with traditional formats existed and these were not in higher education but rather, high school.

Studies: Baun 2007

Finding a lack of studies of concentrated delivery format in higher education, I undertook a study in the academic year 2006–2007 that specifically targeted learning and retention in a comparative analysis of a traditional delivery format course versus a highly concentrated delivery format. This study was commissioned because of both the school's and the director's desire to know whether there was a difference in learning and retention between the two course formats. The study was designed as a quasi-experimental, non-randomized post-test between two groups in a one-credit Trial Advocacy course in an American Bar Association (ABA) accredited law school. The groups consisted of two sessions of concentrated learning and two sessions conducted in a traditional delivery format. The concentrated learning took place over nine consecutive days, each day consisting of 6–8 h of instruction and required additional outside time. The study measured outcomes from the concentrated delivery against the outcomes from the traditional format of 1 h a week of seat time and corresponding outside time. The curriculum was the same for both groups and taught by the same instructors and practitioners.

The motivation for the two methods of instruction was due to the school's desire and need to accommodate two different cohorts of students in the law school. One cohort consisted of traditional full-time graduate students. These students enrolled in courses during the day in two semesters, each 13 weeks in length, although they had the option to take the night class. The other cohort of students in the school consisted of non-traditional, night graduate students who, for the most part, were full-time employees during the day. These night students were not available to take the course over the 13-week traditional timeframe. To accommodate these night students, since the school did not offer the Trial Advocacy course in the evening, the school initiated, several years prior, a pre-semester concentrated Trial Advocacy course. This pre-semester course was offered prior to the fall semester and again between the fall and the spring semesters. Students in both cohorts had the option of taking the course in either format, depending on their schedules.

After consultation with the faculty and the Director of the program, the study design employed quantitative analysis through a designed instrument consisting of questions that covered both the text and application of trial processes in a trial. The questions of the instrument were designed in cooperation with the Director and instructors. To compare the learning versus retention, the Department of Institutional Research (DIR) asked students to complete the questionnaires one to 2 weeks after the end of the course and again at 3 months after the completion of the course.

The Director of the Trial Advocacy program informed the students in all four sessions of the participation and the purpose of the study. The Department of Institutional Research collected all data for the study. The DIR e-mailed the instrument to the students, collected their completed questionnaires, and collected and compiled all data and withheld, in confidence, all personal and identifying information, from the researchers. A total of 540 (N-540) students participated in all four sessions with a total of 98 ($N=98$) students participating after 2 weeks and 54 ($N=54$)

students participating at three months. All questions on the instrument were close-ended, unordered questions.

The study's Grand Question was: "There is no statistically significant difference of learning and retention, over time (3 months), between students taught via an accelerated course delivery versus the learning and retention, over time (3 months), of students taught via a traditional semester long program." This Grand Question actually broke down as two null hypotheses. They were: (1) there is no statistically significant difference in the learning (as measured 1 week after completion of the course) between students taught in a traditional method versus an accelerated (concentrated) method, and (2) there is no statistically significant difference in retention (as measured 3 months after completion of the course) between students taught in a traditional method versus an accelerated (concentrated) method.

After compiling the results and eliminating results for students either who did not complete the questionnaire, or who completed the questionnaire improperly, an SPSS analysis using a T statistic was calculated. The results of the first null hypothesis calculation showed that the null hypothesis was not rejected (t[96]=1925, $p=0.057$). The results of the second null hypothesis calculation showed that the second null hypothesis was not rejected (t[52]=−1302, $p=0.199$), leading to the conclusion that there was no statistically significant difference in either learning or retention, based on the course's format of traditional or concentrated delivery.

Studies: University of Montana Western

While the interim legal skills study, detailed above, was grounded in a humanities-based discipline, the question remains: Can concentrated learning be used in the sciences or can concentrated learning be the norm for a 4-year institution of higher education? Robert Thomas and Sheila Roberts (2009) from the University of Montana Western (UMW) addressed the answer in an article.

In the mid-1990s, the faculty at University of Montana Western noticed that students who were engaged in geological fieldwork appeared to have a significantly lower rate of absenteeism versus students in lecture classes. It also appeared that students in fieldwork appeared to learn at a deeper level in scientific concepts and skills than in lecture-based classes with similar scientific concepts. These observations, coupled with difficulties of geological fieldwork in less than a concentrated manner, (Thomas and Roberts (2009) use "immersion" where we will use the term concentrated) drove several faculty members to come up with a new model and paradigm for courses at University of Montana Western that would solve both the fieldwork issue and the lecture absentee rate.

To solve this problem, UWM looked to Colorado College, a private four-year Liberal Arts and Sciences college, which used a different educational model that Colorado College termed a "block plan." This block plan consisted of students taking one course at a time throughout their entire college career. In 1997, the University of Montana Western received a grant from the US Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE) to implement a 3-year pilot program based on Colorado College's block plan entitled: Experience One.

In this plan, students take courses "over 18 instructional days (an instructional block), four credits per class, met 5 days per week for an average of 3 h per day" (66–67). At the end of each block, students are given a 4-day break before the next block. Thus, students take up to four courses per semester thus completing 16 credits per semester.

According to Thomas and Roberts, the school conducted a variety of assessments of the program at both the campus level and at the individual discipline level. This study reports that in a Cornell Critical Thinking Test, given in 2006, there was a marked increase in performance compared to a 2002 Cornell Critical thinking Test. The 2002 examination occurred prior to the initiation of the Experience One protocols.

Thomas and Roberts (2009) report that in the academic year 2007–2008, the University of Montana Western participated in the National Survey of Student Engagement (NSSE). Student engagement, as per the NSSE, has a two-fold purpose. One is the query to students as to how much time and effort they put into their studies, and the second query asked how long students participate in learning activities during a course (NSSE website). While the NSSE does not directly measure or evaluate student learning, the NSSE research and test results over the years show a direct correlation to student learning. According to Thomas and Roberts (2009), the UMW ranks above their Carnegie class, compared to similar institutions, and above all higher education institutions measured in the 2008 NSSE. Moreover, UMW scored higher in all three benchmarks in that survey. (Author's note: no statistical data was included in this article).

An additional benefit of the Experience One program comes from employers who have used Experience One students as both interns and employees. This benefit is the absence of student procrastination on task. As Thomas and Roberts (2009) report, students routinely accomplish an extraordinarily high level of output during their internships and employment (73). Although neither the school nor the researchers conducted a study regarding this lack of procrastination, one can surmise that since there is no time during the concentrated learning blocks for procrastination, students transfer this mindset of getting on task quickly to their real world work experience.

After 3 years of overall positive results of Experience One in 2005, the University of Montana Western received a unanimous vote by the Faculty Senate and adopted the Experience One block-scheduling concept throughout the entire curriculum. As a result, "the University of Montana Western became the first public, four-year campus in the United States to adopt one-class-at-a-time immersion scheduling for the majority of classes" (66).

Suggested Success Factors for Concentrated Courses

The factors necessary for a well-constructed concentrated course include:

- Active Learning—Engagement of the student through active learning, and the utilization of active learning techniques, is a critical component of a concentrated

course (Scott 2003; Lee and Horsfall 2012). Students, whether adults or traditional higher education-aged students, come into a university setting with previously learned knowledge (Scott 2003; Knowles 1975). Because of that prior knowledge, students need to generate connections between the current knowledge and the prior knowledge. As Scott (2003) states, "The more connections students generate, the more meaningful these connections, the greater is the likelihood that students will remember and be able to access new information" (31).

- Experiential/Applied Learning—As noted above, most students felt that active learning provided a more valuable learning experience than did passive learning, i.e. lecture. While active learning was important, Scott (2003) reports that students want to apply the material, in-class, through "problem solving, role playing, simulation exercises,…" (32).

By constructing applied learning exercises, the instructor can guide students, through group exercises and other techniques, to facilitate these applications. This promotes group dynamics and teaming, skills that are useful outside of the classroom and, as one student mentioned, "the intense group work exercise helped me to understand how others worked and how to work better in a group" (196).

- Instructor Enthusiasm and Feedback—A major factor, according to both Scott (2003) and Lee and Horsfall (2012), is instructor enthusiasm and feedback. Both studies report that such enthusiasm motivated students, was infectious and helped the course move quickly. Additionally, the enthusiasm of the instructor, especially with relating experiences, made the concentrated learning more meaningful.
- Depth—In accordance with Csikszentmihalyi's idea of "deep concentration" (22), Scott (2003) reports that students want instructors to emphasize "depth not breadth of learning" (33). Such depth reinforces the synaptic connections and allows faster and more accurate information retrieval (Davachi et al. 2011; Davachi and Wagner).
- Spacing—From neurological studies, spacing is an important aspect of brain physiology when it comes to learning. The brain requires small breaks to cement the learning (Karpicke and Wagner; Davachi et al. 2011; Bavalier 2012, 2001). Classes must be constructed to accommodate this spacing both within the class timeframe and outside the class. By varying the learning activities, the instructor constructs spacing periods, thus allowing the student's brain to absorb the information and make the necessary pathways for recall and application.

Conclusion

While there are many benefits that may derive from a concentrated delivery format, such concentrated delivery has inherent protocols that need to be present for a successful concentrated experience. In addition, as we have seen in the studies by Baun (2009) and Thomas and Roberts (2009), a range of subjects can be taught via a

concentrated delivery format. Lee and Horsfall (2012) also have found that literature does not distinguish between whether different disciplines are "more or less suitable for accelerated formats" (193) nor is there any evidence that would support the notion that skills-based courses have a higher learning and retention outcome than conceptual content.

Concentrated learning is a 5000-year old pedagogical format that contemporary faculty and students positively accept; however, it is not a panacea nor will it fit all faculty and all students. Concentrated learning can lead to deeper learning, less procrastination, stronger academics, and a greater connection between knowledge and application. Courses utilizing concentrated learning take forethought and acceptance by all concerned to make the experience positive and rewarding.

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Chapter 3
Transforming Higher Education Institutions

Prudence Layne

Higher Education: A Slow Route to Revolutionary Innovation

Generally, one of the ironies of higher education is that while institutions strive to teach students to think critically and innovatively, they often seem guilty of being slow innovators in comparison to other industries, especially those sectors that hire many of our graduates. When it comes to meeting students' changing expectations and maximizing the use of resources to impact their learning, higher education appears to lag behind its corporate, technological, media and other competitors and allies. Protracted debates about the implications of the change, hesitancy to commit already limited human, time and financial resources to untested enterprises, a fear of failure, restrictive bureaucratic structures imposed by state, governmental or private governing bodies may all factor into a higher education institution's decision to adhere to its traditional modus operandi, even if that institution aspires to be the best and outperform its competitors.

On the other hand, an institution may derive benefits from taking a slower route to revolutionary change. Inevitably, when some institutions take the plunge and experiment with new trends in higher education, the others are watching, waiting and learning the best ways to craft their strategies and goals. So while centuries old traditions remain intact in higher education, history shows us that when change comes, it is sweeping and durable. One might argue that this seemingly slow route is a decided advantage higher education enjoys over its industry competitors. Indeed, it is a fundamental purpose of institutions of higher learning, a deliberate, measured and considered examination of the human condition and ways to improve it. Rather than chase the new and succumb to the pressures and demands of competitive market forces, we demonstrate the value of crafting new knowledge by interrogating the old.

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Therefore, every institution of higher learning must find the balance between its aspirations and the responsible management of its resources. As Ann Kirschner (2012) notes, "… when observed from the 20,000-foot level, the basic building blocks of higher education—its priorities, governance, instructional design, and cost structure—have hardly budged…. About the only thing within academe that has moved rapidly is tuition" (*Chronicle of Higher Education* April 8, 2012). In fact, if one examines changes in corporate, technological and other sectors where innovation can happen more rapidly, factors such as funding structures, sources and competition drive their markets. Moreover, their innovations teach us how to think, learn and adapt quickly. For example, if one counts the massive number of people around the globe who navigate and learn to use an equally impressive number of applications, software, media and technological devices in their homes, cars and workplaces in any given year without a college degree, the snail's pace at which higher education moves becomes even more apparent. However, one must differentiate the kind of skills training that comes from learning a new technology or application from the kind of higher order skills that can be derived from higher education where we teach the person who saw the need and learned the requisite skills to create the technology or application to improve the human condition and way of life.

This chapter is not intended to interrogate why higher education institutions are often slow to enact deep changes (others in this collection have ably proposed theories that address this question); instead, its purpose is to examine some of the creative innovations higher education institutions make around their funding sources, structures and competition. When the ambitions and goals of an institution outpace its resources, what kinds of balanced changes can be made and how does teaching and learning fare in the process?

Specifically, this chapter explores some of the innovations enacted at Elon University. Charting its attempt to innovate around its physical, curricular, human and other structures, policies and practices to develop its brand of engaging students in the "Elon Experiences" (internships, leadership, research, study abroad and service-learning), this relatively small, liberal arts university in the United States tries to balance the demands for greater economic and intellectual accountability in an industry where consistent and revolutionary change may be slow to arrive. Hopefully, higher education audiences will recognize elements of their own praxis in this case study and find ways to nudge, if not catapult, their own institutions forward.

Elon University Ranked as a National Leader in Student Engagement

Elon University commemorates its 125th year in 2014, and its transition at the turn of the twenty-first century from a liberal arts college to a 4-year institution offering advanced and professional degrees in law, business, communications, education and health sciences. The Elon brand calls for greater attention to global engagement, citizenship, service and diversity among its community. Most noticeably,

these goals are laid out in the institution's most recent Strategic Plan, *The Elon Commitment,* and its Mission Statement. Elon aspires to embed its values and mission into every facet of its operations to ensure "the highest levels of achievement" in teaching and learning.

Often recognized as one of the United States' leading higher education institutions focused on student engagement and success (http://www.elon.edu/e-web/news/rankings/), the *US News & World Report,* for example, ranked Elon #1 among Southern master's-level universities, with a strong commitment to teaching. The institution's service-learning and study abroad programs and first-year experience have also been hallmarks in U.S. national rankings. While the accolades are wonderful, the more important question centers on how the institution seeks consistently to sustain and support student success and engagement across all levels of the university.

Aligning Strategy and Purpose with the Institutional Mission

Elon recognizes that its ability to plan strategically and purposefully to ensure its longevity, stability and sustainability is a fundamental goal that must be handled optimally. All of its constituents must embrace the institution's guiding principles. Furthermore, these values and the ways they are achieved must set Elon apart from its competitors.

At its core, "Elon University embraces its founders' vision of an academic community that transforms mind, body, and spirit and encourages freedom of thought and liberty of conscience" (Elon University Mission Statement https://www.elon.edu/e-web/administration/mission_statement.xhtml February 27, 2014). Elon's holistic approach to academic preparation and focus in the pursuit of knowledge and learning as independently-propelled pursuits rests at the heart of its mission and core. To achieve this mission, Elon promises the following four commitments:

a. We nurture a rich intellectual community characterized by active student engagement with a faculty dedicated to excellent teaching and scholarly accomplishment.
b. We provide a dynamic and challenging undergraduate curriculum grounded in the traditional liberal arts and sciences and complemented by distinctive professional and graduate programs.
c. We integrate learning across the disciplines and put knowledge into practice, thus preparing students to be global citizens and informed leaders motivated by concern for the common good.
d. We foster respect for human differences, passion for a life of learning, personal integrity, and an ethic of work and service.

http://www.elon.edu/e-web/administration/mission_statement.xhtml

In no place in its mission and goals does Elon (or most higher education institutions for that matter) state that it will guide its students quickly to these goals. In

fact, its use of the words "nurture" and "foster" suggests that students should strap in for the long haul as they are "grounded in the **traditional** [emphasis mine] liberal arts and sciences."

Elon's mission and values further reflect the gradual nature of innovation in higher education, demonstrating that its entire purpose for innovation rests in the transformation of the individual: "mind, body and spirit." The purpose of aiming for the changed individual is to nurture human beings who are "concern[ed]," "respect[ful]", "motivated" and "ethical." These principles and pursuits set higher education apart from its technological, corporate and other rivals. Education fundamentally serves as an incubator for human growth and development. To possess a college degree is a luxury; not everyone can afford it or even wants it. If only these lifelong feats to transform individuals were achieved as quickly as the development of an app or as widely used and embraced! Every institution will undoubtedly try to live up to its founding values and principles. Recognizing, however, that these tenets are aspirational and may better be accomplished in some epochs versus others, they provide good blueprints and measures of how the institution should value students and members of its community in the educational enterprise.

Innovating Around Physical Space

A central facet of an institution's goal to uphold its values rests in its ability to maximize the benefits it derives from its resources, especially its physical resources. Peter Felten, founding director of Elon's Center for the Advancement of Teaching and Learning, founded in 2005, current Director of the Center for Engaged Learning, (founded in 2013) and Assistant Provost, raises important questions about the impact of classroom design in student learning in *Transforming Students: Fulfilling the Promise of Higher Education*, co-authored with Elon University Professor of Physical Therapy Charity Johannson:

> The physical aspects of a campus also communicate values and support or restrict transformative learning. As Torin Monahan argues, every campus has a ³built pedagogy² (2002). Certain activities are more or less probable depending on the design of space and facilities. Are all classrooms essentially alike, or does form follow function? Are study spaces made for solo or collaborative work? Does the layout of offices, buildings, and sidewalks encourage students (and faculty and staff) to encounter people in different disciplines and roles? While the answers to questions like these will vary, Nancy Van Note Chism persuasively notes: ³If campuses exist to foster specific kinds of learning, they should inspire and foster this work physically as well as intellectually (2006, 2.2). (qtd. In Johansson and Felten 2014, pp. 53–54)

Establishing centers focused on the Scholarship of Teaching and Learning (SoTL), student engagement, and centering writing in its Quality Enhancement Plan and Center for Writing Excellence, Elon moved to decentralize the mortar-and-brick classroom as the space of teaching and learning and to broaden, integrate and deepen student engagement across numerous spaces of its campus. For example, to bridge the gap between the physical separation of living and learning spaces, Elon

has developed living-learning communities and moved to increase the percentage of students living on campus. While the optimal use of physical space and the emergence of living-learning communities for some institutions may help alleviate parental fears and facilitate students' learning, the harsh realities of the twenty-first centuries also shape the ways in which higher education institutions think about the other spaces students occupy and how these can be used creatively as incubators for transformations of mind, body and spirit. Shifts in thinking about the optimal use of space to promote learning must move beyond measuring the success of investment in rooms by the percentage of time a room is scheduled to the quality of the environment in the integration of teaching-learning.

Johansson and Felten (2014) summarize some of the other innovations institutions of higher learning are making to reshape traditional ideas about classrooms and the use of space in higher education:

> While the design and use of campus space is complex and potentially expensive, creative possibilities exist even on a limited bud get. In 2010, for example, Texas Wesleyan University conducted a design competition for students, faculty, and staff to create Classroom. NEXT (Collier et al. 2011). Five teams submitted proposals, and the winning design, titled ³A Radically-Flexible Classroom,² was created by one faculty and five students. The new space is particularly well suited to inquiry-based pedagogies, emphasizing student collaboration in a bright, open room. The Classroom.NEXT program, not surprisingly, inspired changes beyond a single room, as students, faculty, and staff began to re-imagine how spaces across campus could be reconfigured to promote learning and creative engagement. Stanford University design scholars Scott Doorley and Scott Witthoft remind us that ³space transmits culture² (2012, p. 22). A campus that values transformative learning should reflect that insight, this is a place that is open to change, that allows students to experiment, and that encourages collaboration. (54)

Reconstituting its definition and use of physical space to improve student learning is among the important lessons Elon has learned from its history. Central to its reimagining has been the development of a decentralized physical infrastructure to support student success, not just in terms of its classroom designs and spaces, but in its redefinition of what constitutes a classroom.

Restructuring space use and design to enhance function is an essential component of student engagement and success. Michel Foucault was among the first theorists to suggest that J.A. Betham's panopticon, the primary design for the prison, also provided the blueprint for the automatic functioning of power and surveillance in schools, hospitals and other institutions. Foucault's theory of panopticism argues that the design of these spaces is a fundamental foundational component used to exert power and control over the behavior and attitudes of the inhabitants of those spaces. In their article "(Re)-envisioning Classroom Design with Light and Color," Johnson and Rutler (2013) examine the relationship between classroom design, student achievement and behavior. They concluded that "the teacher could cause measurable changes to student learning behaviour and achievement by altering the classroom environment" (551). Jayasinghe et al. (1997) extend the discussion through their examination of virtual classrooms in "The Effect of Distance Learning Classroom Design on Student Perceptions," particularly of instructor credibility and immediacy. In the article, they suggest, "A classroom, whether used for traditional

instruction or distance instruction, is a miniature social system where a multitude of events enacted in a complex social setting" (5–6). Collectively, these theories insinuate that not only can the use of space (traditional and virtual) be manipulated to impact student learning, attitudes and behaviors, but these discussions help us uphold our mission of treating the student as a whole being, recognizing that they eat, drink, love and play where they think, learn, dream and act as good citizens of the world.

From Parochial to Global

One might argue that Elon's response to the wars marked the first phase of its transition from a mostly rural, agrarian and parochial college to its recognition that as an institution of higher learning, it had a role to play in world affairs. The shift to a global focus germinated with the war and would later translate into the way the university used other physical-support mechanisms and generated income to support student engagement.

Embracing and learning from institutional history specifically, and higher education history in general, also provide further answers to the question of how Elon tries to sustain and support student success and engagement across all levels of the university. Throughout its history, Elon has learned how to prepare for and react to the kinds of incidents every institution will inevitably face, including fires, natural disasters, vandalism and other crime, disease outbreaks, scandals and other threats to its property and constituents.

At its founding in 1889, Elon sought to educate the mostly rural, agricultural and manufacturing residents of North Carolina, who worked primarily in tobacco, textiles, and furniture. One hundred and twenty-five years later, with a reported ethnic diversity of 17 % and the top nine states after North Carolina comprising 63 % of the student body, which come from approximately 50 count rues, undoubtedly, the Elon student demographic continues to change (http://www.elon.edu/e-web/admissions/snapshot. xhtml, March 30, 2014). A fundamental component of the evolving student body is a focus in *The Elon Commitment* to diversity and global engagement.

History Transforms

Inevitably, every institution faces threats and challenges, some of which may rock the core of their physical existence. Not only are the responses important, but such transformative moments can provide the impetus to innovative. During World War II, for example, large numbers of young, war-bound males almost decimated Elon's student enrolment, which depended on their tuition dollars to stay open. To survive, Elon garnered federal funding as a training site for war pilots. Another near disaster, the Great Fire of 1923 also marked a pivotal historical moment for the university, as several buildings, including the administration building, which served as the

heart of university operations, were destroyed. The university faced the decision of whether to rebuild or close its doors, but with the help of the people of Alamance County, the institution was rebuilt. These pivotal moments engendered great change for Elon and provide lessons from which others might learn.

Another positive innovation Elon derived from its bout with near disasters came in its movement away from a unilateral use of most spaces following the 1923 fire. Now, the multifarious use of buildings for living, teaching and learning, combined with the use of satellite facilities, in which an office unit such as the library may split its resources and functions among several buildings, combine with this new trend to make it tougher for isolated threats to physical space to result in the decimation of whole systems or even the entire university.

As an institution that still depends largely on tuition fees and raising private capital for its survival, near catastrophic events in Elon's long history inform its current decision-making when it comes to optimizing the use of resources for student engagement and success. The major world wars, a series of fires, and an outbreak of the flu that claimed the lives of at least one student, disrupted the university's operations and threatened its physical and economic survival. However, these events also provided important early lessons for the institution as it worked to secure its future and provide the blueprints on which current policies are founded.

Entering Virtual Space

Global terrorism, wars, conflicts, and health pandemics have resulted in much of the world, including the United States, being implicated as actors in these conflicts. Not only did institutional and world events force Elon administrators to rethink the use of physical space, but the institution, like the entire higher education sector, also had to reconceptualize the term "space" itself. Implementing shortened/condensed semesters to facilitate student engagement in study abroad, service learning and internships was a significant change Elon made to its academic calendar as early as the 1930s. These semesters included a winter/January term, a simmer session in June, and another in July, all lasting approximately 4 weeks. Innovation in its academic calendar, to include online teaching, 4-week calendars in January, June and July and a movement to a 4-credit hour system versus three laid the groundwork for this radical restructuring.

As web-based education developed in the United States and around the world, more institutions embraced the format's economic potential. At Elon, enrollment in the time-shortened semester (Winter and Summer I and II) has steadily increased since the introduction of the summer term in 1932 and winter/January term in 1969. Winter term enrolment increased steadily from 1558 students in its inaugural academic year to 5050 in 2010–2011, while Summer I and Summer II enrolment increased from 518 and 505 respectively in 1978–1979 to 1659 and 671, respectively in 2013. (*Registrar's Enrolment Report Spring 2011 & Enrollment Comparison Report*). Interestingly, the university abandoned the Summer II session between 1994 and 1997, before determining "it was a mistake to do so" (Personal Interview,

University Registrar, June 2011). While the increasing popularity of these semesters at other institutions are attributed to "… more non-traditional students seek[ing] higher education" and an approach "… university administrators seek to find ways to increase student enrolments" (Austin and Gustafson 2006, p. 26), these semesters are used at Elon to facilitate students' participation in engaged learning activities, such as study abroad, internships and service-learning.

Changing the university calendar also had the additional benefits of removing some of the physical confines of university operations. More recent global health threats and their potential spread to countries around the world, including the United States, raise serious concerns at Elon about what would happen if the campus had to confront an outbreak on its doorsteps. Instructors were encouraged to use online tools that would sustain instruction even if the university had to temporarily suspend its physical operations. The use of technology and online instruction became more intimately integrated into face-to-face instruction. Not only did the introduction of online teaching expand the university's reach more broadly and globally, at key points in its history, it helped diffuse and neutralize some of the concerns and threats posed by some of the previously noted maladies that can plague the physical university and its constituents. For higher education and for Elon in particular, the introduction of online education remains one of its most revolutionary innovations, not just a renovation to business-as-usual practices.

Restructuring the Academic Calendar

For any institution contemplating restructuring its academic calendar, how do innovations in curricula, course sequencing and formatting factor into that restructuring? Some students, such as transfers, use the condensed semester at Elon to catch up. Yet, even these statements and questions cannot be fully substantiated since we do not know the full range of the student demographics opting to participate in the condensed semester, or the reasons why these courses are increasing in popularity with our students. Furthermore, we do not always understand the impact of the length or structure of these terms on student learning, achievement, and performance. Without this information, we cannot know whether instructors are using the best pedagogical practices to facilitate students' learning in these environments or ensure that students are meeting their optimal levels of academic achievement.

In November 2013, more than 200 Elon University students and graduates (from 2008 to 2013), representing a broad cross-section of the university's changing student demographics, revealed the answers to some of the questions posed above. With the majority, 76.2 %, reporting as females across all fields of study at the university, respondents voluntarily indicated their enrolment in the following kinds of courses offered in a condensed format:

Answer choices	Responses
An Elon on-campus Winter term course	96.33%
	210
An Elon Winter term study abroad course	43.12%
	94
An Elon Winter-term hybrid course (on-campus and away)	14.22%
	31
A summer online course	27.06%
	59
A summer on-campus course	10.55%
	23
A summer study abroad course (6 weeks or less)	5.50%
	12
A course offered in the Spring/Fall semesters that lasts less than the entire semester	78.44%
	171

The results indicate that the majority of Elon students seem as comfortable enrolling in a course offered in a shortened format as they do enrolling in courses offered in the Fall and Spring semesters. More than 96% of those surveyed participated in Elon's winter/January term, with just over 43% indicating they had used the Winter term to study abroad. When Elon created the winter term semester in 1952 to facilitate study abroad, they entrenched that experience as a cultural norm across many facets of the university. The results show that students view the Winter term and their participation in it as "standard." With more than 72% of Elon students participating in at least one Winter term study abroad experience prior to their graduation, additional responses about the use of the Winter term demonstrate the ways and purpose of the Winter term in students' course of study and degree-granting programs:

Answer choices	Responses
The course was required for me to graduate on time	65.90%
	143
It was more economical for me to take one/more of these courses	34.10%
	74
I wanted to take the course to get ahead	41.01%
	89
I needed to take the course to improve my GPA following academic probation	1.84%
	4
I wanted to take the course to improve my GPA	11.52%
	25
The non-traditional format allowed me to concentrate on one course at a time	36.87%
	80
The format was secondary; I simply found the course interesting	52.53%
	114
The duration was secondary; I simply found the course interesting	44.70%
	97

Results show that nearly 66% of those surveyed take a required, as opposed to an elective, course during the 4-week winter term. Finances, format and duration were all secondary to students' interest in the course material and desire to accelerate their graduation requirements. The ability to use a course taken in this semester to improve GPA, get off academic probation and to concentrate on one course at a time were also not as important to the majority of respondents.

Yet, when asked to rank their preference for courses of varying durations, the following responses were recorded:

Course length	1	2	3	Total	Average ranking
4 weeks or less	18.65%	43.01%	38.34%		
	36	83	74	193	1.80
5–8 weeks	20.21%	34.20%	45.60%		
	39	66	88	193	1.75
Full fall/spring semester (~15 weeks)	61.14%	22.80%	16.06%		
	118	44	31	193	2.45

Unsurprisingly, and as the earlier responses have already borne out, students logged their preference for the traditional 15-week semester, more than 60%, with the Winter term coming in second, 43%. Pressed further, students were asked to agree/disagree with the following statements:

Statements	Agree	Disagree	Total
All Elon courses should be taught in an abbreviated format	4.15%	95.85%	
	8	185	193
Only certain Elon courses should be taught in an abbreviated format	95.34%	4.66%	
	184	9	193
I would recommend shortened courses to every Elon student	56.25%	43.75%	
	108	84	192
Only some Elon students would succeed in shortened courses	64.58%	35.42%	
	124	68	192

While more than half of the respondents indicated that they would recommend a condensed course to another Elon student, the majority, nearly 96% in both cases, suggested that only "certain Elon courses" should be offered in an abbreviated format. The kind of courses was deliberately unspecified, as was the type of Elon student who would succeed in these courses.

Meeting Student Expectations

While the survey did not ask questions to make conclusions about how the evolving student demographic was reflective among respondents, they were asked to rank the viability and success of the course using a four-point Likert scale, with 1 being poor and 4 being excellent:

How well did the non-traditional course…	1 (%)	2 (%)	3 (%)	4 (%)	N/A (%)	Total	Average rating
Further your content knowledge in the subject	3.66	9.42	36.65	49.21	1.05	191	3.33
Improve your skills/competence in the subject area	5.24	10.99	40.31	42.41	1.05	191	3.21
Improve your critical thinking	5.76	17.80	39.79	34.55	2.09	191	3.05
Improve your understanding of the subject	3.19	10.64	39.89	44.68	1.60	188	3.28
Improve teamwork/collaborative learning	10.99	24.08	29.32	31.94	3.66	191	2.85
Increase your desire to learn more about the subject matter	2.65	19.05	38.62	38.10	1.59	189	3.14
Lead to your direct action or involvement in a directly related activity	13.61	24.08	26.70	28.80	6.81	191	2.76

In their assessment of what they liked the most about the non-traditional class, more than half of the respondents ranked the length of the course and its convenience highly:

Answer choices	Responses
The length of the class	56.54%
	108
Increased opportunities for active learning	45.55%
	87
The course format	45.55%
	87
increased opportunity for innovative learning styles	43.98%
	84
Relevance to my possible career	28.80%
	55
Relevance to real life	43.98%
	84
Convenience	53.40%
	102
Greater opportunity for reflection activities	23.56%
	45
Other	8.38%
	16

Among their comments, respondents called the content of the condensed courses in which they enrolled, "More interesting." Another respondent substantiated these sentiments, noting that the subject matter in a non-traditional course usually "focused on more specific topics in my field" and "to learn about professors' research." Other respondents also noted that these courses gave students the ability to: "take more courses during my 4 years than I might have otherwise been able to" and "stay more engaged through class duration and after the course was completed." The following participant captured the essence of the respondents who took the time to offer additional comments:

It was an acute and full immersion in the subject matter—we moved through the material quickly and in-depth. Having 2+hrs of class, followed by 2–3 hrs of group project work, independent research and reading activity was a dynamic way to learn the material. As a result of the focused time spent on this one course area, I believe I have stronger recall of course material and knowledge than traditional courses and coursework. No traditional courses requires greater preparation by professors in that they have to be engaging and have sufficient course prep time to create materials that are interesting and engaging.

An additional group of respondents offered advice to Elon students and instructors at of condensed courses. The most telling comments follow:

- If it's an online course you should still find ways to engage students with each other and with yourself.
- Study abroad was exhausting, especially with all the travel, so I was emotionally and psychologically exhausted in the semester following a January Study abroad term.
- I think the instructors of my winter term courses generally did an excellent job with pacing, and have no complaints. For short-term classes, though, I would ask them to keep in mind that students who are taking short classes probably have very full schedules. However, students should remember that just because it's a short class, doesn't mean it's a joke of a class.
- To a student who isn't attracted to taking a non-traditional course: Try it anyways. I took a Shakespeare winter term course (I do not care for literature very much) and was not looking forward to being in the Shakespeare world for 4 h a day, 4–5 days a week. But surprisingly, I gained a curiosity by being immersed in a learning environment for that long period of time. It captures your focus and attention. I don't always agree that you can do that with shorter classes.
- Professors of non-traditional courses must have a syllabus that they adhere to. Because of the non-traditional format of the course, students are often concerned about things like grades due to the fact that there may not be as many and they weigh heavier than traditional courses.
- It really depends on the class and the student on whether or not they will enjoy/ succeed in different class environments. For example, I had always heard that it was almost impossible to survive taking (**name deleted to preserve anonymity)** class over Winter Term, but I actually found the fast pace more interactive and fun because you consistently had to be active in the course work and didn't have the lag time between classes to forget things you had learned. On the other hand, online courses I found extremely hard because they focused on reading and writing instead of being interactive and working with my peers. For me reading is virtually pointless as I learn significantly better by doing and trying. With online classes, you have to be able to read and get the material. Thusly, my advice is to make sure that the class requirements and day to day life of the classroom are well expressed before students sign up and get overwhelmed because together the class content and style do not best fit their learning style.
- I like the interesting courses available in winter term, but I wasn't able to take one due to my special education schedule, and that the interesting classes go fast.

- I believe that maintaining relevance is necessary to keep students engaged (and civil when writing course evaluations) over the longer class periods that typically come with non-traditional courses. I do not want to seem like I am being critical, and if I were to expand on my reasoning for bringing this up it is because I feel like I've been spoiled by the majority of the faculty in the Political Science and History departments at Elon and when I venture into unknown terrority [sic] with well established (and some not) Elon faculty they usually do a spectacular job of not only showing me that I knew less coming into the class than I thought, but keeping me engaged throughout the process to the point where I am caught off guard when time is called at the end of each class. That being said I realize that teaching is a skill that needs to be developed and certain individuals need time to "cut their teeth", I think that carefully planning for the longer class periods will make that lack of honed ability less apparent and will in turn boost the confidence of instructor, especially since they are on the spot for so long. As for the students I believe it is necessary for them to choose non-traditional classes that interest them and to remain patient and positive. For if you choose something that you couldn't be less interested in and then have to go listen to someone talk about it for several hours each day of course you're going to be bored, and if you are impatient with instructors and fellow students AND have a negative attitude the whole time of course it's going to be a poor experience. This negativity, I fear, transitions itself far too often into teacher/class evaluations to the point where a genuine and reliable gauge of how an instructors classroom demeanor, particular in non-traditional courses which I feel are usually only specialty offerings as it is, cannot be ascertained from the evals at the end of the class, a phenomenon that becomes problematic for both the administration within the departments and the professors themselves.
- I think courses that invite more critical thinking are most appropriate for the non-traditional course because the extended class period allows for a different type of teaching style than a regular 50 or 80 min class.
- Lots of class participation, breaks during long classes, lots of reflection and engagement as always at Elon
- To students—make sure that you stay on top of your course work as abbreviated courses do move very quickly and it is easy to fall behind.
- Specifically for Winter Term courses, I think it's important to remember that students are attempting to learn a great deal of information in a short amount of time. As a student, I sometimes felt the pressure that the instructor felt to make sure that all of the material was being covered in time, and that was a bit stressful.
- Students-The length of the class makes the course more intense because you're squeezing in a lot of information in a short period of time. Instructors-be aware of the time period when assigning work to students.
- I learn better when the classes are shorter but for a longer term. If the classes are going to be longer, they need to engaging—not just a lecture.
- Still be as active and engaging with your students as you would be in a semester-long course. Just because it is shorter, doesn't mean you have to put less effort in.
- Take them seriously and budget your time accordingly. Especially during J-term, you can get a lot done if you do the outside-of-class-work well.

- To be realistic about testing expectations given the shortened class time. Although it's possible to cram everything in, most students seem to require more time to test well and also retain the information pass the course's completion.
- Since the individual class periods are considerably longer in a shorter (i.e. month-long) course, less lecture time and more active or team based activities, both in and out of class time, were most helpful to me in these types of courses. I felt that during any of these courses, time was best spent in small groups or by simultaneous active participation by the entire class. When one person (faculty or student) had the entire class' attention for extended periods, sometimes I felt that time could have been better spent.
- The online class I found most engaging was when the professor was accessible via phone and email. I found it helpful to get quick, individual responses to my questions on subject matter or project requirements. I think being on campus for summer classes was best for me, because professors were accessible and I received more individual attention given the smaller class size.
- I don't think they are necessary for law school. Or they need to be revamped and focus on a completely different but still relevant approach to leadership or practical skills.
- I think its [sic] important to put less emphasis on grades and more emphasis on learning out of curiosity and for the sake of learning. I think making classes more applicable to a possible career or life outside of school is a way to encourage learning and interest in the subject. Also, I've found that the teachers that have a genuine passion for what you are sharing make me the most excited to do my homework and participate in class.
- Instructors—please provide your students with a clear syllabus of what is expect over the short time period. Students want to know exactly what they are "in for". Students—Do not procrastinate. Stay on top of things; time goes by quickly!
- Shorter classes are not as looming. The ones I've taken require consistent work throughout, instead of a bland semester that ends with [a] debilitatingly end-heavy final week.
- Instructors: cover fewer topics but go into them further since the class is shorter
- Consider making more semester classes with similar topics as these courses as they are interesting. I personally found the half-term classes more difficult because they throw personal schedules off balance as opposed to the 4 week terms that only have one class to focus on.
- Consider making subject matter for semester-long classes that have more specific (such as parapsychology focuses on that particular topic for the entire semester is one that already exists) material based on the major or subject matter. These classes are enjoyable, though I can understand why these are more often picked for a winter term or summer term class as there is less material to cover in a short amount of time.
- Classes that are specifically designed to be taught as a Winter term (summer class, etc) class I found to be more enjoyable. The workload was much more spread out and the flow of the class made more sense as opposed to classes that were condensed to fit into that time period.

- Non-traditional courses should be taken in the same semester. For example, six courses could be taught within a 3 month period with 2 courses being taken at a time for 1 month each.
- The factor I disliked in one of my non-traditional classes, a WT study abroad to Ireland, was that the entire trip was dedicated to learning the specific material related to the course. During our free time we would have to do literary research, instead of exploring the new culture and area we were staying. For these type of intensive-style courses, it's still important for the students and instructors to have time where they are encouraged to learn about the new culture outside of what the course focuses on, which in my case was literature. I have heard that not all WT study abroad courses are treated in this way, but this was my experience.
- The ones not required for a major or minor need to offer an incentive. I took a health careers class that lasted half of a semester. Though I knew which health career I wanted to go into, the course offered networking possibilities, resume help, grad program information, and more. The course paid off and led to job shadowing opportunities that directly affected my decisions on my career. It also encouraged my future use of the student professional development center and decreased my anxiety about grad school interviews by providing a mock interview activity.
- The length of the class is convenient, but as someone who truly enjoys my education, it was frustrating to only have 3 weeks to connect to the material.
- Take them! They help with real life experiences such as financial literacy, finding jobs abroad, and preparing you for real life interviews and honing your resume!
- Courses that are also offered over full semesters are not usually a good idea during the shortened period because it requires a lot more work.
- Students, understand that you're going into a course that is supposed to be "non-traditional." It will not look like your normal classes, so expect the unexpected, be flexible, and get ready to learn something you might not have thought of before.
- Be careful which class you take, sometimes you need a full semester to understand more complicated courses.
- Take advantage of the short format and during the rest of the semester use the time to get ahead further in your course material or do research within your major. I suggest taking abbreviated courses for material that interests you and you need to graduate, but do not have the time in your schedule to devote an entire semester to. To teachers, I suggest that you really try to get students to buy into the significance of the course since they may only be taking it because it is a filler or makes it easier to navigate their schedule. Once they realize the significance of the material to their major or real life situations, they are much more likely to interact and critically think about the material.
- It is helpful, especially during long winter term classes to give the students and the professor a 5–10 min break to use the restroom and/or eat some snacks.
- Winter-term classes has [sic] been very helpful to me. I can concentrate on one subject and get the most out of it.

- Courses that require a lot of large projects are not good for short courses, like a winter term class. When a class can have more frequent but also more condensed, less extensive projects or papers, the workload does not seem overwhelming. The winter term format also caters better to classes that have a very interactive format as opposed to a lecture format.
- Most of the non-traditional courses benefit from being seminar style, with fewer students and thus greater opportunity for meaningful participation and discussion.
- Keep discussion lively and utilize small groups and activities. Less lecture. With only a few weeks to complete a class, lose the busy work. You
- Courses have to potential for greatness, but due to short timeframe lesson plans need to be meticulously planned and thought out in order for students to gain the maximum benefit. Refer to Accounts and Finance in the Cayman Islands for an exceptionally constructed lesson.
- Non-traditional classes do not need reflection papers, nor 2 months of reading material to cram in before you get started. Tailor the course length to the amount of material covered and embrace the opportunity for students to immerse themselves in the themes and concepts, and discuss them.
- Take the change to study aboad [sic]. Make an effort to get to know your professor even if it is a shortened class.
- In regards to winter term classes on campus, I think it is a wonderful time to be emerged into a subject however, 3 h should not be spent lecturing; this is the perfect opportunity to encourage active learning.
- If you are going to take a non-traditional course, especially winter term where the class is almost 3 h long, try to take a class that you are truly interested in. I think Elon could offer more of a variety of winter term classes for all students' interests.
- No advice for instructors, as every instructor I've had in a non-traditional course has been awesome, and really helped my understanding of the subject. Advice for students: Be so clear and so passionate in your support of non-traditional courses that the administration is eventually forced to implement a year-long "block plan", a la Colorado College.
- Always think outside the box when creating curriculum. A different layout will illuminate different attitudes.
- In regards to this survey—it was very difficult to answer because I have taken several winter term on campus classes, and several half semester classes. Regarding the winter term courses, two of the courses (one an art course, and one predominantly discussion) I very much enjoyed the long class periods and thought that the class format enhanced my learning/experience. Two other courses I took during winter term, were more lecture-style courses, and I found that having such long class periods made it very difficult to absorb the material and maintain focus—however, I still enjoyed the courses and the content (particularly because I chose courses that were not available during the normal semester but that I was very interested in). Regarding half-semester courses, I took the mandatory health course and another two semester course later in my academic

career. I liked the half semester structure for this purpose because it was conve-
nient to get two credit hours, but to only have the course for half of a semester (as
opposed to a full semester). Because the half-semester courses I took were not
work-intensive, they were especially convenient because there was not a huge
amount of material to fit into such a small time.

- I am not one for online courses. It is difficult for me to sit in front of a computer
  and essentially be taught through articles. With a 40 h work week on top, suc-
  cessfully completing an online course proved to be difficult. If you are taking
  an online course, you must devote time to really sit down with the material and
  learn it yourself.
- Make sure the material is taught in its entirety even if the length of the course
  is short, particularly if the course may be a prerequisite or be relevant for future
  courses.
- If you teach a shortened course, be more concise. Focus on key areas and do not
  offer too much information that one cannot fully comprehend in such a short
  time frame. Be focused and pointed with instruction.
- Take advantage of these courses—especially study abroad! I would never have
  had the chance to study abroad if Elon's calendar did not operate this way!
- I enjoyed non-traditional classes, but I don't think I gained as much out of them.
  I would recommend to students that they take topics that interest them, as it is a
  good opportunity to learn, but not as effective if you want to understand a topic
  in depth.
- Less multiple choice tests. More critical thinking. -Group projects. I hated them
  BUT it taught me how to communicate with others. You have to work as a team
  in the workplace. -More hands-on. -Specific skills learned to put on resume.
- There needs to be more effort to create common standards for WT workloads.
  My favorite class was the one that had the most reading but I still felt like it was
  too much reading. The ones I disliked the most had very little reading and lots
  of movie watching. In those courses, I had very little opportunity to engage criti-
  cally with any texts or course content. I appreciate the new diversity focus now.
  [Course name 1 removed] and [course name removed] were my two favorite
  courses and both had diversity themes. [Course name 1] was hugely inspiring for
  me and led to a lot of activism and social justice work (academic and extracur-
  ricular). It has indirectly shaped my grad school choice and future career path.
- Elon does a very good job of having the professors connect with students on an
  individual basis, and help them grow and learn. Having smaller classes in a non-
  traditional format allows students and professors to connect and grow based on
  shared common interests and passions. This is much more rare [sic] during many
  regular semester classes that are not 400 level.
- Discussion based classes that are very long really help the students remain en-
  gaged in the class even though it might be longer than they are used to in the
  regular semester.
- Some classes shouldn't be shortened, such as classes that are reading heavy, such
  as a history course. Other courses such as introduction to a major classes work
  very well as condensed to half a semester.

Students' learning, their perceptions of that learning, and the application and engagement of their knowledge in the intensive course and condensed semester format are also key components for moving forward. Understanding the impact of course length and other related variables on students' learning may help instructors and the institution think more deliberately about the implications for students of how, when, and why courses are scheduled and structured, especially if the strategic goal is to facilitate the highest level of student achievement across all academic programs. Based on their feedback, course duration and format have no significant impact as the primary factors affecting student learning outcomes and achievement. They call for: instilling self-belief; collaboration; independence; faculty/instructor access and approachability; active learning experiences that challenge, enrich and expand academic abilities; institutional cultures that promote transformational experiences and active citizenship.

Summary

The decisions instructors make to inform the course delivery methods that work best for diverse students and learning styles are fundamentally as important as the decisions institutions make about the most cost effective strategies regarding course format and duration. Even within the context of economic pressures, competition and globalization, students should remain the central motivation in the pedagogies, policies and infrastructures that both instructor and institution make to support students. The bottom line is that while higher education institutions may take slow, circuitous routes to transforming centuries-old, inherited practices and notions, the most important and revolutionary decisions we are willing to engage are those our students demand and that result in their dramatic and long-term transformations.

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Chapter 4
Digital Storytelling in Industrial Design

Veronica Barnes, Daniela Gachago and Eunice Ivala

Introduction

With the massification of Higher Education (HE) and the widening of access to education globally, the face of the student population radically changed (Scott et al. 2007). Higher Education has seen a rapid increase in students who do not fit the traditional profile of a HE student. These students are commonly referred to as 'non-traditional students' (NTS), and are in general characterised by: their lower socio-economic background, being the first person from their families to enter HE, their academic under-preparedness; their mature age and thus their juggling of work, family and academic responsibilities. These characteristics of non-traditional students are particularly pertinent in the South African context, where the legacy of segregated educational experiences during Apartheid still impact the quality of schooling of today and consequently on students' preparedness for HE (van der Berg 2008).

As a result, Higher Education Institutions (HEI) battle with a high dropout rate of non-traditional students and are forced to investigate the reasons for these high drop-out figures and ways of supporting these students to succeed in their studies. While there are numerous suggestions as to how to support NTS during their studies, most are based on a deficiency model, that is, offering remedial and additional support to struggling students. We suggest that HEI should move away from this deficit approach, to one that focuses on designing and offering innovative teaching and learning practices that are meaningful and accessible to all students,

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including NTS (Roberts). One such approach would mean applying the principles of Universal Design for Learning (UDL) to curriculum design, which aims at offering inclusive learning experiences to all students, including NTS (NCUDL 2012).

In this study, we looked at the potential of digital storytelling for promoting the teaching and learning of NTS in a first year Industrial Design course 'Technology 1'. We focused on students who did well in a digital storytelling project done in the 2012 academic year, but performed poorly overall in the course. The study was qualitative, with in-depth interviews carried out with five students and the lecturer in the subject. Data analysis was done inductively but guided by available literature around NTS. The main research questions were: (1) what made the students interviewed 'non-traditional' and what challenges did these students face in their studies? and (2) how did the digital storytelling practice help the students deal with these challenges? A framework that embeds digital storytelling into the UDL principles concludes this paper.

Literature Review

Non-traditional Students in Higher Education Internationally and in South Africa

Globally, NTS are defined as students who 'are currently under-represented [in HE]' and where 'this underrepresentation is a product of social class and/or ethnicity' (Parliamentary Select Committee on Education and Employment 2001). Under-representation is based on various factors, such as (Munro 2011; Laing and Robinson 2003; Berg 2005):

- Age (students are defined NT when aged 24 and above)
- Socio-economic background (NTS are often from a lower socio-economic background)
- Minority status (NTS are part of an ethnic or racial minority)
- Language (NTS are often English-Second-Language speakers)
- First generation HE students (leading to a lack of the social and cultural capital and family support necessary to succeed in HE)
- Multiple responsibilities (NTS face severe financial and time pressures due to juggling work, academic and family responsibilities)

Some of the global characteristics of NTS are also applicable for South African NTS, such as lower socio-economic background, the necessity to work, or being first generation students. In particular, the challenge of negotiating English as a medium of instruction is harsh for South African students, who live and learn in a country with 11 official languages.

Furthermore, two of the factors that impact heavily on the success of NTS in South Africa are the poor schooling of students from lower socio-economic backgrounds and their family background, often lacking in the social and cultural capital

that negotiating the challenges of HE necessitates (Cross and Carpentier 2009; Scott et al. 2007).

Academic under-preparedness is consequently a challenge to these students, which can manifest in issues with approaches to learning, critical thinking and academic literacy with a consequent effect on acquisition of subject knowledge (Scott et al. 2007).

However, what makes the issue of NTS particularly critical in South Africa, is the fact that (as opposed to an NTS being under-represented in HE) in South Africa NTS outnumber TS (Fouche 2007).

South African Higher Education Institutions' Response to Non-traditional Students

As discussed above, the increasingly diverse student body has resulted in a far greater disparity of academic preparedness in Higher Education institutions globally and in South Africa. This leads to a situation where the numbers of formerly disadvantaged students are constantly increasing, and so are the dropout rates. Scott et al. (2007, p. 41) argue that 'increasing graduate output depends primarily on improving the performance of the least well performing groups'.

Institutions battle with high dropout rates of NTS and relentlessly explore the reasons for the high dropout figures. Most studies in HEI focus on finding the external factors that lead to NTS disengagement and consequently dropping out from their studies, as opposed to identifying how teaching and learning practices at HEI are potentially disadvantaging these students (Laing and Robinson 2003). As a result of such research foci, many 'interventions' in HEI are largely based on a deficit model of student support, which entails interventions such as bridging courses, extended curricula or additional classes to get NTS 'up to speed' (Roberts 2011). While the above interventions carry a certain stigma (of non-standard provision), they also carry an additional financial burden, as they lengthen the study period of the student (Scott et al. 2007, p. 44). |In addition, the provision of extra tutorials within the conventional first year programmes to address 'deficiencies' in language or academic writing skills are seldom effective in addressing the educational disadvantages of NTS (ibid).

We support Laing and Robertson (2003) who argue that 'attention should be directed at the underlying nature of a teaching and learning environment and how this environment interacts with the expectations and perceptions of the student' (179). We also agree with Roberts' claim that educators need to develop a better understanding of the needs of NTS and offer teaching and learning experiences which meet students' diverse needs. We are of the opinion that adopting a more flexible mainstream framework, like the UDL, would be one way of addressing negative perceptions (and consequent avoidance of such remedial programmes) and other idiosyncrasies within state-funded provisions for NTS (Scott et al. 2007, p. 47) in South Africa HEI.

The Universal Design for Learning Framework

Laing and Robinson (2003, p. 184) maintain that institutions and educators 'must give greater attention to the underlying nature of an institution's teaching and learning environment', to provide flexibility and choice to cater for an increasingly diverse student group. They argue that it is imperative to recognise the capabilities [social and cultural capitals] that NTS bring with them into the HE system, and to build on these skills—rather than being bound by the traditional assumptions of what these should be (Scott et al. 2007, pp. 44–45). Alternative curriculum and course structures are needed at first-year level to provide a 'non-remedial' approach to supporting all the students, including NTS.

Universal Design for Learning (UDL) is an approach to curriculum design, which caters to all student groups that may struggle, or students marked as 'minorities' because of race, nationality, class, ethnicity, gender, religion or sexual orientation and hence aims to facilitate learning for the maximum number of students. According to Rose and Meyers (2001), 'the essence of UDL is flexibility and the inclusion of alternatives to adapt to the myriad variations in learner needs, styles and preferences' (68). Instead of reacting to individual needs of students as established at the beginning of a course, they argue that a lecturer should design a learning environment that from the outset benefits all students (Rose et al. 2006, p. 2) By definition, UDL concentrates on proactively overcoming barriers to students' success and maintenance of high levels of achievement (Basham et al. 2010, p. 245). The UDL principles aim to develop curricula and projects that give all students equal opportunities to learn—a far cry from the deficit model and labelling of NTS (Rose et al. 2006, p. 2) practised in most HEI teaching of NTS.

To help practitioners apply UDL's ideas, UDL has a set of guidelines based on three principles:

- to provide multiple means of representation
- to provide multiple means of action and expression, and
- to provide multiple means of engagement

These principles are explained in detail in the following Table 4.1.

Digital Storytelling in Industrial Design

This study is set at a HEI in South Africa. This institution in general attracts a large number of NTS, mainly because of its legacy as a former professional vocational education provider, but also due to its affordability in terms of tuition fees compared to the other institutions in the region. Consequently, these students enter HE with a high potential of social, economic and emotional under-preparedness (Van Schalkwyk 2008).

Table 4.1 Universal design for learning guidelines. (Adapted from NCUDL 2012)

Universal Design for Learning	
Guidelines	Examples
Principle 1: Provide multiple means of *representation*	
Different modalities Options for understanding & using language & symbols Options for comprehension	While learning difficulties present problems or barriers to student learning, other groups are equally poorly served by conventional learning environments. Rose et al. (2006, p. 3) describe NTS as students with 'atypical backgrounds in the dominant language, cognitive strategies, culture, or history of the average classroom who, therefore, face barriers in accessing information when presented in a manner that assumes a common background among all students.' As there appears to be no optimal *common* means of representation, it is challenging to find a common way to address diverse learners' needs. Thus, providing multiple means of representing information is important
Principle 2: Provide multiple means of *action and expression*	
Multiple media Enhance capacity for discussion & feedback	Because of the incredible variety of skills that students bring with them into the Higher Education landscape, it is important for educators to help to 'create the cultural bridges or scaffolds that help students link their own thinking systems to those that are unfamiliar by offering multiple means of access into the subject matter, and multiple means to express knowledge and to engage with learning' (Chita-tegmark et al. 2012, p. 4). UDL can thus create a means of addressing cultural differences in learning and meaning-making (Rose et al. 2006, p. 4), reinforcing the idea that students have different skills and favour different means of expression, being 'able to express themselves much more skilfully in one medium than in another (using drawing tools or video editing as opposed to writing and reading print, for example)'
Principle 2: Provide multiple means of *engagement*	
Options for what is interesting Accessible resources Foster collaboration Scaffolding Foster self esteem	UDL seeks to offer as much choice as is necessary to ensure that students engage with the learning material. The aim is to optimize relevance, value and authenticity of the content for the student. Group work and peer learning broadens the scope for accessible resources, as well as fostering self esteem in areas where the NTS may find themselves an expert. And UDL, if applied appropriately, anticipates the needs of NTS (Scott et al. 2003, p. 372)

Fig. 4.1 Students' racial composition of the Industrial Design Year 1 class from 2010–2012 compared to the 2012 institutional students' racial composition
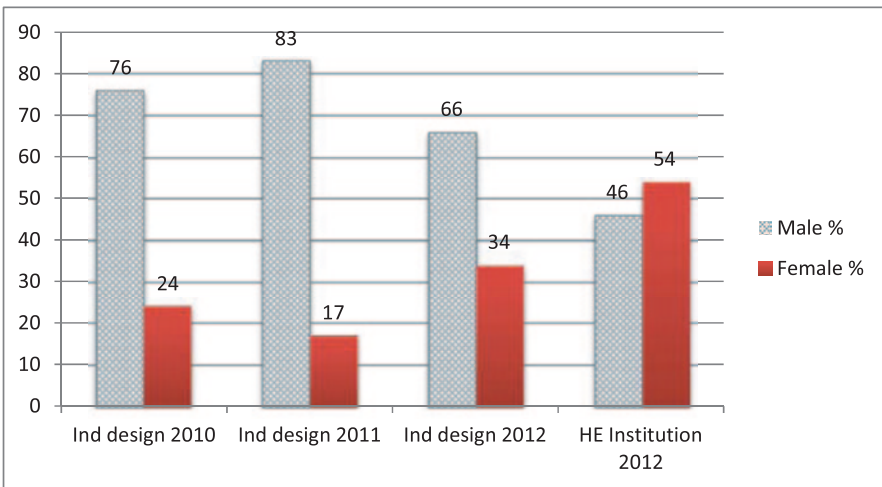
Fig. 4.2 Students' gender composition of the Industrial Design Year 1 class from 2010–2012 compared to the 2012 institutional students' gender composition

The Industrial Design course student composition is predominantly male and white (Figs. 4.1[1], 4.2). This student composition is in stark contrast with the institutional norm, which is predominantly black (56 %) and equally distributed gender-wise (see Figs. 4.1, 4.2). One reason for this is the continuing underdevelopment of

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[1] We are following the South African Department of Education racial categories, namely black, coloured, white and Indian (Scott et al. 2007). The term coloured refers to a distinct racial category in South Africa, of mixed European, African and Asian descent.

design and technology courses in under-funded public schools, where most of students of colour have been schooled and the fact that these students principally enroll in less prestigious areas of study, such as social sciences or humanities (Soudien cited in Cross and Carpentier 2009). Additionally, Industrial Design as a discipline of study is still a relatively unknown aspect of Design in South Africa. We assume that the combination of the above factors account for the generally low level of applicants of colour in this programme.

The subject Technology 1 is an introductory course within the Industrial Design programme. The course is designed and offered to provide students with theoretical knowledge and practical experience of the materials and processes used in the manufacturing of products. Since 2011, students developed digital stories as one assignment in this course. Digital stories are usually short movie clips, created with off-the-shelf equipment and techniques, combining text, images, videos, music and narration (Lundby 2008). They are not produced by professionals but are 'self-made media' (ibid 4). Lecturers are introducing digital storytelling as an alternative means to appropriating knowledge or content in and outside the classroom (Clarke and Thomas 2012). This is premised on the belief that knowledge is context-dependent and should therefore be acquired in realistic contexts (Bennett et al. 2001). As a replacement for traditional essay assignments, digital stories have proved to be particularly suitable for teaching students from non-traditional educational backgrounds, that is, students for whom academic literacy and plagiarism is a challenge, due to linguistic or cultural reasons (Barnes et al. 2012; Clarke and Thomas 2012) and to those students who have disengaged from classroom learning and struggle with more traditional assignments (Gumble 2012).

The digital storytelling project in Technology 1 was an experimental project, devised by the lecturers as an alternative form of assessment, replacing an essay-style assignment. The intention was to ensure that the students engaged with the material, learnt from their peers, showed an understanding of referencing techniques, and that the time needed to assess their work was reduced.

The lecturers designed the Technology digital storytelling project by dividing the body of knowledge for the Timber module (that would previously have been covered in the essay) into 13 different sections. Each student received a written brief (see Appendix 4.1) that detailed the specific requirements for the project. The class was randomly divided (alphabetically based on the classlist) into groups of three or four students—the 'film crew'—and was asked to make a film of two to three minutes only, covering the subject matter allocated to their film crew over the course of 5 weeks. The group also had to summarise the information into one A4 page of notes, properly referenced, to be distributed to the class.

In the production process students had complete freedom of choice with regard to digital programmes, cameras, and other tools and technologies they used in this project. They could also choose any media for communicating the information, such as actors, scale models, interviews, diagrams, 3D or clay modelling, animations or a combination of all these. Drawing on a network of friends, families and peers, students developed technically sophisticated movies using their own equipment and software programmes, with minimal support from the lecturers. Students were encouraged to create a narrative into which the academic content on the subject

of timber was embedded. This project created a highly competitive atmosphere in the classroom, with students trying to outdo their peers in terms of creativity and humour, fuelled by the final screening of the movies, which included an award ceremony for the best movie, best special effects, and best actor/ actress. These movies were assessed during the final screening by a team of lecturers and facilitators using a rubric (see Appendix 4.2). Furthermore, a peer-evaluation system was devised to assess each team member's contribution to the project. To see examples of the movies produced, visit http://www.youtube.com/playlist?list=PLe5oHsfRWAnRINt_SYRb6QsHP6W_UptqM.

Methodology

This study aimed to explore the experiences of a group of first year Design students, on the role of digital storytelling for teaching and learning, at a University of Technology in South Africa. The selected group of students either failed (marks less than 50 %) or narrowly passed (marks around 50 %) their final subject but did significantly better (marks over 65 %) in a digital storytelling project, one element of the final subject grade. The study followed a qualitative research design. In-depth interviews with five students and the lecturing staff involved in the digital narrative project were carried out to draw out students' and staff experiences on the role of digital storytelling for enhancing teaching and learning. These five students were selected, as they were the only ones in the class who met the criteria described above. Other failing students who were not interviewed either failed the digital storytelling project or did not participate.

Other students who did well in the digital storytelling project also passed other subjects, and were thus equally unsuitable for interviews. Following the approach of qualitative data analysis outlined by Miles and Huberman (1994), the interviews were transcribed, searched and organised around emergent themes. Data analysis was done inductively, including detailed readings of raw data to derive concepts, themes, or a model through interpretations made from the raw data by an evaluator or researcher, allowing themes to emerge from the data rather than from prior assumptions, theories or hypotheses (Thomas 2006). However, our data analysis was also guided by concepts identified in the literature review. Although the focus of this study is on five individual students and cannot be generalised, we argue that through their collated narratives, emerging patterns of commonalities for NTS can emerge (Laing and Robinson 2003).

Ethical clearance was obtained through the Faculty of Education and Social Sciences at the institution; and the Faculty where the project was implemented gave permission to conduct the research. Informed consent was sought from the students and their lecturer and the students signed release forms for their digital stories to be shown or published online. Students were also assured anonymity in the presentation of the data, e.g. by using fictitious names.

Findings

The study set out to investigate the potential of digital storytelling for promoting the teaching and learning of NTS in a first year Industrial Design course 'Technology 1'. This section will report on the characteristics of the selected students, which made them NTS, the challenges they encountered in their studies and how digital storytelling helped them in dealing with these challenges.

Characteristics Which Made the Students in this Study Non-traditional and the Challenges they Encountered in Their Studies

Findings of the study showed that the five students who participated in this study were in their early twenties, from diverse racial backgrounds (three white, one black, and one coloured), and four were males and one was female. While at first glance they may not all be defined as typical NTS, deeper inspection reveals features that mirror some of the characteristics of NTS.

Xolani was probably the most non-traditional of all the students interviewed. He formed part of a minority in the programme from a racial perspective, as a black student (5%) in a class of predominantly white students (82%). His schooling career was slightly atypical for his low socio-economic background, due to sponsorships, which radically improved his choice of schools for his secondary education, moving him from a government school into private education. While this allowed him to access better education, he struggled with the language of instruction, English, which was his seventh language. This had a considerable impact on his academic writing ability, which led him to plagiarism at the beginning of his studies, as he explained in the following quote:

> This was my first year, first of all, and I didn't understand the whole plagiarism thing and I was a bit slow, and what made me even more slow was being an English-as-a-seventh-language speaking person.

Additionally, the above student reported to be living in relative poverty, and was not regularly employed outside of his studies. This resulted in a lack of money for acquiring instructional materials and transport costs, and made him feel inadequately equipped for his studies:

> You know it's not about paying your fees… every project has got its needs and sometimes if you can't afford to buy that then you cannot do the project, which means you're going to fail because you must go according to the brief. Ja, so most of the times I used to—when I did something where I could pick anything up—I used to do it, but sometimes I used to ask people for leftovers and I felt like I should have done even more better if I had more money than I had last year.

The above student indicated that he was the first in his family to have accessed Higher Education, causing conflict between him and his unsupportive father. In the following comment he explained how his father pressurised him to join his business. He indicated that he resolved this conflict by painfully distancing himself from his family to pursue his Design identity.

> …ja he transports people, ja and then I have to go and work for him at night… so you come in late and then you're tired, and you have the homework to do, you know? Because in first year it was more about practising, practising, practising, which was good but I had to rush most of my sketches… so you kind of have to do both of them and sometimes you don't do well in one. So I ended up choosing to be an Industrial Designer [rather] than to work for my dad so we got into a bit of an argument and it was not nice.

A similar challenge to negotiate family and academic responsibilities was highlighted by Byron, a coloured student, who indicated that he had no time to study because he had to assist his parents to prepare for their relocation to the US.

Byron   It was hectic because of my time management and with my parents leaving at the end of last year. The preparations… I couldn't focus on myself last year.
Interviewer   You could not?
Byron   Because we had lots of functions and things we had to do for financing and so were always busy, planning functions…

For George, Michael and Angela, three of the white students interviewed, it was more difficult to uncover traits of NTS. At first glance, their socio-economic background would position them as TS: as they came from middle-class family backgrounds, are South Africans, have gone to good schools, and their first language is English, the official language of instruction at the institution.

What made them fail? A common thread that emerged throughout the interviews was a disruptive schooling career. For example, George had to frequently relocate and subsequently moved schools many times during his early schooling years, until his parents decided that home schooling would be the most flexible solution for their lifestyle. He finally enrolled at a good (former model C school[2]) in high school, which meant moving from a completely unstructured to a highly structured learning environment. In his comments below, we could see the tensions that arose between his belief in independent learning and the passion for Design and how the lack of study skills such as time management, necessary to succeed in a formal academic programme, hampered his progress.

> I think it was mostly because I thought I could do it and I've always had the mindset that if I enjoy it, I'll do it and I'll be able to do it on my own and I can do it. But there was just the fact that it was—that I wasn't ready for it. But then I thought; okay well now I'll get used to it and I'll start picking up, but it just didn't.

> I enjoyed everything that we did here. I was always just in my head—I used to say that it was [that] we never had enough time to do any of the projects, but we did. I just didn't manage my time right with work and everything.

In similar fashion, Michael moved around many times during his schooling years due to his parents' professional responsibilities. This interrupted schooling career led to distinct challenges for him in terms of academic preparedness (compounded

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[2] In the South African school system the term 'former Model C schools' refers to schools, which during Apartheid were frequented by privileged white learners. Today these schools are still better resourced and of higher quality than the rest of the government schools. Due to their geographic location and slightly higher school fees, these schools are often only accessible to more affluent learners.

by a learning disability identified in secondary school), as he explained in the following quote:

> I was overwhelmed—like what was going on in my head and I just couldn't find the time to start doing the work. So like I planned for hours of how I would do my work, and how I would catch up and stuff—but I never really got around to doing it… I don't think I was mature enough to understand I have to apply myself fully to my course. So I tried to have a bit of social life, family and studying but you have to sacrifice something.

However, one main characteristic that was common to all these students was the necessity for them to work to contribute to their study expenses. Michael, for example, was regularly employed outside of his studies, to pay his living expenses. In the following quote he talked about his need to work and the lack of support or understanding he received from his family:

Michael	I was working two jobs for the first six months of the year that burnt myself out. I knew when I came back in June that it was not going to be a pass. I tried to tell my mom to take me out but she wouldn't … she said: no, we can make a plan…
Interviewer	So there was no time for assignments or anything?
Michael	There was no time […] I found myself after work going home and then staying up the whole night doing whatever assignment we had to do and then waking up the next morning or seeing the sun come up, and then say: I actually can't go in today. I really can't.

Closely related to the question of financial pressures, are the living conditions of the students. For at least four of the students, their living conditions had serious effects on their ability to do academic work. Xolani, for example, commented on the challenges of living with his father, who expected him to contribute to the family business. Michael and George reported living far from University campus, which meant high transport costs for them and difficulties connecting with their peers outside of class, as George explains in the following quote:

> I mean at the beginning of the year I was a part of like one of the groups, and then just because I was getting a lift with them. When I stopped getting a lift with them, I didn't see them as much outside of class. So we never really did anything together and stuff like that … I should have kept doing that, kept seeing them.

Angela may be seen as the least obvious non-traditional students of the group, although as a young woman, she was a minority in terms of the gender composition of the class (34 % compared to 66 % male students). She came from a high socio-economic background and had a stable and private education. This student's major challenge in the first year of Higher Education was the move from a highly regimented living and studying environment in various boarding schools, to the less structured nature of studying in HE and living by herself, trying to cope with the responsibilities of adult life (such as caring for herself), balancing demanding personal relationships and pressures from her studies:

> I had a boyfriend at the time and it was my first year living out of the house and it all plays a role I think towards—my mom also put a lot of pressure on me, and it's finding my own routine as well as struggling—because I'd always been in hostels throughout my entire high school situation…

Table 4.2 Demographic information and characteristics that made the five students participating in this study non-traditional (shaded areas)

	Xolani	George	Michael	Byron	Angela
Demographic information					
Age	Early 20s	Early 20s	Early 20s	Early 20s	Early 20s
Racial background	Black	White	White	Coloured	White
Nationality	South African	Zimbabwean	South African	South African	South African
Gender	Male	Male	Male	Male	Female
Characteristics of NTS					
Mature age	No	No	No	No	No
Poor socio economic background	Yes	No	No	No	No
Ethnic or gender minority	Yes	No	No	Yes	Yes
English as a 2nd language	Yes	No	No	No	No
1st generation to Higher Education	Yes	Yes	Yes	No	No
Academically unprepared/ disrupted school background	Yes	Yes	Yes	Yes	No
Financial pressures	Yes	Yes	Yes	No	No
Learning disability	No	No	Yes	No	Yes

Table 4.2 summarises the characteristics that made the five students participating in this study non-traditional.

The Potential of Digital Storytelling in Enhancing Teaching and Learning of Non-traditional Students

The second research question looked at how digital storytelling helped NTS in dealing with the challenges they encountered in their studies. The students in this study reported that digital storytelling enhanced their learning by allowing them to engage with digital technology, which spoke to their personal interests and their creative identity as industrial designers, facilitated collaborative and peer learning, allowed flexibility in the acquisition and creation of content, and provided a challenging task for them.

These results will be discussed below under the following categories:

- Affinity to digital technology
- Creative identity
- Collaboration and peer learning
- Flexibility/blurring of boundaries
- Challenging task.

Affinity to Digital Technology

Results of this study showed that students felt that the production of digital stories spoke to their personal interests, such as the use of digital technologies or digital movie making. Angela explained that she saw the digital storytelling project as an opportunity to explore stop motion animation:

> It was something that I had been dying to do for so long…Stop motion is just the coolest, so that I found very cool. Ja, I think just the fact that it's something we weren't familiar with—it worked well.

Similarly, Byron and Michael had this to say:

Byron   I enjoy knowing how things work and stuff, so when it comes to technical stuff, I enjoy messing around …the first time I did things, I also did things to my car… to my lights and my music and stuff.

Michael   I think also for the young people that are so exposed to digital media, it almost comes as second nature, ja.

Creative Identity

Their creative identity is another feature that was addressed through the digital storytelling project. Students indicated that the project engaged their creative identities as industrial designers-hand-on people, visual learners and creative designers.

These learners appreciated the process of digital storytelling, as it gave them the opportunity to appropriate, communicate and create content multi-modally, as Angela explains in the quote below:

> I think maybe that was the biggest changeover, because we are all creative people we just kind of might want to—I don't know—what is the word I'm looking for? Give information, communicate information in a better way, or in a more kind of interactive way. When someone's watching something they're enjoying it and you can create something fun out of it, with information that particularly isn't very interesting at all, which I think is quite nice…

Collaboration and Peer Learning

Students revealed that they were successful in the digital storytelling project because it gave them the opportunity to collaborate and learn from their peers, as Michael explains in the following quote:

The digital storytelling project—yes it is a digital thing okay, but it's also a people's thing as well because it's people talking. I get along very well with people which is also—with all the social networking that's happening around, it's also I think why people get along with technology so well because they're talking to each other all the time on their devices which all makes sense. For me personally, okay, I can talk well with people where I get them to interact well and I know how to use the device, so it all comes as second nature I guess.

Students appreciated the collaboration for different reasons. For George or Michael, who struggled with time management, the structure of a group project helped them adhere to deadlines:

Michael	…there was just a plan and we followed through with it.
Interviewer	And you stuck to the deadline?
Michael	Yes, ja. We were always checking on each other. So we would kind of monitor each other and keep each other on track all the time, as well as ourselves.
George	Oh ja, the group projects… I found them a lot better—mostly because it means that I have to do it—because it's not just for me, it's for someone else as well and so it makes me focus more. When someone else is depending on it then it's kind of more urgent.

While some students appreciated the opportunity to divide tasks depending on students' skills and access to resources (see George and Michael' quotes below), others (Angela), focused on the benefits of peer learning and talked about how working collaboratively on the project enhanced the quality of their project:

George	Well firstly it's harder to get all the—get everything you need as an individual because I mean for me, like I don't have a camera and I don't have a laptop to edit it on. I could have bought the clay and the cardboard but that's about it.
Michael	No we all—okay—when we decided—when we got the project I had a lovely group. We all sat down and we said: okay how are we going to tackle this? So I suggested that we play to everybody's strengths.
Angela	Well, we worked together the entire time. I mean side by side. We never sent each other home from class and said can you do this tonight… So by having each other around, we were constantly bouncing off what we needed to do to get to the next step, that I think was really cool.

Flexibility/Blurring of Boundaries

The production of digital stories allowed students the flexibility of working on campus and off-campus and blurred the borders between formal and informal learning.

Michael	This was a very nice project. When we got the brief, we sat down and we chatted and then everybody just did what they had to do. So it wasn't just sitting down and drawing or sitting down and building something. It was—we have to go get costumes, we have to go shoot the movie. We have to go do the editing. It was very nice.
Interviewer	So you liked the idea of not being in the classroom but being out and about?

Michael   Yes, ja.

Students worked on campus and at home, and wherever they had access to the necessary equipment and support, as George explains in the following quote:

George   Well, not that you need much equipment, but I had the equipment at home to make the—to put all the pictures together and make the film.
Interviewer   So what was great for you it was the flexibility to be able to work anytime, anywhere?
George   Ja, ja

Challenging Task

The last theme that emerged from students' interviews was the challenging nature of the task given to the students in this project. Students indicated that this task facilitated an intensive engagement with the technology the individual groups chose to create their movies. George and Angela's quotes below describe this process—of pushing themselves further and further and the excitement that went along with realising that they could conquer the tasks:

George   …they [his group members] said that they wanted to do a stop motion and I said: Okay. Have you ever done a stop motion before and do you know what is in it? What you have to do? And no one had ever done anything about it and heard about it and so I went home and I asked the guy at—who I lived with—like what it entailed. And he said: It's really easy, and it's like you just take pictures and then…—so I was like okay, well okay that sounds fine, and then we went back. Then they said they want to deal with clay. So it was just like—it wasn't the fact that it was getting harder and harder, it was the fact that we'd never done it before. So we didn't really know how it was going to be done and any of that. But then we did more research and like through the research I got more excited for it and then when we did it, it was just—it was just so much fun …
Angela   We don't really deal with film throughout the year. It was a new medium for us and I think that's also intriguing learning something that you're not comfortable with—which I found very interesting. I've been making stop motions for ages since then because it's just—it's so easy and fun, and ja it's something interesting.

Discussion and Recommendations

The study set out to investigate the potential of digital storytelling for promoting the teaching and learning of NTS in a first year Industrial Design course 'Technology 1'. It is important to note that NTS characteristics are context-dependent as Munro describes in his study on NTS in an Australian context. Findings of the study

showed that age (none of the interviewees were over 24 years old), English as a second language, socio-economic background and ethnicity for example, did not play an important role in defining these students' 'non-traditionalism'.

However, financial pressures, lack of family support and unsettling living conditions were highlighted as the characteristics which made these students NTS. In addition, academic under-preparedness following a disrupted schooling background and (in some cases) learning disabilities were shown to be major characteristics which made these students NTS and challenged these students' success in their studies.

Despite the students in this course being younger, they bore the weight of financial pressures and/or responsibilities. Findings of these studies confirm the argument that a 1st generation student to HE may lack the social and cultural capital and the family support needed to succeed in HE (Roberts). As a result of the lack of family support, students in this study were forced to make often-painful choices such as prioritising their studies over family responsibilities or financial imperatives. Furthermore, most of these students lived far from University, which added to their financial and time pressures, typical of non-traditional students (Forbus et al. 2011, p. 121).

Findings of the study also revealed students' sense of alienation, a feeling of 'non-belonging' to the formal structures of the course, which hindered their engagement with peers and lecturers, especially when struggling with their studies. Against these findings, we agree with Roberts on the need to understand the reasons why these students disengaged—in order to better support them.

Support could mean emotional and financial support in the form of mentoring or adequate bursaries to facilitate better retention rates, and to reduce the necessity for employment. However, most importantly, as mentioned in the introduction, institutions and educators should give more attention to the strength and needs of NTS, and design curricula that suit their needs as opposed to expecting students to adapt to the demands of an inflexible and often highly inequitable Higher Education system. Furthermore, HEI need to use approaches such as the UDL in designing learning experiences, as it maintains that for all students to be included in teaching and learning, lecturers need to offer flexibility in their curriculum, across representation/acquisition of content, representation of content and engagement of students (NCUDL 2012).

On the affordances of digital storytelling, results showed that digital storytelling enhanced student learning, by addressing the challenges of these NTS, such as academic under-preparedness and the necessity to balance academic, financial and family responsibilities. This was achieved for instance through the opportunities for collaboration and the flexible learning that the digital storytelling project offered these students. Moreover, the digital storytelling project addressed the needs of all the students in this course, as the design of this digital narrative project aligned with the three principles of UDL (see Table 4.3 below).

Conclusion

This study set out to explore the potential of digital storytelling for promoting the teaching and learning of NTS in a first-year Industrial Design course 'Technology 1'. Findings of the study showed that the five students in this study were NTS in

Table 4.3 How did the digital storytelling project align with the principles of Universal Design for Learning? (Adapted from NCUDL 2012)

Universal Design for Learning principles and elements	Digital storytelling project
Provide multiple means of *representation*	
Different modalities	Brief was presented orally and in written format, the project could be approached in multiple ways. Students' stories were multimodal, presented using text, pictures and sound
Multiple options for understanding & using language & symbols	Students used multiple ways to make the information meaningful to them, by exploring various approaches to gathering and presenting information
Options for comprehension	The process of producing the multimodal digital stories provided multiple ways of engaging with the subject matter in order to translate research into finished product
Provide multiple means of *action and expression*	
Multiple media	A wide choice of media was used in this project. Students had the freedom to choose digital programs for use in doing their stories
Enhance capacity for discussion & feedback	The project promoted collaborative learning as students worked together capitalising on each other's strengths and help from the lecturer. The final screening of the stories and the mark sheet provided further opportunities for discussion and feedback from peers and lecturers
Provide multiple means of *engagement*	
Options for what is interesting, personal choice	The project allowed students agency as they chose what to include in their story, the multiple options of how and where to make their movie, and how to assemble and edit the information
Accessible resources	Group work in this project broadened the scope for accessible resources on campus and outside the academic context, and hence enhanced the students' social capital as they learnt from peers and their lecturers coming from different cultural backgrounds and with different cultural capitals
Foster collaboration	Group work fostered collaboration between students, which helped in the development of networks of experts, and also enhancing students' social capitals
Scaffolding	Digital storytelling enabled students to guide each other in their learning, which helped the students to develop time management skills, as they had to produce their stories within a tight deadline
Foster self-esteem	Digital storytelling empowered the students in doing their own research and producing of their own stories. This boosted their self-esteem and confidence as producers of knowledge. They showed a sense of achievement and pride at the public screening of their movie

some 'traditional' ways, such as academic under-preparedness and economic pressures, but not in terms of age and ethnicity. Furthermore, results showed that the students felt that digital storytelling helped in addressing some of the challenges they encountered in their studies, as they used their affinity for digital technology and developed their creative identity. The flexibility and choice this project offered to the students and the support they got through the collaborative element of the project, all important elements necessary for a pedagogical interventions geared at NTS (Scott et al. 2007), enhanced their learning.

We have seen that non-traditionalism in students is complex, nuanced and may be changing. In South Africa, our findings show that even students, who may not be characterised racially/ethnically or by their socio-economic background as NTS, face similar challenges as NTS, and that the boundaries between TS and NTS may start to blur. It is thus imperative that learning activities are designed to engage all students, not just TS or NTS. This may mean designing learning interventions that are inclusive and cater for every student, as opposed to traditional deficit thinking of creating remedial interventions for NTS. We are arguing that instead of labelling these students as 'problematic' and in need of 'special interventions' we should create learning experiences that talk to their strengths as well as mediate their challenges. We believe that adopting an approach such as the Universal Design for Learning, which aims to facilitate learning for the maximum number of students, would benefit all students. Such an approach would advocate for the development of learning activities which take into consideration the variety of skills, cultures, needs, interests and backgrounds that students bring with them into the HE learning environment. We argue that instead of labelling NTS, we should disrupt current teaching and learning practices and design learning activities that are inclusive and provide flexibility and choice for NTS' and TS' needs (like the digital storytelling project), thus calling for experimentation and creativity in the design process.

Furthermore, training of HE educators in design of learning activities and experiences using the UDL principles is needed, as the practice of designing inclusive learning experiences is lacking in most HEI in South Africa. Further implementation and evaluation of digital storytelling in other disciplines would also be useful to measure whether they promote the principles of UDL.

Appendix 4.1: Digital Storytelling Project Brief

Cape Peninsula
University of Technology   NATIONAL DIPLOMA **Three-Dimensional Design**   **3D│1**
                                                                                  BRIEF

TECHNOLOGY 1: TIMBER

This is an exciting opportunity to learn about different aspects of timber and how you work with the material. You will also learn to **work as a team**, **document your learning**, and **share it** with others.
You have been randomly allocated to a film crew. Your crew has been randomly allocated a Timber subject. You will **research the subject area *thoroughly***, in order to plan your movie.

You will be making a short movie on the Timber subject.

- The movie can be filmed on a phone/ camera/ video camera. However, it must be in an accessible format for the presentation on the 26 Sept. (No viewing, no marks)
- The movie must be 2 – 3 minutes (you can apply for longer, but must motivate).
- On presentation/ premiere day you will need to dress appropriately, introduce your film crew & movie.

* Because you may not be able to film everything appropriate to your subject, **be creative**. Create relevant diagrams/ props/ models to illustrate your movie*

After the movie is complete, your team will **collate and organise your research into notes.**

- The info must be arranged into 1 (or 2 at the MOST) A4 page of notes.   After assessment, these will be distributed to the class.
- The notes must include an introductory paragraph, and a body of text, arranged into paragraphs. It may have subtitles as appropriate.
- The notes must have at least 1 (hand drawn) diagram.
- NB: **Remember to reference** any images or diagrams appropriately.
- The notes must have a complete list of references, and this can be on a separate A4 page (it will be printed on the reverse of the page, when distributed).
- After assessment, these notes will be distributed to the class.

	TECHNOLOGY TIMELINE	
23 Aug Thurs	Timber introduction and research	Introduction to Timber movie project Opportunity for research in the library, team planning
29 Aug Wed	Research, planning & executing	Opportunity for research in the library, team planning, design movie, make any props/ diagrams/ etc.. Have a coherent plan of action to present to Craig and Colette (either on Wed 29 or Thurs 30)
30 Aug Thurs	Planning & executing Workshop	By 09.15 am need the plan/ design. Consult with Colette & Craig. So can film the movie. Need to edit movie, work on layout and content of notes. When not in consultation – sign off machines in workshop
5 Sept Wed	Editing Workshop Workshop	Workshop in PC room with Linda (Fundani). Intro to open source movie editing software. Choose 2 of your group members to attend. Pls bring some footage/ images/ something to EDIT. You need to DO to learn the principles and tools here. Other group members to work on making any props/ diagrams/ notes for class/ etc. Any machines not signed off.
6 Sept Thurs	Planning & executing, Workshop	Need to film and edit movie, work on layout and content of notes. Any machines not signed off, complete that process.

19 Sept Wed	**End of filming and editing**	Need to finish the film and edit movie, work on layout and content of notes. Lecturers will be available for consultation.
20 Sept Thurs	**End of filming and editing**	Need to finish the film and edit movie, work on layout and content of notes. Final editing of notes. Lecturers will be available for consultation.
26 Sept Wed	**Presentation Handin of Timber notes**	**Presentation of Timber movies at 13h15 in L5 Handin of Timber notes**

Where more than 1 crew is indicated, all crews research the subject. Then come together and decide who will cover what area. No duplication please. The movies will be shown in the order that is appropriate.

Appendix 4.2: Digital Storytelling Marking Rubric

TECHNOLOGY TIMBER MOVIES   **26 SEPTEMBER 2012**

Student Names:				
Subject:				
Introduction	**HIGHLY COMPETENT/ MERIT**	**COMPETANT/ CREDIT**	**BORDERLINE**	**NOT YET COMPETENT/ FAIL**
Introduction to the Movie /5	**4 +** Excellent, concise, relevant introduction. Introduced the topic and group in a clear, confident way.	**3** Mostly relevant, clear introduction. Introduced the topic and group.	**2** There is an introduction. Introduction is barely audible, intelligible or irrelevant. May have Introduced the group.	**1 -** Unacceptable. No introduction or the speaker was inaudible/ irrelevant. No introduction of the group.
MOVIE: Visual impact /10	**7 +** Very creative, inspirational film. Keeps the audience interest for its length.	**6** Creative, interesting film. Mostly holds the interest of the audience.	**5** A hint of creativity, not very interesting film. Barely holds the interest of the audience.	**4 -** Uncreative, uninteresting film. Does not inspire or hold the interest of the audience in the topic. Boring.
MOVIE: Logic and sequencing /10	**7 +** Well ordered presentation of information. Excellent continuity. Logical presentation of content.	**6** Good, ordered presentation of information. Reasonable continuity. Mostly logical presentation of content.	**5** There is some order of information. Some continuity. Almost logical presentation of content.	**4 -** There is little/ no order of information. Little/ no continuity. Unordered presentation of content/ chaos.
MOVIE: Content /20	**14 +** Excellent coverage of the topic, including examples. Has included additional, relevant information.	**12** Good coverage of the topic, including some examples. May have additional relevant information.	**10** Minimal coverage of the topic, including few examples. May include irrelevant information.	**9 -** Lack of coverage of the topic, no examples included. Includes content that may be irrelevant.
NOTES: Content /15	**11 +** Excellent coverage of the topic, including examples. Has included additional, relevant information.	**9** Good coverage of the topic, including some examples. May have additional relevant information.	**7** Minimal coverage of the topic, including few examples. May include irrelevant information.	**6 -** Lack of coverage of the topic, no examples included. Includes content that may be irrelevant.
NOTES: Referencing /5	**4 +** Excellent referencing. Perfect format of in text references and list of references.	**3** Good referencing. Mostly correct format of in text references and list of references.	**2** Adequate referencing. Sometimes correct format of in text references and list of references.	**1 -** Unacceptable. There may be no in text references and/ or list of references. Plagiarism.

Introduction		/5	**COMMENTS:**
Movie: Visual impact		/10	
Movie: Logic and sequence		/10	
Movie: Content		/20	
Notes: Content		/15	
Notes: Referencing		/5	
FINAL TOTAL		**/65**	DUE DATE: **Wednesday 26 Sept 2012 at 13h15**
=		**%**	LATE WORK - 10% per day

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Chapter 5
Challenging Pedagogic Norms: Engaging First-year Undergraduates in an Intensive Research Informed Learning Programme

Sue Burkill

The University of Exeter is a research intensive university located across three campuses in the South West of England. It has a reputation for high quality education, and has been rated consistently by its students as one of the top 10 universities in the UK in the National Student Survey[1]. It takes an innovative approach to curriculum and pedagogic innovation which is reflected in its ambitious education strategy (University of Exeter 2010). The university has recently piloted 'Grand Challenges', an ambitious, intensive programme during which first-year undergraduates work alongside academics, postgraduate students and external experts to explore twenty-first-century global issues (Kay 2013; University of Exeter 2013). In this chapter, I will locate the programme within the contemporary Higher Education context, describe the pilot, discuss key pedagogic principles and reflect critically on the challenges faced by staff and students. In the tradition of case-study based research (Gilgun 2011), I shall reflect on how the initiative can contribute to wider curriculum theory. In particular, I shall explore the ideologies and values which underpin the programme (Barnett and Coate 2004; Toohey 1999; Peach 2010) and the relevance of the concepts of structure and agency (McKernan 2007).

My personal background as a lecturer in Geography, with extensive experience of the challenges and benefits of running intensive residential field courses, has been helpful in developing Grand Challenges and my role as educational advisor to the programme draws on this experience and on my work as an academic developer in three universities over the last 12 years. My contribution has been integral to the development of the programme's educational principles. Therefore, this is not a highly objective evaluation, but rather one which reflects on my lived experience of working for 18 months with a team of academics, postgraduate students and

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[1] The National Student Survey is an annual survey of student opinions taken across the Higher Education sector in the UK.

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professional staff in preparing for and delivering the programme. The insider view which I present, supplemented by staff and student feedback, casts light on emerging challenges and successes and provides insights which might support others who are contemplating taking a similar journey.

National and International Contexts for Grand Challenges

Research universities across the world are actively engaged in reviewing, and often reforming, their curricula (Blackmore and Kandiko 2012; Lines 2012). Explanations for this trend include the rise of student empowerment (Fotheringham et al. 2012) and the neoliberal 'turn' which emphasises performativity, employability and graduate attributes (Barnett 2000 "Supercomplexity"; Boden and Nedeva 2010). Lines (2012, p. 3) points to international shifts in governmental rhetoric and 'political inclinations' resulting in a shift from Higher Education being seen as a 'public good' to Higher Education as essentially a 'private good' in which the individual pays. In addition, rapid changes in the way technology is used in education and, in the UK, the emergence of private institutions as competitors to existing universities are creating a belief that the curriculum is 'ripe for disruption' (Barber et al. 2013, p. 36). All these challenges inevitably make institutions more responsive to external competition, customer entitlement and to the cost efficiencies required to survive; ultimately they are the rationale for many universities rethinking their curricula.

In a recent report commissioned by the UK government, Ramsden (2008) suggests that:

> 'We need to encourage universities and colleges to explore new models of curriculum. Government and funding bodies should incentivise and support the radical realignment of undergraduate curricula: we require curricula that are transdisciplinary, that extend students to their limits, that develop skills of inquiry and research, and that are imbued with international perspectives'. (10)

He argues that students should have greater opportunities for interdisciplinary study, the chance to work in coherent learning communities on research based projects and to develop global perspectives. However, in discussing how new models of curriculum can be enacted, Barber et al. (2013) suggest there is no simple solution:

> 'We see many possibilities but are by no means certain what the way forward is—because there is no single way forward. Instead, what we will probably see is a diverse range of experiments, some of which will work and some of which won't. Our central message to leaders of universities and those who shape and regulate education is, in the words of the old hymn, to 'ponder anew'. The certainties of the past are no longer certainties'. (3)

Many ambitious universities are adopting centralised managerial policies for realigning the curriculum (Vidovitch et al. 2012). For example, the Universities of Aberdeen and Kings' College London in the UK and the Universities of Melbourne and Hong Kong internationally are promoting large-scale curriculum reform based

on radical revisions of programme structure, content and pedagogy. These are often marketing-led and typically start out as curriculum branding exercises which, when initiated, can lack pedagogic validity, may sit uneasily with well-established institutional values and may not command widespread academic support. However, when translated by teaching staff into the delivered curriculum (Barnett et al. 2001; Bernstein 2000) these interventions often gain pedagogic leverage providing undergraduate and postgraduate students with inspiring curriculum opportunities that go 'beyond rhetoric and aspiration to make enhancement a lived reality' (Hounsell 2011, p. 3).

The 2013 Grand Challenges Pilot

The Grand Challenge 'experiment' at Exeter is a comparatively modest centrally conceived co-curricular programme which sits alongside existing university structures and quality processes. This programme was trialled with groups of about thirty students for 2 years prior to the large-scale pilot. This meant we had opportunities to experiment with some of the pedagogic and structural ideas which underpin the programme and which are reported in this chapter.

Grand Challenges is designed to provide first-year students from the Colleges[2] with an exciting educational and social experience at the end of the academic year. It has been launched at a time when students are contributing more than ever before to the cost of their education (Department for Business Innovation and Skills 2011) and are looking for additional opportunities in the summer term. A whole host of educational, employability, cultural and sporting activities are on offer for those choosing to participate in Grand Challenges, including a weekend Campus Festival.

This chapter focuses on the educational aspects, and in particular on the twenty-first century dilemmas which address global issues such as climate change, ageing, ethical banking, child health and international security (University of Exeter 2013). All the dilemmas emerge from Exeter's strategic research themes. Central to the dilemma design is the idea that a coherent and rigorous research-like educational experience can be offered in 11 days. It draws in part on the US experiences of end of year 'keystone' courses (Cohen and Kisker 2009) which typically:

- add significant value to the core programme that students are undertaking by broadening their knowledge and understanding;
- use research-like approaches to learning and teaching;
- focus study on engaging and contemporary issues, dilemmas or themes;
- encourage students to integrate or synthesise their prior learning;

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[2] At the University of Exeter departments are grouped into Colleges which form the organizational structure for teaching and research.

- develop important student skills, competencies and perspectives that are under-developed in the rest of the curriculum;
- promote connections between academic subjects and future careers;
- adopt a range of different (innovative) teaching and learning approaches.

Students select one dilemma and then work in small interdisciplinary inquiry groups. Teaching and learning approaches are highly interactive and students have a role in designing their own experiences and defining the outcomes of their research inquiries; they produce negotiated outputs which are communicated to wider audiences. Examples of these include writing a policy paper, U-tube videos, debates, awareness campaigns, myth buster pamphlets, social media discussions and dramatic presentations (Kay 2013; University of Exeter 2013a). Through this process students develop and articulate graduate level employability skills which are recorded in their university transcripts[3].

Dilemmas are structured around a common staffing framework. They are championed by senior research academics with support from other academic staff; learning is facilitated on a day-to-day basis by postgraduate students, drawn from across several disciplines. A key role is that of the 'anchor academic' who co-ordinates dilemma activity and leads on creating and sustaining staff/student communities of practice. Local community leaders, alumni and graduate employers provide support in the form of time, resources and expertise to underpin the Grand Challenges.

Training for postgraduate facilitators occurs before they meet their student groups in the second term; this includes a briefing about the dilemma they are working on, background information on Grand Challenges and support for implementing the pedagogic principles (see below). The project is managed by a full-time team and is led by academics, professional staff and the student Guild[4] who form the project board. The project had funding from the university to cover administration costs, pay the postgraduate facilitators and to resource dilemma activity including visits and the costs of external speakers.

The process of recruiting students starts before they arrive at the university and during 'fresher's week'. In 1 week during the autumn term the academic timetable is suspended for first-year students and they have the opportunity to attend stimulating introductory 'taster' sessions for the dilemmas. Students then have several weeks to sign up to their chosen dilemma and to select a small group inquiry theme.

It is important to note that during 2012–2013 the framework constantly evolved as the programme was being implemented; while this is to some extent inevitable in a major undertaking such as this, in this case it was also a conscious decision to work with a degree of uncertainty. Staff, in agreeing to take part, signed up to the idea that this was an experimental programme involving uncertainties and risks; they were committed to being flexible, creative and reflective. This had advantages in that it created a strong sense of ownership and reduced the extent to which the

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[3] Students leave the University of Exeter with a transcript of achievements including details of successful engagement in co-curricular activities such as Grand Challenges. This enhances their employment opportunities.

[4] At The University of Exeter the students' union is called the Guild.

framework was viewed as a top-down initiative; however, it also created rather more stress for staff and facilitators than there might have been in a more controlled environment.

Pedagogic Principles

Four key pedagogic principles are central to the ethos of the dilemmas; these are broadly defined with the expectation that they will be refined by the dilemma teams within the constraints of the programme. To support the teams some guidance materials are made available for use in interpreting these principles.

Research-led Education

In the University of Exeter (2013b) it is made clear that undergraduates are introduced to aspects of research at an early stage in the degree. As is the case in most research intensive universities (Healey 2005), Exeter academics draw much of their inspiration for teaching from their own research and the twenty-first-century dilemmas provide creative contexts in which to realise this goal. The original thinking behind the dilemmas was that they would be predominantly *research-based* (Healey 2005; Healey and Jenkins 2009; Fig. 5.1); students would learn as researchers, working alongside academic staff and postgraduates but largely though their own
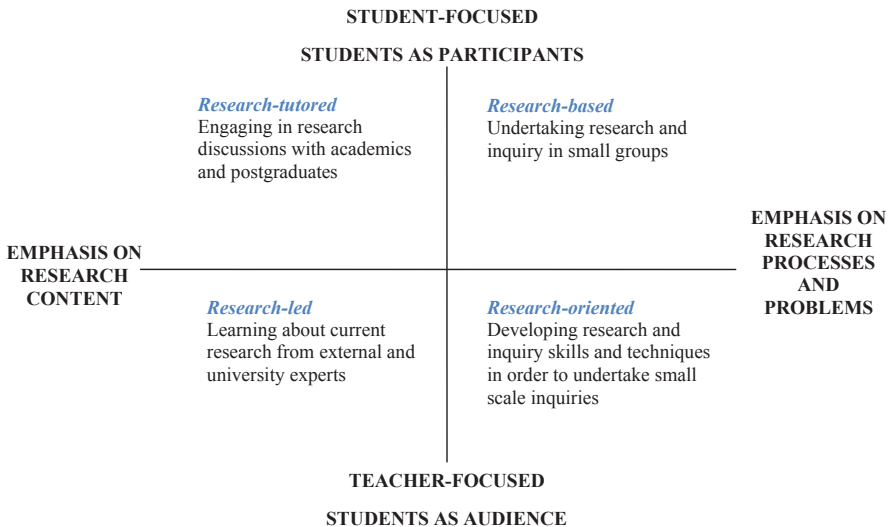
Fig. 5.1 Approaches to research-led education adopted by the twenty-first century dilemmas. (Based on Healey and Jenkins 2009, p. 7)

inquiries. The potential for individual creativity meant this would be enacted in different ways in each dilemma.

In reality, most of the academic teams felt that students, at such an early stage of their academic studies, needed some intensive taught 'content' and that they also needed a fair amount of support in deciding on appropriate inquiry processes; as a result *research-led* and *research-orientated* approaches (Fig. 5.1) were more dominant than we expected and contact hours were higher than anticipated. This high level of support seemed to result partially from concern about the very short time period in which students had to 'get up to speed' on the topic and deliver something intellectually rigorous (Knight 2001). The level of support was also partially dependent on the dominant discipline in each dilemma (Griffiths 2004; Healey 2005); the science-based dilemmas devised *research-based* experiences while the social science and arts based dilemmas adopted more *research-tutored* approaches.

Active Inquiry Based Learning

From an early stage in the planning, emphasis was put on the need for students to be engaged actively in their learning. This was partly driven by our assumption that students are most likely to show high levels of intrinsic motivation at the end of the summer term if they are learning actively (Dewey 1952; McKernan 2007; Spronken-Smith and Walker 2010); and partly by the close link that we know exists between active inquiry based learning and research processes (Levy and Petrulis 2012). Although the way in which this principle was interpreted varied greatly between dilemmas, they all involved students in actively setting their own goals, taking part in a range of activities to gain knowledge and skills and taking responsibility for communicating high quality outputs at the end of the dilemma. This was generally recognised as a successful feature of the dilemmas:

> 'I think one of the key strengths of the Grand Challenges programme has been interactivity of events—exposing Exeter students to experts of this university and national and international speakers with great depth of expertise in their areas of work. Another strength has been the format of events where students have had the opportunity to learn 'by doing' rather than passively listening in class'.[5]

At an early stage, teams were encouraged to think about adopting problem-based learning (PBL). The possibility of using PBL as a pedagogic framework emerged from discussions between the project's education advisers and the University of Exeter's Medical School which uses PBL to structure undergraduate learning. Our experience with medical school students shows that 2-week PBL learning cycles are effective and we felt this might be helpful in running an 11 day programme. None of the teams adopted the principles of PBL in their entirety and, in retrospect, it was

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[5] All the quotations in this chapter are from anonymous feedback provided by staff and students at the end of the programme. It has not been possible to request the permission of individuals as their total anonymity has been assured.

probably unrealistic to expect staff to adopt an unfamiliar innovative pedagogy in addition to all the other challenges faced in designing their programmes.

Interdisciplinarity

The third pedagogic principle introduced was that dilemmas should draw inspiration from interdisciplinary work being undertaken at the university. In the context of a very short course we decided that offering interdisciplinary themes would be both attractive to students and would also open up creative approaches to designing the programme. The assumption that pedagogic creativity is particularly likely to emerge through interdisciplinary course design derives in part from ideas developed by Giroux (2009) who argues that disciplines tend to be conservative and show resistance to adopting innovative pedagogies; the educational debate over whether this is the case is, as McArthur (2010) suggests, not completely settled as disciplines can, and do, also act as spaces in which educational creativity is realised.

This principle also ties in with the increasingly important requirement (in the UK) that funded research should be interdisciplinary and be shown to have impact (Higher Education Funding Council 2013). The intention was to inspire senior academics to work together, align the dilemmas with real world research and engage students in disseminating contemporary research ideas to non-specialist audiences. In addition, we felt that students who have insights into research that transcends disciplinary boundaries will be able to transfer their new knowledge and skills into their substantive university programmes during subsequent years. Bringing together staff and students from diverse disciplinary backgrounds to study cross cutting themes seems to have been a popular and successful aspect of the programme.

Education for Employability

The fourth principle focussed on the extent to which employability and key skills should be central to dilemma activity. In referring to interactive inquiry based learning about global problems, Ramsden (2008) takes the view that:

> 'This type of experience helps prepare students both for future academic challenges and for an uncertain global future in which their capacity for commitment, agility and boldness will be tested to the limit'. (7)

Employability related opportunities run throughout the 11 days; for example, skills master classes (e.g. debating skills, writing policy papers; making videos) and high level skill development activities (e.g. leadership, communication, conflict resolution) are embedded into the programme. In addition, all students engage in a workshop supported by careers staff to reflect on and record the skills they have

developed. A significant link has been made with the Exeter Award[6] and students attend employer-led events. All students complete the programme having created an online personal profile[7] in which their engagement in the dilemma is recorded.

The four pedagogic principles were by no means imposed as I have already indicated. They were constantly refined over a period of nearly 2 years; the small pilots in 2011 and 2012 provided practical insights into the feasibility of some pedagogic approaches and discussions with key university stakeholders influencing final decisions.

Those of us who were closely involved in the project throughout had developed views on how we might best implement the pedagogic principles but were very careful to be flexible when discussing these with the academic teams. In reality, there was considerable variation in learning and teaching experiences; this nicely illustrates the fine balance between structural frameworks dictated by policy decisions and the role of human agency in creating these experiences. In summary, the fine grained programmes for each dilemma were ultimately developed by academics and postgraduate students. These academic teams interpreted the overarching ethos, values and broad principles to create their own visions of an inspiring, intensive learning experience for first year students.

Critical Reflections on the 2013 Grand Challenges Pilot

Since the completion of the Grand Challenges pilot in June 2013 there has been a chance to discuss the programme with the participants and to reflect on successes and challenges from both a student and a staff perspective.

Engagement and Motivation: Student Perspectives

We took the decision that the programme should be neither accredited nor compulsory following a great deal of discussion amongst student representatives, academics and professional staff. While there were ways in which credit might have been awarded, there was considerable resistance to the idea from staff responsible for quality assurance, those potentially involved in marking student work and, in particular, from student representatives. They felt that many students would be using the post-examination period constructively in other ways (taking on internships, for example) but without expecting to gain credit for their activities. Staff and students felt that they would have to be more cautious if 'high stakes' assessment was attached to the programme.

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[6] The Exeter Award—The Exeter Award provides students with a certificate to recognise successful participation in a range of extra curricula career related activities.

[7] This is recorded in their personal uk | LinkedIn profiles.

Mixed messages percolated through to students about compulsion, many of whom signed up initially on the basis that the programme was compulsory and later withdrew when they became aware that it was optional. Therefore, the greatest risk was that the programme would not attract sufficient participants. Students had just completed their end of year examinations, had no obvious extrinsic motivational drivers and were well aware of the long-standing tradition in the UK that students leave their universities after the assessment period is over and before term officially finishes. There was little reliable research which we could draw on to determine the likely reaction of students to the programme on offer. Fotheringham et al. (2012, p. 3) suggest that the vast majority of planning decisions made about student experiences are based on the perceptions we have about how 'implied students' will behave. We know from our student surveys that students believe that they are given too little to do in the summer term but we had no way of knowing whether what we were offering would prove attractive enough to retain them. We were prepared to work with about one and a half thousand students who had initially expressed an interest but in the end 530 students completed the programme, around 15 % of the first year cohort.

To counteract the lack of extrinsic drivers the launch of the programme involved a highly organised recruitment drive led by the project and the university marketing teams. The strap line 'compelling not compulsory' was used to engage students and the autumn taster sessions gave students the chance to see what they might expect from the dilemmas. Soft incentives were offered based on the assumption that students would respond positively to their participation being formally recorded on their student transcript. These messages were clearly heard by the students. Typical of their feedback was:

> 'It was really well advertised- e.g. posters up in the Forum, leaflets handed out right from the beginning of the year, told about it by members of staff, received lots of emails about signing up etc …'

Some students felt they were under a lot of pressure to sign up which may explain the high level of initial registrations and later cancellations:

> 'It was annoyingly forced on us by academic staff" and 'Constant promotion by the University. Constant'.

Drawing on available research on creating cohesive learning communities (Lave and Wenger 1991) we gave students the opportunity to select their own inquiry groups and then invited these small groups to engage with staff and each other well in advance of the start of the programme. The intention was to 'bond' the group members and develop a sense of group responsibility which might counteract last minute cancellations. It was thought that they would participate more fully if there was a strong sense of group responsibility both towards each other and also to co-producing something which would be shared with the outside world.

However, we may have misjudged how effective this process would be as students were fully occupied with their substantive programmes at the time when the inquiry groups first formed and in reality the community-building process only started on the first day of the summer programme. By this time many of the students

had decided not to take part and left the University. Most did apologise, and of the 65 % who withdrew about half of them told us they had been offered paid employment or were involved in other University activities. This was encouraging as it indicated that students were taking part in career related activities in the summer term even if these did not involve the Grand Challenges dilemmas.

Amongst those who did participate high satisfaction levels were achieved. At the end of the 11 day period students were asked to respond to a survey which achieved an 86 % completion rate. A large majority were pleased they had signed up and attended the programme, 63 % felt the programme more than matched their expectations, 83 % learnt more than they had anticipated and over 80 % felt they had developed additional graduate skills. Inevitably there was variation in responses both between and within dilemmas but typical of the student comments made were:

> 'This was a great opportunity unique to the University'. 'I tackled a problem I felt passionate about' 'It is a great opportunity to enhance key skills as well as a good element to have on your CV'

and

> 'After being offered the opportunity to work on a subject that is far from my degree, I decided to sign up. The opportunity would probably never again present itself during my time at university. The subject I signed up to I felt would be the most interesting and enjoyable, and it has proved to be really fun to work on! I'm very glad I signed up and feel that it has been a really worthwhile two weeks!'

Many participating staff clearly felt the same:

> 'I believe the strengths of the programme lie with the enthusiastic participation of the students… those who committed themselves made the programme a joy to deliver and amazed me with their level of participation, input, and frankly performed far above the level of year one undergraduates.'

Staff and students felt that working together in small groups of highly motivated individuals resulted in an exceptional learning experience and the production of very high quality outputs. Going forward we must decide whether we should continue to run the programme for small numbers of highly motivated students or whether the University's strategic ambition to engage *all* students until the end of the academic year should be realised by introducing a degree of compulsion. We envisage that voluntary attendance will be greater in the next cycle as we intend to involve our highly committed and very satisfied students from this year as leaders in the recruitment process for next year.

Academic Leadership and Facilitation: Staff Perspectives

It has already been made clear that the responsibility for each dilemma was devolved to an academic champion who recruited an interdisciplinary team of senior academic supporters. These champions who volunteered to take part had clear insights into the educational philosophy and ethos behind the programme. They

were enthusiasts who were able to dispel some of the natural staff reticence about engaging in something new and unfamiliar which would take up valuable time at a busy point in the year. The timing of the launch of Grand Challenges in a year when research academics were building up to the census point in the Research Excellence Framework (Higher Education Funding Council 2013) was a disincentive for some.

Two roles, the 'anchor academic' and the 'postgraduate facilitator', were created for Grand Challenges and these have been crucial to the implementation of the programme. Anchor academics were selected to take overall responsibility for the day to day design, organisation and team co-ordination. For many this was a valuable experience:

> 'I would be delighted to be involved in the future. I think this is a programme with great potential …. One way in which Grand Challenges can be improved is to ensure that it is not just a student experience; it should also be sold to staff in terms of developing one's professional skills and profile. If Grand Challenges can also combine a staff member's research output/direction with activities, then students and staff alike will greatly benefit and all parties have a mutual stake in making the programme sustainable and beneficial.'

However, this was also a challenging role which took up increasing amounts of time as the programme launch got closer:

> 'I fear the programme may have been too grand in some respects, particularly in administrative terms… I myself as an academic felt completely under-resourced for the scale that the programme eventually took on…. Another key challenge is the time of the year: clearly timing must be handled very carefully having such proximity to the exams.'

The majority of the anchor academics were young staff for whom the leadership of a complex and innovative programme was potentially a career opportunity (Bolden and Gosling 2008). Several of them felt that their involvement had raised their profiles despite the considerable pressures they were under in balancing this work with their research and other teaching. On reflection, and from feedback received, this role was under-resourced and we shall be reviewing the amount of time allocated to these staff for the next cycle.

One hundred and ten postgraduate facilitators were recruited and allocated to dilemmas on an assumed ratio of 1:20 students. The opportunity was advertised though postgraduate networks and through the University's Learning and Teaching programme. Applicants had to make a case for selection and were required to attend a 3 hour briefing. More facilitators applied than we could accept and so there was a 'light touch' selection process based on three criteria: subject specialism, interest expressed in innovative pedagogies and practical evidence of commitment and availability. Facilitators had to commit to being available for the entire 11 day programme and one of the advantages of having an intensive learning experience was that this could be planned in advance and did not cut across their external research commitments. Facilitators demonstrated engagement, enthusiasm and educational leadership and were outstandingly successful in their roles as evidenced by feedback from first-year students.

From a strategic point of view the University saw Grand Challenges as an opportunity to invest in developing the education leadership potential of newer staff

and postgraduate students who would learn a great deal through their experiences. Several postgraduates were involved in a learning and teaching programme at the university at the same time and were able to use their experience of working on the dilemma as the basis for a reflective assignment to achieve accreditation for their teaching (Higher Education Academy 2013).

Feedback from staff and postgraduates tends to support the extensive literature (Eraut 1994; Knight et al. 2006) relating to professional learning which suggests that where resources, time and good leadership are all in place professionals learn well through a process of what Hargreaves and Fullan (1992, p. 218) and Biesta et al. (2008, p. 5) call *ecological change*. The culture in which this occurs is critical; collaborative cultures or organic teacher networks are most conducive to effective development (Wenger et al. 2002; Biesta 2010). Designing teaching activities which link to research is at the heart of Becher and Trowler's (2001, p. 187) thinking about developing academic staff; they argue that learning to teach happens most effectively when teachers are encouraged 'to create challenges that are likely to evoke fresh learning in the ordinary course of their work'. This supports the view that the most personally valuable, immediately useful and transferable learning about how to teach will be picked up informally when working with disciplinary colleagues and as Coffield and Edward (2009) argue this will often happen when working in teams or communities of (research) practice.

Involvement in Grand Challenges has provided just such a context for learning through linking the dilemmas closely to research themes while encouraging reflective attitudes to the pedagogic decisions taken. All postgraduate students had the opportunity to feedback on their experiences and provide suggestions for the future. Some have expressed concern over the impact on their research and other commitments but on balance the experience gained from facilitation seems to have been very positive:

> 'I had to neglect other professional duties during the last few weeks in order to get things accomplished. On top of this, I worked long hours during the event itself working out schedules and generally coordinating student activities. I was utterly exhausted by the time we reached the final day. I did, however, learn an amazing amount during the event, and it gave me a chance to meet students that I will interact with next year in other courses. I'm sure this will also be a useful thing to add to my CV. However, aside from that, it has been a good experience for me facilitating a group of students.'

Contributions to Wider Curriculum Design Theory

I have made it clear that to create a coherent framework and provide students with reasonably comparable experiences, a degree of conformity was imposed. However, even a skeletal framework inevitably brings with it a set of values which are contestable. As Blackmore and Kandiko (2012, p. 9) argue the curriculum is a social construction, a site for 'socio-political and cultural decision making' and the 'locus and transmitter' of values. It is a source of power in institutions and decisions about

the curriculum bring with them financial implications. There are, as Bridges (2000, p. 37) suggests, not only competing epistemologies which are 'struggling to shape the formal undergraduate curriculum of the twenty-first century' but vested power structures which have to be negotiated. In this context, it is appropriate to consider some of the issues that emerged in planning Grand Challenges to illustrate how debates, often driven by ideology, became increasingly political.

Curriculum Design: Issues of Ownership

In setting up the interdisciplinary dilemmas, it was apparent that many academics resisted aspects of the imposed framework. Taking a top down approach to curriculum reform can undermine and undervalue the traditional powerbase of disciplinary experts in deciding what and how they teach their students (Collini 2010). It is well documented that large scale institutionally driven curriculum reform meets with resistance from academic communities (Becher and Trowler 2001; McKernan 2007). Trowler (2008) warns us about the dangers of deconstructing existing teaching and learning regimes and argues that there are powerful characteristics of (subject based) curriculum design which are more likely to succeed. Bridges (2000) argues that the subject or discipline is the most appropriate academic/organisational framework for curriculum planning. In addition, as can be observed in the UK, powerful hegemonic forces in research such as the Research Excellence Framework (Higher Education Funding Council 2013) and in teaching such as the Quality Assurance Agency (2012) can reinforce and perpetuate the dominance of the disciplinary focus for the Higher Education curriculum.

Further resistance emerges when the organisational framework within which the curriculum is delivered is traditionally led by departmental support teams which have vested interests in retaining ownership of student academic experiences. At Exeter decentralised organisational frameworks mean that developmental activity is normally embedded in the College structures. Therefore, it is not surprising that tensions arise when a central curriculum initiative like Grand Challenges, with financial and administrative segregation from these traditional devolved structures, emerges. Issues arose around prioritising workload commitments, establishing ownership and deciding 'who pays'. Some would argue that the introduction of Grand Challenges has created opportunities to move beyond the conventional structures which frame curriculum and pedagogy and to take up Barber et al.'s (2013) challenge for 'diverse experiments'; others that this has been disruptive and difficult to manage. In reality, both these positions are valid. On balance I would argue that, while the underpinning principles and operational structures *have* been developed centrally, at the heart of the pedagogic framework is a respect for academic choices about teaching and a belief in the motivational effect of encouraging individual creativity in curriculum design.

Performativity vs. a Liberal Education

Contemporary curriculum reform in Higher Education often focuses on how to structure learning opportunities around career-related objectives, employability and economic drivers (Gunn 2010). As Barnett and Coate (2004, p. 433) have argued, there is a politically motivated performativity agenda which increasingly dominates both the content of programmes and the way in which curricula are designed. However, Toohey (1999, p. 57) suggests we should not ignore alternative philosophical approaches to curriculum design which emphasise the more reflective and socially critical approach to education traditionally found in the liberal arts. Some would suggest that by working collaboratively and adopting a 'social practice approach' to curriculum design (Weller 2012, p. 27), we can address some of the tensions which arise from these contrasting views.

How did this debate manifest itself in Grand Challenges? In the development of the framework these different viewpoints were strongly voiced by interested stakeholders leading to tensions around the proposed activities. Given the importance of employability in the university's education strategy many key stakeholders were keen to emphasise activities which would foster career related skill development; they wished to ensure that these were overtly recognised in the dilemma outcomes. In contrast, many academics saw the dilemmas as an opportunity to design their courses in an unconstrained way, to focus on innovative teaching processes freed from what they sometimes see as the shackles of performativity (Hussey and Smith 2002; Knight 2001). They were drawn to the possibilities of designing programmes which focused on broad civic values such as social responsibility, ethical thinking and morality and which allowed them to experiment with innovative teaching methods made possible by an intensive programme within a flexible timetable.

I would argue that, as the dilemmas have evolved, we have ended up with a blend of these apparently conflicting views. In retrospect, the dilemmas have developed as a form of socially critical vocationalism (SCV) in which 'intellectually rigorous, vocationally oriented and socially responsive features' come together (Peach 2010 456).

The two central tenets of SCV according to Peach (2010, p. 456) are that students should 'develop democratic virtues and practices and the capacity to reason about moral deliberations in order to become good citizens' and that they should be prepared to become part of a 'flexible workforce trained for the many professional domains on which society depends'. SCV therefore challenges the 'economic/vocational versus liberal/academic binary'. Through the approach adopted in the Grand Challenges dilemmas, I would argue that we have moved towards something Peach (2010, p. 457) calls 'philosophical reconciliation' between a liberal approach and economically driven performativity.

Education as Action: Critical Pedagogy

One of the benefits of designing an experimental short intensive course, particularly where no student assignments are involved, is that it gives staff and students

opportunities to work together in unfamiliar ways and to take risks. Two aspects of this will be explored; both relate to the ways in which students have 'taken action' during the Grand Challenges fortnight as a form of emancipatory education (Biesta 2010, p. 39).

The first of these actions relates to co-designing the learning experience. One of the key elements of the framework is that staff and students should work together as 'equal social actors' (Weller 2012, p. 27) to construct their learning, define the questions to be addressed and plan the outputs. This approach is seldom encountered in the normative world of Higher Education where rational curriculum planning is widely adopted; however, it is well articulated in adult education (Malcolm and Zukas 2001; Knowles et al. 2011). Central to the approach is the provision of opportunities for students to self-position themselves in relation to the curriculum (Weller 2012, p. 27), to participate in collaborative communities of learning (Wenger et al. 2002) and, vitally, to engage in a dialogic relationship with their tutors to negotiate the curriculum.

How did this manifest itself in the dilemmas? It was, of course, necessary to prepare aspects of the student experience before they met; time was too short to leave all these preparations completely to chance. The academic teams had invited speakers and lecturers, set up external visits, prepared for public interviews and provided a range of reading and other materials online. In some cases the contexts in which the dilemma would be explored (a debate or a simulated international conference, for example) were also predefined. However, students were essentially presented with these as 'ingredients' on which they could draw in defining their research questions and preparing their outputs. To do this in such a short time involved incredibly high levels of commitment and motivation on all sides. This presented challenges which did not go unnoticed:

> 'There was a marked tension between a 'democratic' pedagogic ethos—letting the students work with their facilitator(s) to select their topic and determine its delivery—and a more hierarchical structure with top-down demands for facilitators and lead/anchor academics to comply with deadlines.'

There is also evidence in the feedback that students and staff were at times frustrated by the 'excessive freedom' they were given to plan their work. Many students and some staff told us there was a 'lack of organisation' at the beginning of the programme suggesting that they were unprepared to take the responsibility that comes with emancipation. This is unsurprising as few get the opportunity to take ownership in this way in their normal programmes. This response reflects the view expressed by proponents of the critical pedagogy movement that academics will only become 'transformative intellectuals' when they work outside the repressive mechanisms of power that they experience inside their disciplinary structures (Giroux 2009 qtd. in McArthur 2010, p. 305). Perhaps the interdisciplinary nature of Grand Challenges offered an opportunity here; but it also posed a threat for staff who traditionally champion highly-planned outcomes-led curricula.

The second way in which Grand Challenges has involved students in taking action relates to the expectation that they would be involved in 'social action' (McKernan 2007, p. 41). This draws on Dewey's (1952) pragmatist philosophy of education as preparation for life, reflective citizenship and democracy. The Grand

Challenges dilemmas have provided critical encounters for students through which they have taken direct social action. For example, students have created a manifesto for change relating to the banking industry which was presented to a local Member of Parliament; they have published a pamphlet for residential homes to use with relatives and friends and they have written, and published online, music which highlights the plight of porpoises in the coastal areas around The SW coast of England. One facilitator reported that Grand Challenges:

> 'Requires working in teams to produce outputs in a way that university study tends not to; Skills demanded by the real world are required; Students on the inquiry group said that they might wish to show the final product (the glossy output report) to potential employers at interview. Others said that they would add it to their 'portfolio' required for getting a Training Contract in order to become a solicitor.'

Barnett (2009, p. 433) suggests that a liberal education involves students in coming to know in a way which allows them to distance themselves from their own ideologies and take some control over the world in which they are living and studying. He calls this approach a 'curriculum for transformation' (Barnett 2009, p. 264) It would be a grandiose claim to suggest that an intensive 11 day programme could achieve extensive transformations; however, there was consistent evidence in the feedback about the programme that students' grew in stature and confidence, were more socially and intellectually engaged and had taken responsibility for challenging and reporting on critical social, cultural, economic and environmental issues.

> 'The students from this dilemma have gone through a deep transformation, personal and "professional". Not only do they know more and they have developed a wide range of great skills but also they are much more committed to make this a better world. They have learned a lot about themselves and others.'

The Unique Characteristics of Intensive Programmes

My final thoughts are central to the theme of this book. I want to ask whether the characteristics of Grand Challenge dilemmas discussed in this chapter are uniquely related to the intensive and co-curricular nature of the programme or whether they could have occurred in traditional learning contexts. I have argued that there is a fine balance between structure and agency in a programme such as this. There is evidence that the programme has been a vehicle for personal agency and individual creativity amongst students and staff which might not have been possible in a lengthy accredited course. Some academics have argued that they have been constrained by institutional mechanisms, ideologies and central project management resulting (for them) in additional, unnecessary complexity but, in general, the dilemma teams do seem to have been relatively free to develop teaching approaches independently. The fact that this was seen as a desirable feature by the teams reflects strongly held values and beliefs; Biesta (2010, p. 55) suggests that:

'the only thing that is needed is to remind people they can see and think for themselves and are not dependant on others to see and think for them.'

I would argue that the room to experiment that has been permitted by Grand Challenges is not unique to intensive programmes but has been facilitated by the principles adopted.

It has become clear that students work effectively and enthusiastically under pressure and produce high quality and creative outputs when they are given responsibility for co-creating their experiences. This is well known to academics who take students away on field visits and other short experiential trips. One of the lessons academics have taken away from Grand Challenges is that they underrate first year students' abilities to lead and produce good academic work in short periods of time. Not only does this support the idea that some aspects of the curriculum should be delivered through short sharp learning experiences, but it also begs the question about how much of the conventional curriculum could be delivered in this way.

In addition, the opportunity for staff and postgraduate students to develop innovative pedagogic approaches was undoubtedly linked to the fact that an intensive non-assessed experience encourages risk taking which would be difficult in a traditional modular framework (Malcolm and Zukas 2001). This does not mean that aspects of these innovative practices cannot be integrated into existing modular programmes but that the programme provided a manageable test bed for these ideas without which they might be considered to be risky and unachievable.

However, learning through short intensive experiences does have its critics. Some have argued that rational curriculum planning, as exemplified by short modules, undermines the potential for students to develop a deeply critical stance (McKernan 2007; Curzon-Hobson 2003) and that an emphasis on truncated experiences particularly when they are defined by learning outcomes is anathema to higher level academic learning (Hussey and Smith 2002); others suggest that education becomes 'planned enculturation' when it is structured into highly specified curriculum and pedagogic outcomes (Osberg and Biesta 2008) as is the case with many modular courses. Arguments for the advantages of returning to 'slow' learning have become more widespread (Knight 2001; Hartman and Darab 2012). The Exeter experiment has illustrated that there are advantages in avoiding the rigours of rational curriculum planning while at the same time challenging the suggestion that short intensive periods of learning inevitably lead to enculturation.

Conclusion and Recommendations

The programme described in this case study had its roots in one university's desire to address the perceived needs of students to have additional useful and exciting educational experiences in the summer term. It has created conditions in which the university has partially addressed the global drivers behind creating a 'well rounded curriculum' (Weller 2012, p. 89). Tensions are exposed which lie at the heart of this

programme but which also relate to values and norms which universally underlie decisions about the Higher Education curriculum.

Co-curricular programmes, such as the one described, can provide a context which liberates teachers from constraints imposed by the positivist, neoliberal epistemologies backed by powerful hegemonic forces which widely influence the experience of contemporary undergraduate students. I have explored whether the programme provides a 'space' in the contemporary university curriculum, as it responds to 'numerous and inchoate' external structural forces (Barnett 2009, p. 260), for an emancipatory approach to teaching and learning with its focus on human agency, individual creativity and personal freedom. I have argued that this is partially, but not totally feasible (or possibly desirable) in an intensive short programme like Grand Challenges.

As we move forward into the next cycle of the programme, we shall be addressing challenging organisational and pedagogic issues around scaling and timing. We shall revisit the interdisciplinary principle, as we are aware that many academics feel more comfortable working within their disciplines and we shall return to the principle of problem based learning as a possible pedagogic framework for working with larger cohorts of students (Spronken-Smith and Walker 2010).

Furthermore, we shall be considering whether lessons learnt through the dilemmas can be embedded more widely in our substantive programmes. This will inevitably lead to a debate about whether the programme might be absorbed into the formal curriculum in the future. I would advocate retaining a programme of this kind as a co-curricular experience, if only because it has proved to be a powerful formula, as Fernandez-Armesto (2013, p. 33) suggests, for teachers who want to 'share passions, inspire, ignite minds, empower intellects and enhance lives'.

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Chapter 6
Rethinking Evidence: Assessment in the History Discipline in Australian Universities

Adele Nye

Introduction

The history discipline in Australian universities represents a diverse community of practice, which is strengthened by an identifiable collegial commitment to the exploration of good practice and effective learning outcomes. Like most disciplines in higher education, however, it has been under pressure to increase research outcomes, teach larger tutorial classes, and maintain high quality courses. Inevitably, academic staff have been feeling the strain; yet, they have also risen to the pedagogical challenge by developing unique and innovative assessment strategies for a diverse student population.

This chapter will focus on the stories of assessment that emerged from a study which put the spotlight on this community, revealing the philosophies, pedagogies, ontologies and epistemologies of 50 history lecturers in 12 Australian universities. In terms of professional experience, these academics ranged from doctoral candidates assisting in tutorials to those who had recently retired from full-time careers. Thus, their insights spanned from the 1970s to the present. The data from interviews is accompanied by further information from questionnaires given to history undergraduates at each university.

Academics argued that good learning outcomes relied on students attaining three core skills, including: an understanding of the complexities of evidence; understanding change; and locating themselves in the narrative of historical thinking and practice. To achieve these goals, there was, not surprisingly, a strong commitment to traditional forms of assessment. The traditional research essay, for example, has long proven to be an effective assessment in the history discipline and remains a core strategy. More unexpectedly, however, was a series of innovative practices being implemented by individual lecturers who sought to stretch the institutional guidelines. These alternative practices were not publicized nor marketed

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to students, yet they filled a unique space in the curriculum while evoking strong responses from students. This chapter will argue that good outcomes in the discipline rely on the inclusion of both traditional and experimental approaches and will also note the decline of the more polarizing strategies; the examination and the classroom presentation.

Background

This chapter primarily emanates from the findings of *Historical Thinking In Higher Education*, an Australian scoping study investigating the role of historical thinking in the processes of teaching and learning across twelve Australian campuses. The study was primarily qualitative; however, the sheer scale (50 interviews with lecturers and 1455 questionnaires given to undergraduate students) meant that the findings also took on a quantitative characteristic. The lecturers varied in age, educational background and experience. The student participants were representative of particularly diverse socio-economic backgrounds, ethnicity, educational backgrounds, skill levels and, markedly, age. These differences among the student cohort were also influenced by the institution; students at a theological institution, for example, were all mature age while at larger inner city university the students were primarily in their late teens and early twenties.

The study drew from both participatory action research (Kemmis and McTaggart 2000) and grounded theory (Glasser and Strauss 1999). There was a strong belief that the disciplinary community had a plethora of untold stories, since little investigation had occurred in the field, particularly not in the Australian higher education sector. Similar studies had been undertaken in the United Kingdom by Booth (2011a, b) and in the United States by Díaz et al. (2008). Yet, prior to the historical thinking study in Australia, disciplinary-wide research had been limited to a single, but important, investigation on postgraduate history (Millar and Peel 2007).

Literature

Research on assessment in the discipline of history in education in Australia has tended to focus on primary and high school levels, rather than on the university level. However, early findings of the national scoping study on historical thinking provided an overview of the history discipline (Nye et al. 2009, 2011) and research promoting the development of the disciplinary teaching and learning standards (Brawley et al. 2011). Both findings have added to the Australian discourse. The research community continues to be enriched by engagement with the international History SOTL literature in the United Kingdom, of Booth (2011a, b), Anderson and Day (2005) and in the United States of Díaz et al. (2008) and Pace (2004).

There have been a number of significant sector-wide studies in higher education in Australia which offer transferrable insights for the history discipline. Of

particular interest have been those that looked at the disjuncture between the goals of each facet of the university; for example, the institutional strategic goals, signature pedagogies of the disciplines, education developers (academic support) and the individual academic's views (Trigwell et al. 1999, 2005; Akerlind 2007). As noted among British academics (Barnett 2007, p. 35), there is a growing resistance to the binary-based approaches of formative and summative models and a desire to develop strategies that focus on knowledge construction, promote student agency, a sense of authenticity, and transformative outcomes (Quinlan 1999; Samuelowicz and Bain 2002, p. 173).

The sector-wide exploration of assessment, sustainability and long-term outcomes of higher education are shared concerns held by individual disciplines. Boud and Falchikov (2007, p. 3), for example, raise the point that 'assessment focuses little on the processes of learning and how students will learn after the point of assessment'. Increasingly, the language of transitions (Kift 2009) and thresholds (Meyer and Land 2003) in learning have been embedded in the Australian landscape of assessment discourses.

Learning Outcomes in History?

During the interviews, it was evident that the research essay was a consistently used and highly valued assessment strategy in the history discipline. Time and again it was argued that the intersections between theory, practice and evaluation were clearly identifiable when evaluating the traditional essay. "Nothing beats the essay," I was told numerous times. Yet closer examination of the conversations about assessment practice revealed there were in fact a number of other strategies being used alongside the research essays.

Drawing from the signature pedagogies of the history discipline, three key primary concepts could be identified in the interviews. These are recognisable core skills essential for effective and transformative learning in history and other disciplines within the humanities (Seixas 2008; Booth 2011a).

1. Evidence

Understanding and being able to identify the complexities of what constitutes evidence is a core component in history education. Every academic interviewed discussed evidence at length. It became clear that any analysis of history education relies on applying a critical lens to all forms of evidence. As one lecturer stated, understanding evidence meant the student gained an understanding of 'the kind of vulnerability human discourse has in relation to time'.

2. Change

Academics also argued passionately that historical thinking and learning was closely linked to the nature of change. More specifically, they suggested students needed to understand the mechanisms and impact of rapid and radical change on society. It was through this lens students could comprehend the connections between the

past, present and future. This school of thought was intrinsically linked to the shape of a number of new history units where transformation and global narratives were featured. It is also connected to the idea that the pedagogy approach itself must be responsive to change, be it the student cohort or the means for delivery of higher education.

3. The Located and Discerning Self

Locating the self in the narrative of history was intrinsically linked to effective historical thinking and authentic engagement with the discipline (Nye et al. 2011). The overt intention was to immerse the student in an embodied and conceptual pedagogy: the aim being to facilitate independent critical thinking as a student teases apart the layers of historical narratives. This is regarded as a key transformative turn in the history student's learning journey; it is hoped that they will thereafter query how they, and others, participate in, and contribute to, the disciplinary knowledge. Like the notion of change, this is a core skill that also has transferrable pedagogical implications. Lecturers also need to be reflective practitioners given the significant diversity of the student population and wide variety of subsequent needs.

Reflecting on the significance of these core skills, it is important to ask: how do notions of evidence, change and how does the located historical self get translated or transferred into assessment strategies? In turn, it is pertinent to ask how are these new and different strategies are implemented in the university?

Contemporary Challenges: A Discipline in Transition

The history discipline in Australia, like elsewhere, has undergone significant theoretical and pedagogical transformation in recent decades. Cultural, linguistic and epistemological turns have alarmed, enthused and reshaped the discipline (Boucher 2013, p. 288). The discipline still felt the scars of the specifically Australian History Wars that had been argued in the media, in schools, public venues, in universities and at disciplinary gatherings (McIntyre and Clark 2004). The discipline has also engaged with, and been affected by, international theoretical debates.

Interviewing academics across twelve campuses brought a new insight into this organic intellectual community: a snapshot of generations of history teachers, new, mid-career and on retirement. Pedagogical practices and in particular, views on assessment were inevitably shaped by diverse generational views. Over the last three decades the emergence of postmodernism had more than rattled discipline on an international level. While some historians felt the discipline was at risk of disintegration and postmodernists as "prophets of uncertainty" (Elton 1991, p. 54) others saw it as a period of theoretical enrichment (Southgate 2000). History did, of course, survive the postmodern debates or linguistic turn as the period is sometimes associated with (Vann 1995). The impact of these transformative debates on historians in Australia was similarly evident in the following responses to questions

about what space was made for postmodernism in teaching history theory. Some lecturers treated postmodernism as if it were a brief fad while others acknowledged their historical and pedagogical practice would always be marked and enriched by their immersion in the postmodern perspective.

> Most of us here, thankfully, try to ignore postmodernism (laughs)
> I am a child of postmodernism

In turn, the assessment designs implemented in the classroom reflected these backgrounds. For example, in a few, albeit rare cases, in history classrooms students are being encouraged to radically rethink and rewrite their textual submissions in the form songs, poems and artwork.

Evaluating the disciplinary workplace and community in more recent times has revealed that difference and diversity could in fact coexist in a productive manner when innovative and intuitive heads of departments oversaw them. Some history schools indeed thrive on diverse communities of practice where the notion of history as a "broad church" is both encouraged and facilitated. Even in the most forward thinking and cooperative schools, academics and their disciplinary colleagues are answerable to the university structure that dictated strategic goals, assessment benchmarks and workplace conditions.

Contemporary Challenges: The University and Higher Education Sector

It will not be surprising to international commentators on the university workplace that conditions in the sector are challenging. Booth (2011a, p. 61) has observed that "UK higher education has witnessed a compression of space in which integrative learning … can thrive". In Australia, there has been a consistent pressure from university management for increased productivity and competitive outcomes at an institutional level and at a staffing level (Nye 2013a). Most recently, national auditing and standardization have come to the forefront at all levels of the sector: curricular, teaching and learning standards and qualification levels (Nye 2013b).

In this context of change the history discipline faces a number of challenges. In an ideal educational setting, history lecturers would have well prepared undergraduates with strong literacy skills and year- long units that allow intensive mentoring. Data from the questionnaires given to students showed they share the latter desire, with face-to-face engagement with lecturers being the most valued attribute for developing historical thinking. The reality is a very different story, which includes concerns about standards of student skills, literacy, allocation of staffing and time, access to resources and space, just to name a few.

There was a shared disquiet by the majority of lecturers about the readiness of first-year students who have come directly from school, which was manifested in a consistent discourse about having to provide tasks that 'ready students' for course

requirements and providing learning tasks that will help them 'get their bearings' in the university. At an epistemological level, lecturers worried about helping students 'to grapple with' and 'acquaint themselves' with the nuances of the discipline. As one lecturer stated:

> At first year level, often I don't think what I am building is historical knowledge [;] I am just building knowledge about how hard you have to work and think at university

Another lecturer was scathing in his assessment of student skills:

> We are entering an age where people are increasingly functionally illiterate. You can tell they are not reading and they are not writing enough.

A more moderate and more common assessment of first year students is however reflected in the view that young students just out of school are "formula driven". They want to know the minimum tasks required and to be able to reproduce the knowledge they think the lecturer is seeking. Lecturers suggested this approach is used in the exam driven Higher School Certificate (the last assessment of high school) and some students think they can repeat the process at university.

Not all students are young or straight out of high school. Indeed at many Australian universities these students are the minority. National graduate surveys have shown that, in the humanities disciplines, the typical student is likely to be female and mature age (2012). Lecturers confirmed during the interviews that these students are also likely to be working full or part time. Only a small proportion were full time on campus. As a result teaching and assessment practices have to be flexible and, as a number of lecturers noted, they have to be equitable as well. As one lecturer stated the assessment is a "vexed issue" when students' lives are so dramatically different to those of generations earlier. With busy lives that incorporate both study and work students across disciplines are being forced to take short cuts she argued.

The great lament of many lecturers is a shortage of face-to-face time with students. The student questionnaire results revealed they shared the same concern ranking one on one interaction with their lecturers as the most highly valued aspect of their learning environment. Lecturers are dealing with higher research expectations, and larger teaching loads, resulting in a diminished ability to address the desired learning outcomes. In a perfect world, teachers would have the opportunity to mentor the undergraduate students to help them become skilled researchers and writers. The following quote from a lecturer suggest that ideally they would replicate the support one might offer a postgraduate developing a thesis.

> In a persuasive and imaginative way, nothing beats the essay, and the great lament I have is that we just don't have the resources to do this properly, which is of course to give them a chance to write the draft and then talk to them about it and give them feedback and then get them to do it all again. …

In times of pressure, assessment is an area that is often thought of as a site of opportunity to meet these increasing demands. The following section will look at the innovations identified in the study in detail.

Innovations in Detail

Fraudulent Evidence Task

With questions of evidence at the forefront of many academics' minds, one lecturer's approach to the construction and disruption of truth in evidence proved fascinating. The fraudulent evidence task invites students to embrace the dark realm of ambiguous and precarious truth and myth making. Divided into groups, students are asked to create a false primary source. It could be a written text attributed to a particular century and location. It is then slotted in amongst a pile of authentic evidence and then passed on to a different group. This group is then required to identify the false evidence. To help them, the students must query everything they know about primary evidence. Asking what aspects reflect authenticity, what might be true and what is inherently flawed? The lecturer explained:

> The whole idea of it is to try and get the students to get into the mindset of people writing documents of that era so as to produce a document that looks like that era but also to sharpen their critical faculties.

There are two clear stages in the task: the construction of the evidence and the analysis for authenticity. The second stage is equally as challenging. All primary evidence, history students are taught, is problematic and marked by the individual agenda and background of its authors in some way. In this task, they are looking for fragments of myth and untruth as the lecturer suggests in the following quote:

> If they find a piece they are uncertain of, they check on its historical credentials, did the person really exists, are the dates right and all that sort of thing.

Bias, this lecturer argues is embedded in all historical evidence and rather than thinking this is an impediment to the historian, they suggest the bias is often the most illuminative component.

> You can understand how a person or their mind works, or what terrifies them … or their class….

The fraudulence assessment strategy is not dissimilar to the example suggested by Frederick (in Booth and Hyland 2000, p. 101) who arranged to have intruders storm into the classroom and shout abuse at the teacher and students before storming out again. The ensuing task requires each student to write an account of what happened. These accounts are then shared and critiqued with other groups. This task, like the fraudulence task, questions everything about evidence through an epistemological and pedagogical disruption. As Shulman (2007) has argued, assessment 'tells the story of the discipline' and we see this idea clearly in this case.

This type of assessment affirms Barnett's (2007, p. 37) idea of authentic becoming as it evokes a sense of both risk and emotion. The students unsettle their understanding of truth and trust when analyzing primary sources. The frames of reference that provide meaning making are intentionally disorientated (Mezirow 2000, p. 18). This disorientation is driven by a shift in logic, but also emanates from a moral

and ethical frame of reference. The intentional act of fraud places the students on a moral plane, something that Rüsen (2005, p. 24) and Lee (2002, p. 5) have argued is inherent in a developing historical consciousness.

The task also affirms the research on the value of peer assessment (Falchikov 2005, 2007) where students are typically required to collectively apply disciplinary standards and epistemology to evidence. In the case of the fraudulent evidence task, the detective skills of the historians' craft are at the fore. Students need to identify the presence of fraud, but also the absence of truth. In history this is a perpetual narrative. Here, however, they have personally been involved in the carefully constructed hoax.

Role Play

Research into public engagement with history has shown that there is great interest in performative history, either through living history, historical reenactment, watching historical movies or television series on reconstructing historical homes and lives (Ashton and Hamilton 2003; Arrow 2007; Gapps 2009). It is not surprising that history lecturers are incorporating similar assessments in the classroom. This embodied and immersive approach sits well with the idea of locating self, taking the location to a new level of embodied reality. Role play might evoke notions of "ontological voyaging" (Barnett 2007, p. 37).

There is potential to weave performance, fantasy and historical knowledge together. As Butler (2003, p. 208) suggests, "Fantasy is what allows us to imagine ourselves and others otherwise; it establishes the possible in excess of the real; it points elsewhere, and when it is embodied, it brings elsewhere home". Connecting and understanding the otherness, or the elsewhere of historical ideas, is fruitful. Lowenthal (1985) famously argued that the past is a foreign country. Role play challenges these notions of locatedness and proximity of the historian engaged in historical thinking. Frederick (2000, p. 108) describes role play in the history classroom as "a means to immerse them (students) as far as possible into the moral and cultural ethos of the past". Not all educators are advocates of role play, living history and other performative undertakings. Jordanova (2000, p. 17), for example, wrote of the dangers of living "simplistic literalism". In the United States the "Reacting to the Past" pedagogy has been particularly popular (Carnes 2011) This approach combines the notion of a 'flipped classroom' where traditional student and teacher roles are reversed and using role play to deconstruct and reenact significant historical moments. Reflective of its success in the United States is the Reacting to the Past Institute at Barnard, Colombia University (Higbee 2008).

In Australian universities, there were a small number of academics experimenting with variations of role play while a few expressed hesitancy about the practice. One head of school stated during the interviews, "I know some people use role play

quite a lot. I have got mixed feelings about it." Those that used role play linked its use to the core components such as learning outcomes, interpreting primary evidence, understanding change and imagining how events unfolded.

The learning outcomes and potential for embedded learning have been cited as significant as one lecturer suggested:

> My classes have role plays and students have the option of doing a role play based on some primary source material and they have a lot of fun… I think if students remember little else from the course; they will probably remember their role play character (laughs) I have found it an enjoyable exercise and a worthwhile one in terms of learning outcomes.

It was not uncommon for lecturers to discuss the importance of using strategies to help students to see the intersections between the past, contemporary events and social justice. More specifically, they wanted students to understand the mechanisms of change in local, national and global contexts. As one lecturer stated in the interviews: "I wanted them to get a sense of the past as an open place where there are possibilities". Wherever the opportunity arose, this view was embedded in pedagogy, and the skills required to be an informed global citizen were named as a significant graduate attribute for history students. In the following quote from a lecturer, the global citizen is linked directly to the use of role play.

> I am keen to give students a sense of the past as an open place where there are possibilities. Some people are very often convinced that the world is terribly terribly hard to change and this it is an overpowering pre-determined place…. Which they call realism … I think history is a really powerful tool against that … lets be curious about all kinds of injustices in the present, how did they come about? And how are they defended?

It was evident throughout the study that one of the key goals was for students to develop self-efficacy and to see themselves as historians (Nye et al. 2011). It is important that students develop a willingness to engage with the evidence and, in turn, confidence to write with an authoritative voice. One lecturer described how role play, as adversarial historical practice, went some way to address these goals:

> The activities are grounded in a notion of performativity and learning by doing. In my tutorials, there is a lot of role playing, a lot of trials. I want to create a notion that history is always adversarial.

Perhaps aware of the concerns by other Australian lecturers about the validity of role play, each of the lecturers who used it offered further explanation. One argued it brought opportunity to explore 'complicated relationships', offered a 'context perspective' and 'developed empathy'. Another stated, they as performers can never be 'real' but through role play, students are 'introduced to real people'. These idea evoke notions of connecting with the otherness of the past or Butler's (2003) 'bringing the elsewhere home' to the historian self. Indeed, advocates of the Reacting to the Past model in the United States argue convincingly and have demonstrated over a period of years that the ideas that underpin role play and the flipped classroom have the potential for effective outcomes (Higbee 2008).

Areas of Contention

The university, its disciplines and practices are perpetually evolving, and it was evident in the interviews of this study that pedagogical shifts in history were at hand and observable. It is impossible, therefore, to discuss assessment in the history discipline without mentioning those that were particularly unpopular with students and with staff. Two demand particular attention: examinations and student presentations.

Throughout the data collection process it was evident in the interviews and informal analysis of university web sites that examinations are largely disappearing from the history discipline in Australia. As one academic stated:

> Exams, I have always thought are a good way for assessing how good you are working under pressure and if the name of your course is "Working Under Pressure," then you do an exam.

There are still a few teachers, however, who strongly favor examinations and in fact use the same argument—seeing what students can produce "under pressure" as a desirable outcome. It became evident that a small minority of history departments or schools insisted on examinations, while the majority had dropped them during the last decade. These last sites of disagreement are temporal moments of tension and change as institutional guidelines, sector-wide policy, graduate attributes and personal pedagogies collide.

Classroom presentations are suffering a similar fate to examinations, although not as quickly as students would like. The results of the student questionnaire indicated that students rated them very poorly and they were not regarded as an effective learning tool. The responses from academics were considerably varied, some recognised that the student disliked them, while others thought some students went too far and dominated the learning space and time. The following quotes from two lecturers at different universities reveals a shared concern for wasted opportunities for effective engagement.

> you can't afford to have one student rambling on

> The prepared speech… it kills more conversations than it starts

The desire to keep the conversations among students vivid, informed and challenging is a shared goal across the sector. It is likely the classroom presentation will fade from undergraduate classes in Australian history classrooms. Unlike the examination, there is little institutional investment in this type of activity, particularly given the ratio of face-to-face time required.

Discussion

Examining two particular assessment strategies and the less favored approaches provides an opportunity to reflect upon how they sit alongside the goals of the various stakeholders involved. The stakeholders include the authors of the assessment, the disciplinary community, the university and the national higher education sector. Using a lens of transitional learning spaces, it becomes evident that there are both intersections and points of disjuncture.

Both assessment strategies shared in this chapter fulfilled the academics' desire for meaningful and memorable engagement with the discipline. Equally, the design reflected the main goals of the broader disciplinary community; to help the students understand the complexity of evidence; mechanisms of radical and rapid change in society; and to see oneself as a critical thinker and historian. These are the transitional spaces within the signature pedagogy of the discipline and therefore sites that have the capacity for impacting lifelong learning.

It was not necessarily surprising to find a degree of mismatch between the pressures of the institutional workplace and the immersive and complex approaches used in the fraudulent evidence task and in role play. There is a constant background noise in academia that speaks to productivity, rankings and status (Nye 2013a). The sense of disjuncture is much reduced when one goes beyond the economic rationalism and competitiveness of the workplace and instead examines the generic graduate attributes and the discourse of the sector wide policy reviews (Bradley et al. 2008). In these spaces terms such as the global citizen, autonomy, communication and inquiry are again at the fore. This anomaly is perhaps indicative of the times, and one is reminded of Barnett's (2012, p. 452) discussion of the evolution of the "ecological university", one that brings "resolution to the tensions between authenticity and responsibility".

In returning to the interview transcripts, while stating the obvious, the following comment affirms some of the dilemmas academics face.

> What really teaches students the most might not necessarily make for the easiest assessment process.

With what degree of ease does one create sites for transformative learning (Mezirow 2000), for crossing learning thresholds (Mayer and Land 2003), or 'ontological voyaging' (Barnett 2007)? How do we enhance student agency and active citizenship in a changing discipline (Nye et al. 2011)?

The two assessment strategies explored here offered alternative ideas for approaching some of the key goals in the history discipline. It is evident that they provide the opportunity for students to gain an insight into the troublesome nature of embodied immersion in history, and both tasks have the potential to unsettle taken for granted notions about truth and myth. In the fraudulent evidence task, the student is the author of a deceptive hoax as well as detector of intellectual fraud. In role plays, students cross boundaries in time and must be assertive. Yet they must

do this in the absence of genuine historical context. Both are directly aligned with encouraging the student to develop self efficacy and a sense of an authentic voice as historians. Alongside traditional forms of assessment, such as the rigorous research essay, these tasks formulate enriched and quite specific disciplinary signature traits.

Conclusion

Assessment in the history discipline represents a significantly diverse, and sometimes risky, range of approaches. There are aspects, such as the research essay, that remain firmly embedded in the discipline. Additional approaches, however, which seek alternate pathways for engagement are meeting many of the desired learning outcomes and graduate attributes. They are often more difficult to implement, taking more time and resources that are not always easily attained. *The Historical Thinking in Higher Education* project and subsequent research in the Australian history discipline indicate that the history community is a resilient and innovative one. These findings are transferrable beyond the discipline and lead into SoTl discussions in other humanities disciplines and indeed across the higher education sector. Perhaps now more than ever, in an increasingly pressured workplace, it is even more important and necessary to foster opportunity for innovation and imagination. Certainly an eager disciplinary SOTL community has been building in Australia during the last five years and it is clearly evident that more research will be forthcoming. It is encouraging to see quality non-confirmative pedagogical innovations that have the potential for shifting ontological and epistemological viewpoints of students embedded in practice. Through performativity and immersion, students using a rigorous and informed lens can reimagine, reconstruct and re-interpret historical evidence and practice.

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Part II
Global Innovations in Teaching and Learning

Chapter 7

Pre-Service Teachers and Study Abroad: A Reflective, Experiential Sojourn to Increase Intercultural Competence and Translate the Experience into Culturally Relevant Pedagogy

Kathleen M. Roller

Introduction

The study abroad literature provides evidence that academic sojourns abroad are a life-changing and impactful experience for undergraduates, often shifting ethnocentric thinking to ethno relative thinking and increasing intercultural competence (Anderson et al. 2006, p. 467; Paige et al. 2004, p. 245). Various studies have demonstrated that study abroad has the potential to be widely impactful, both on academic—knowledge and skill development—and non-academic learning outcomes—affective and attitudinal, developmental and self-awareness (Medina-Lopez Portillo 2004, p. 180; Paige et al. 2004, p. 254; Sutton and Rubin 2004, p. 66; Savicki et al. 2008, p. 113). In each study, researchers found that study abroad had a transformational effect on the student; resulting in a diversified worldview, better understanding of self and an acknowledgement of self-growth. Yet, the sojourns need to be related to the greater context of the student's life and the world in which he/she lives and works (Lutterman-Aguilar and Gingerich 2002, p. 49) for the learning to transcend the conclusion of the experience.

The study abroad research highlights the need for purposeful reflection and intentional curricular integration of intercultural learning outcomes for students to make meaning out of the experience. Without such purposefulness, students likely return without being able to articulate newly acquired transferrable skills (Selby 2008, p. 7); experiences abroad lack assessment and processing and are only viewed against the students' own cultural conditioning (Deardorff 2008, p. 37); and/or students view their time abroad as fragmented from their holistic undergraduate experience (Hovland and McTighe Musil 2009, p. 467). Thus, researchers advocate a theoretical framework of experiential, affective and transformational learning

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(Savicki et al. 2008, p. xiii) that stresses strategic and critical thinking, integrated cultural experiences and reflection that aligns learning outcomes with a study abroad experience (Braskamp et al. 2009, p. 113). Experiential learning in study abroad programs has been assumed but has not been designed for the vast majority of traditional study abroad programs.

The experience of being overseas has particular implications for future teachers, often an underrepresented group of study abroad participants. According to Institute of International Education (2011) Open Doors Report (2011), only 4.1% of the total number of American students studying abroad (270, 604) were education majors. Emphasis on international education and intercultural competence has been lacking in teacher preparation programs; yet many affirm the need for teachers to be better prepared to work in culturally diverse K-12 classrooms (Cushner and Mahon 2002, p. 45; Mills and Ballantyne 2010, p. 447; Willard-Holt 2001, p. 505). Field-based experiences offer pre-service teachers the means to improve their understanding of students with diverse backgrounds. In addition, getting out of the classroom and into the environment to witness culture first-hand, gives teachers the ability to work directly with multicultural students more successfully and encourages a mindset of inclusion (Villegas and Lucas 2002, p. 27).

The need for teachers to be interculturally competent and prepared to teach in multicultural and diverse classrooms is critical, for in fewer than ten years, almost half (48%) of the nation's K-12 school-age children will be students of color (Milner, Flowers, Moore, Jr., Moore III, Flowers, 63) or first-generation Americans born to immigrant parents. Nationally, the vast majority of those entering the teaching profession have not been exposed to multicultural environments (Merryfield 2000, p. 430; Cushner 2009, p. 152). It should not be presumed that minority race teachers are more culturally sensitive based solely on race or cultural background alone. Cultural sensitivity is a learned response to cultural difference and regardless of their own race, inexperienced pre-service educators may lack the capability to understand differences and commonalities of people outside their culture group. Thus, it is likely they will not understand the effect of globalization on the lives of their future students (Merryfield 2000, p. 430). Pre-service teachers may operate from a monocultural mindset rather than an intercultural mindset. This can manifest itself in the classroom as ethnocentrism and a reliance on cultural stereotypes and generalizations. Seeing cultural differences as obstacles positions the teacher to view minority students' learning as something difficult to achieve. Shifting pre-service teachers' mindsets to a more culturally sensitive and ethnorelative orientation challenges them to develop pedagogical strategies that encourages minority students' learning.

Cross-cultural experiences for pre-service teachers vary tremendously and often consist of home campus-based experiences (i.e. coursework or practicum in multicultural classrooms), semesters/faculty-led courses abroad (Willard-Holt 2001, p. 507), or in the most scaffolded cases, a teaching abroad practicum. A study conducted by Willard-Holt (2001) concluded that teachers who participated in international education opportunities became more globally aware and were then better equipped to instill this attitude in their own students. Specifically, the study noted

that teacher education programs should: (1) Encourage pre-service teachers to study abroad/teach abroad to increase their global competence; and (2) Ensure that the experience is reflected upon critically and purposefully if acquired global competence is to be transferred to the students under their tutelage in the K-12 classroom.

Recently, qualitative studies of pre-service teachers on study abroad programs or engaged in overseas teaching placements have relied on questionnaires and surveys to measure anecdotal personal and professional growth (Pence and Macgillivray (2008, p. 15; Willard-Holt 2001, p. 507; Cushner and Mahon 2002, p. 48). Previously, research had not been conducted with pre-service teachers on study abroad programs to assess intercultural competence along a developmental continuum via the use of a structured experiential-based curriculum.

This study investigated the level of intercultural competence achieved by a select group of pre-service teachers before and after participating in a developmental experiential course during a study abroad semester (Roller 2012, p. 1). The modular curriculum involved reflective journal writing, observations, interviews and other developmental exercises shaped by the developmental model of intercultural sensitivity (DMIS) theory (Bennett 1993, p. 24) and culturally relevant pedagogy theory (Ladson-Billings 1995, p. 467) The impact an overseas experiential education had on these pre-service teachers' capabilities to shift cultural perspective and their abilities to adapt to cultural commonalities and differences was measured using the validity-tested Intercultural Development Inventory (IDI) developed by Hammer (2001, p. 475) and Bennett (1993, p. 25).

Ultimately, this study highlights the need for more education majors to study abroad and suggests Education faculty and international education professions should take an active and collaborative role in cultivating more participation. Education faculty are encouraged to design/structure purposeful and intentional developmental coursework as well as reflective journal assignments that run parallel to the students' sojourn experience. There is also a need for Education faculty to critically review their lock-step course curriculum so as to look for "pathways" that enable education majors to take better advantage of the benefits of study abroad. Opening up the curriculum to allow a semester abroad and encouraging pre-service teachers to engage in a critically reflective curriculum could have great impact on the pedagogy in our K-12 classrooms.

Literature Review

Theoretical Frameworks: Intercultural Competence, Culturally Relevant Pedagogy and Experiential Learning

Intercultural competence, often synonymous with global awareness, global competence, intercultural sensitivity, global learning, global mindset, global citizenship and/or cultural learning, refers to a set of skills (cognitive, affective and behavioral)

that facilitates effective and appropriate interaction/behavior in a variety of cultural contexts (Bennett 2008, p. 16). Researchers have been working to define intercultural competence for decades, yet this study derived a working definition of intercultural competence from the work of Bennett.

Bennett (1993, p. 24) outlined a continuum model and theory of intercultural competency in developmental terms rather than specific behaviors. Bennett's definition of intercultural competency is, therefore, related to the ability to shift cultural perspective and adapt behavior to/within cultural contexts (Hammer 2009, p. 207). Using this definition, Bennett structured his *Developmental Model of Intercultural Sensitivity* (DMIS) as six developmental sequences, moving from an ethnocentric vantage point to an ethnorelative point of view. With Bennett's contribution to the scholarship, the discussion of intercultural sensitivity shifted from the golden rule: do unto others as you would have done unto you; to the platinum rule: do unto others as they would wish to be treated (Olson and Kroeger 2001, p. 118).

The first three phases of the DMIS are ethnocentric (denial, defense and minimization) and the final three phases are ethnorelative (acceptance, adaptation and integration). Bennett defines ethnocentrism as the worldview of one's own vantage point, which is central to the person's reality. Bennett (1993) coined the term ethnorelativism as an appropriate complement to ethnocentrism (Bennett 1993, p. 46) and defines it as the understanding that culture and behavior are relative and can only be understood in context or contrast to one's own culture and behavior.

Bennett contends that when an individual moves along the spectrum from ethnocentrism to ethnorelativism, one identifies not only with different cultures, but also more deeply with him/herself. Therefore, appreciation of cultural difference is affective and combined with increased cognitive knowledge of differences (Bennett 1993, p. 47). While moving along Bennett's spectrum (from denial through to integration) and resolving the relevant issues inherent in each of the six orientations, individuals think cognitively about their interactions in relationship to what is appropriate to a particular culture. Metacognition is achieved when the individual construes different worldviews and adjusts cultural understanding at each stage on the continuum. Because one sees little regression to former orientations once the relevant issues are resolved, educational outcomes, measureable growth and student sophistication can be assessed by educators and administrators if curriculum is developed with these stage movements in mind.

From Bennett's constructionist framework of intercultural competency, he, Hammer and Wiseman developed the Intercultural Development Inventory (IDI) to measure people's orientations toward cultural differences (Hammer et al. 2003, p. 422; Hammer 2011, p. 475). Through extensive confirmatory factor analysis, the Intercultural Development Inventory (IDI) has been deemed appropriate to pinpoint the stage of a person's intercultural sensitivity along the DMIS continuum (Hammer et al. 2003, p. 439; Hammer 2011, p. 486; Paige 2003, p. 485). Recently, Hammer (2011, p. 475) updated the developmental progression model.

For the last 30 years, culturally relevant pedagogy has been introduced to preservice teachers as a pedagogical tool to use in diverse classrooms to improve student achievement and performance (Jordan Irvine 2009, p. 58; Gay 2002, p. 106;

Howard 2010, p. 43). The practice presumes that learning can take place across cultures. This pedagogy challenges social and hierarchical structures rather than ignores them. To achieve these aims, the culturally responsive teacher must engage in a number of strategies to help diverse students achieve. Culturally responsive teachers celebrate and affirm students' cultural backgrounds. As minority students are often told societal expectations for them are relatively low, the culturally responsive teacher must encourage students to have high personal expectations. The teacher and the student must work to "disprove" society. Learning must be contextualized and never isolated. Students should be recognized for the knowledge they bring to the learning community and recognized equally for their individual strengths. In legitimizing students' backgrounds and strengths, culturally responsive teachers make their students' experiences part of the "official" curriculum. In doing so, teachers and students challenge society's conventions and the status quo.

This study defined culturally relevant pedagogy and culturally responsive teachers by drawing on aspects of the work done by Ladson-Billings (1995, p. 469). An underlying tone of Ladson-Billing's definition is social justice: to develop students' abilities to perceive social inequalities and work to defuse and/or end them. Ladson-Billings (1995, p. 467) argued that culturally relevant teaching is distinguishable from other pedagogies due to teachers' conceptions regarding self and others, social relations and knowledge. Culturally responsive teachers with a deep understanding of social relations maintain open and communicative relationships with students. They view knowledge as something shared, recycled and constructed. They understand that knowledge is not static and must be viewed critically. They carefully guide students through critical reflection and assist students in understanding the difference between intellectual challenge and challenge of authority.

Culturally relevant pedagogy is not something pre-service teachers stumble into, thus a serious effort must be made to incorporate this pedagogy into teacher preparation programs. As Villegas and Lucas (2002, p. 27) conclude, adding a course or two on multiculturalism or urban education does not go far enough. The entire teacher preparation curricula must reinforce and expand pre-service teachers' beliefs about and attitudes toward culturally responsive teaching. Therefore, culturally relevant pedagogy cannot exist without prospective teachers engaging in a cognitive shift. Once the mental shift occurs and pre-service teachers turned full-time teachers engage in the instructional practice, constant efforts to evaluate effectiveness must be engaged. This necessitates extensive reflection on process, outcomes and achievements. Therefore, pre-service teachers must be given the preliminary tools to conduct this kind of reflection and introspection before full-time placement in the classroom.

I contend if the tenets of culturally relevant pedagogy are introduced within the framework of an overseas experience, sojourners must be given opportunities to reflect on how to incorporate it into their own thinking and practice. Much like the tenets of culturally relevant pedagogy espoused a half-century later, Dewey (1938, p. 28) stated that educational experiences must incorporate reflections upon students' own lives for real learning to take place. Dewey (1938) first introduced the idea of being transformed through reflection and experiential learning as a foil to

traditional, habitual, rote learning in his 1938 work entitled *Experience and Education.* He asserted that top-down, dogmatic education did not value the lived and shared experiences of pupils and teachers alike. Yet, Dewey (1938) recognized that all experiences and/or conditions are not, in and of themselves, educative. He states, "it is not enough to insist upon the necessity of experience, nor even of activity in experience. Everything depends upon the quality of the experience, which is had" (Dewey 1938, p. 16). Thus, Dewey (1938) believed that teachers should guide students through experiences that enhance their ability to make sense of their surroundings. Therefore, teachers are to engage students in reflective exercises as a means to have more experiences and make sense out of experience-gained knowledge. Dewey (1998, p. 42) concludes that what a learner "has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow".

The process of discovery and re-discovery through experience and analysis has led contemporary theorists to frame the Dewey philosophy as a cyclical model. Building upon Dewey's "criteria of experience" and influenced by the work of Lewin (1952, p. 463), Kolb and Fry (1975, p. 33) conclude that experiential learning is based on a four-stage learning cycle. The learning, change and growth that takes place is facilitated by having a "here-and-now experience" (Kolb and Fry 1975, p. 33) and an opportunity to collect information (data and observations) about the experience to contextualize it (Kolb and Fry 1975, p. 33). Reflection is a key component of the process. Out of that reflection, conclusions drawn about the experience give the individual cause to act or re-act to modify behavior, action or thoughts.

Kolb and Fry (1975, p. 35) state that cognitive growth or shifts are best achieved in an environment where the individual feels "tensions and conflicts" between what was previously known and what is being experienced. New knowledge is generated when the individual is open and unbiased; able to reflect on and critically observe the phenomenea taking place; able to form new concepts that integrate the data into new hypothesis; and able to use the new knowledge to make decisions and problem solve. For the study abroad student, the cycle begins with the concrete experience of being in a foreign land. As the student encounters the environment, he/she has observations and reflections about not only the immediate surroundings, but the people in the environment and their interactions with it and to it. Following is the student's formation of abstract concepts and generalizations about his/her reactions and intrepretations of him/herself, the environment and the people, leading to the testing of those theories in new situations and scenarios.

Braskamp et al. (2009, p. 113) argue that education abroad in its current design and implementation may not adequately focus on students' metacognition. The researchers contend that international education professionals need to design more intentionally structured environments (formal didactic classroom instruction or experiences) that challenge students to engage in critical reflection and strategic thinking. Critical reflections upon learning and instructional guidance to transform that learning into action are especially important for pre-service teachers. Further, pre-service teachers who engage in a cognitive paradigm shift and modified thinking

as a result of a reflective experience are most successful in incorporating that learning into successful classroom pedagogies (Cushner, p. 151; Cushner and Mahon 2002, p. 55).

Research Questions

This study employed a mixed method approach to ascertain whether pre-service teachers' intercultural competency was enhanced through a study abroad semester in tandem with a purposeful, reflective, experiential curriculum in contrast to a group of students who studied abroad without the curriculum as well as a group who did not study abroad, yet took a culture class on the home campus. The study challenged the intervention participants to reflect upon how culturally relevant pedagogy could be infused into K-12 instructional practices. The following research questions drove the study:

- Question 1: What do pre- and post-semester abroad Intercultural Development Inventory (IDI) survey results reveal about the intercultural competencies of the participants from each of the three groups?
  - Group A: Study abroad participants with curricular intervention.
  - Group B: Study abroad participants with no curricular intervention.
  - Group C: Home campus students who do not study abroad and do not receive curricular intervention.
- Question 2: What do the participants from Group A say are the effects of a reflective, experiential curriculum on their study abroad experience?
  - Did the curricular intervention positively or negatively impact the level of competence achieved by the pre-service teachers in contrast to the control groups?
- Question 3: How do the pre-service teachers from Group A anticipate translating their overseas experiences into culturally relevant pedagogy they can share with their K-12 students?

To answer these questions, I worked with 21 pre-service teachers enrolled as undergraduate students at five California State University campuses in close proximity to Los Angeles over the course of the fall 2011 semester and January and February of the spring 2012 semester. The participants were grouped accordingly and the names of the study volunteers in Group A were changed to pseudonyms to protect their anonymity:

Group assignment	Number of participants in group	CSU campuses represented within group
A (abroad with curriculum)	7	SDSU, CSUF, Cal Poly SLO
B (abroad without curriculum)	2	CSULB
C (remained home without curriculum)	12	CSUN

Methods

The transformative, concurrent mixed methods approach for this study afforded the opportunity to capitalize on the strengths of both quantitative and qualitative methodology. A quantitative, quasi-experimental approach allowed a statistical comparison of the Intercultural Development Inventory (IDI) scores of the pre- and post-semester abroad assessments to the other two participant groups. A qualitative approach unearthed rich details and descriptions of what the study abroad participants perceived to be the effects of the experiential-based curriculum and how they might use their learning in their forthcoming practice. The IDI was administered to all study participants, regardless of group, at the start and conclusion of the fall 2011 academic term. For Group A, the administration of the curriculum took place over the course of the fall 2011 semester, thus allowing an examination of how the study participants arrived at their reflective conclusions over time and the meanings they attached to their experiences.

The course curriculum involved reflective journal writing and engagement in culturally appropriate experiences shaped by experiential learning theory, intercultural competency theory and culturally relevant pedagogy theory. The curriculum was based on the "Principles of Good Practice" set forth by the National Society for Experiential Education: intention, authenticity, planning, clarity, monitoring and assessment, reflection, evaluation and acknowledgement (NSEE website: http://www.nsee.org/about_us.htm#sop) (Roller 2012, p. 8).

The purpose of the course was to increase students' intercultural competence: the ability to shift cultural perspective and adapt behavior to cultural differences and commonalities. Therefore, the curriculum was intentionally structured to follow progression along the DMIS continuum. Assuming that many of the study participants would be inexperienced in intercultural competence and the fact that the majority of individuals who have taken the IDI in the past tend to place on the left to middle side of the spectrum, ranging from denial to minimization, it was crucial for the design of the curriculum to move the participants closer to the ethno relative or intercultural mindset. Thus, developmental activities were designed to build on skills learned and interpreted in early weeks so as to challenge participants to move closer to acceptance/adaptation in later weeks.

At the beginning of the term, assignments were structured to challenge students to reflect on issues/characteristics/thought processes typical of denial, polarization and minimization orientations. As the semester progressed, fewer and fewer assignments focused on denial, polarization and minimization and moved into discussions of issues/characteristics/thought processes typical for those in acceptance or adaptation orientation. The participants were asked to complete three relatively short exercises per week. Some required journaling and personal reflection and some required students to find creative mediums to address the developmental task (take photos, write field observation notes, etc.). Periodically throughout the term, students were asked to read selected works on culturally relevant pedagogy or engage in culturally relevant developmental exercises. Throughout the semester abroad, participants from Group A responded in writing or other creative medium to the

questions/exercises and uploaded their responses to secure, private, uniquely identified week-specific folders on Box.net, an online data management and storage system, corresponding to the appropriate week for each participant.

Outcomes

Experiential (read: reflective) learning during traditional, semester long study abroad programs has not been designed for the majority of programs. As previously noted, students need the opportunity to critically reflect upon and make meaning out of their experiences (Braskamp et al. 2009, p. 113; Selby 2008, p. 8). Additionally, the experiences need to be related to the greater context of the student's life and the world in which he/she lives and works (Lutterman-Aguilar and Gingerich 2002, p. 49). The learning, change and growth that takes place are facilitated by having a "here-and-now experience" (Lutterman-Aguilar and Gingerich 2002, p. 33) and an opportunity to collect information (data and observations) about the experience to contextualize it (Kolb and Fry 1975, p. 34). Immediate reflection is a key component of the process. Out of that reflection, conclusions drawn about the experience give the individual cause to act or re-act to modify behavior, action or thoughts. Thus, the individual engages in the plan-do-check-act learning cycle.

The experiential curriculum used in this study, developed using a constructivist teaching/learning approach, was designed to give students an opportunity to react to their immediate environment and emotions within the context of their overseas experience. The exercises were intentionally structured to present "here-and-now" moments for reflection and analysis. As evidenced by the student responses presented, the Group A participants attempted to make meaning out of their experiences and situate that meaning within the context of their lives and future career endeavors.

Responses the Group A participants submitted to address "what are the effects of a reflective experiential curriculum on your study abroad experience" are evidence of how the students began to resolve the typical deficiencies found in study abroad programs and contextualize their learning. The study volunteers articulated connections not only to host culture values, beliefs and practices, but began to understand how those cultural norms might influence their lives and future professional endeavors. The participants' responses to the curriculum and the focus group sessions provided preliminary evidence that they were *beginning* to acquire skills needed to express their learning and translate that new knowledge into culturally sensitive behaviors and mindsets.

Responses to the Curriculum

Throughout the fall 2011 term, the Group A participants moved through exercises aligned with the orientations along the Developmental Model of Intercultural

Sensitivity (DMIS) continuum and began to address or in some cases resolve the relevant issues inherent in each of the five orientations. The reflections presented suggest the Group A participants not only began to identify with their host culture, but also learned a great deal about themselves.

Marcus, a Group A participant, specifically addressed the impact the curriculum had on his experience in contrast to a previous semester abroad without the curriculum:

> I spent a semester abroad already so I am able to compare and contrast the two experiences (with and without the curriculum). I have to say, I wish I had this curriculum the first semester I went abroad, because I feel like I attained 3 times as much from this experience than what I had before. It allowed me to take even more of initiative to get more out of this short time abroad.

He went on to use an elaborate metaphor to describe the learning he achieved as a result of being engaged in the curriculum:

> I suppose it was like drinking a wine with a wine connoisseur that is able to point out all the subtleties to take notice of. The connoisseur in this case of course being the curriculum and the participants being the ones enjoying the wine.

In summation of his experience with the curriculum and to perhaps provide a satisfying response to the researcher, Marcus submitted the following:

> There are definitely some classes out there in which you can work really hard, or even breeze by with and gain absolutely nothing from, this was definitely not the case in which I'm VERY grateful for…On I side note, I really do want to say thank you for such a well prepared experience, when I say I received a lot from your curriculum, I really did.

During a post-sojourn focus group session, Marcus noted it was likely his roommates and friends on his study abroad program also benefitted from the curriculum. He said he would often share the assignments with his roommates and friends and ask them to join him to complete the assignments. He noted:

> That was really tricky about this study because you can actually have these little like groups to do the assignment with you and you're like bonding with the other people and the other people are getting more from their study abroad experience as well so yeah, my friends… the times when I had to go out…That's really cool.

While not an anticipated outcome of the study, the evidence provided that a curriculum could influence secondary (periphery) participants is worthy of note and could be considered in future research.

Ava, another Group A participant, wrote about the time and energy she put into doing the weekly assignments and noted that she enjoyed doing so. Like Marcus, she could have been providing a satisfying response to the researcher when she wrote: "…every answer was sincere and taken seriously…I used these assignments for my personal gain." She went on to discuss the process of completing the assignments and how it was beneficial to her:

> I started to look at things differently whether it was taking a moment to just sit and observe the difference in the way people do life or taking time to tell owners of my favorite place how much they meant to me and taking a picture with them. I felt like I had an excuse to talk to my professors, starting discussions about certain issues. These assignments really

gave me a better perspective on what I was doing in [host country]. I really enjoyed doing these assignments and I am grateful to them for making me think deeper.

Not unlike Ava, Joaquin was able to understand the developmental intentionality of the weekly assignments and wrote about the benefit he gained from doing the experiential tasks:

> …as time went by and I focused more on the assignments I realized that the assignments were promoting me to do and see things in the city that I may not have done. For example there were many cultural tasks such as visiting museums or churches, things that had it not been for the assignments I would not have had much desire to see them. But since I had to do that assignment I got to know the city and the people from an observational perspective. It was a sort of chain reaction in that the more effort I put into the assignments, the more I was able to personally benefit.

Joaquin, a third Group A participant, addressed the preconceived notions of culture he had prior to starting the semester and engaging in the curriculum: "The generalizations that I had previously formed about other countries were not negative per say but after actually spending time around different people, I discovered that they were off base, regardless if they were positive or not." Similarly to Marcus, during the post-sojourn focus group session, Joaquin said he talked to his roommates about the curricular assignments and often invited them to participate:

> Yeah, both of my roommates knew about it and I'd say that like 90% of the assignments I did where I had to go out into the city, 90% of the time they were with me so I guess they pretty much experienced the exact same thing as me. Like watching for things…they were right there with me so they maybe they were learning as much as I did this semester.

Because one sees little regression to former orientations once the relevant issues are resolved, the findings suggest slight growth and student sophistication were achieved over the course of the semester. As evidenced by the findings, some of the Group A participants reverted to monocultural mindset skills and coping mechanisms when pushed too hard to move past what was comfortable. This finding indicates that the participants had not yet resolved the preceding orientation issues to move forward. It is important to note that intercultural competence is developmental. As the Group A participants were only engaged in three developmental exercises per week, it is improbable to conclude that growth and sophistication were solely due to the semester- long curriculum or that all past orientation issues would be resolved in the span of four months. Yet, some advancement in thinking was recorded and beginning to root. Thus, it can be concluded that with further curricular exposure and engagement in reflection, the participants are likely to see further sophistication and advancement beyond their original developmental orientations.

Anticipated Translation into Culturally Relevant Pedagogy in Future Classroom

Once the mental shift occurs and pre-service teachers turned full-time teachers engage in the culturally relevant instructional practice, constant efforts to evaluate

effectiveness must be engaged. This necessitates extensive reflection on process, outcomes and achievements. As Howard (2010, p. 118) notes, "it requires opening oneself up to critical inspection, harsh criticisms, and…having to listen to the un-flattering assessment of one's own actions". Therefore, pre-service teachers must be given the tools to conduct this kind of reflection and introspection *before* full-time placement in the classroom.

In the first few paragraphs of her final essay, Becky, a Group A participant, spent a significant amount of time highlighting the differences she witnessed in her host country's education system. She linked her perceptions to ways she would approach her pedagogy. She detailed the recent influx of immigrants into the host country and speculated why differences might exist, "[Host country] has not needed to address the multicultural issue because before there were so many immigrants coming into the country, they were all pretty much homogenous." She went on to describe how beneficial it was to be in a country that is adapting to heterogeneous classrooms:

> …made me realize that you cannot treat all your students the same way regardless of their race, gender, ethnicity, etc. All children have their own way of learning material and by treating all your students the same way because you think that you are being equal and not discriminating will hurt the children…I was able to see with my own eyes what happens when a child is not taught the level material or when the teacher does not really try to teach the material in a different way. I will definitely think of this when having to work with a child who does not understand the material being taught. I do not want to leave any of my students behind…

Therefore, being in the host country gave her a different vantage point that will benefit her:

> I think that coming to [host country] where multicultural classrooms are seen more and more was a real learning experience…I will be able to look at the different ways the [host culture] education system works and handles multiculturalism in the classroom. I would also be able to bring back some of the techniques or methods they use to create a multicultural classroom that may not have been used in the United States.

In addition to the immigration discussion, Becky wrote about language acquisition and how English-language learners in her future classroom might feel. Her response demonstrates empathy, a skill associated with the adaptation orientation:

> Because I was not able to understand or speak my host country's language very well I got to experience what it felt like for a child who was learning English as a second language… being able to experience what it felt like to not be able to understand what everyone is saying really made me realize how frustrating and hard it must be fore a immigrant child who does not know the English language.

As a result of this acknowledgement, she provided an example of how she planned to integrate that lesson learned into her future classroom practices:

> I plan to incorporate my study abroad experience in my future classroom by being more accommodating of the students I am teaching. Children who come from different cultural backgrounds may view certain things differently than I would…because I will be having students from all kinds of cultural backgrounds, one of the many things that may be different for them may be the way I present/teach my material in class…One thing I could relate with the students could be teaching style…

Becky's responses highlight that committing to culturally relevant pedagogy is a lifelong process (Howard 2010, p. xx), one that requires dedication to reflection, acknowledgment of difference and celebration of similarities.

In the final essay, Marcus detailed his own naïveté and prior misperceptions about culturally relevant pedagogy. After each self-reflective statement, he outlined how he plans to approach his teaching practice. Within the first few paragraphs of the essay, he outlined the new perspectives he gained as a result of engaging in the semester-long curriculum:

> Having time to self-reflect after all these experiences and being able to gain a better awareness of my perceptions and philosophies of teaching through this course, I have most certainly changed…I have gained awareness of possible arrogances that I've now been able to spot in a few teachers and in educational institutes.

He acknowledged, "My awareness of cultural differences or even how home cultures truly affect a person and their learning styles, has affectively brought a whole new importance on particular aspects of teaching." It is plausible Marcus was providing an answer that can be perceived as favorable for the write-up of the study or vying for researcher satisfaction with his progress, when he summarized the paragraphs by saying: "Being strengthened in Culturally Responsive Teaching and other ideas we gained from this course, I couldn't imagine not having these tools in the process to be the type of educator I hope to someday be."

In the second part of his response, Marcus noted the importance of culturally responsive teaching and acknowledged his previous naïveté, "Culture is HUGE when it comes to teaching, more than I would have previously expected, one size most definitely does not fit all for teaching a mixed cultural class as has been apparent over this semester." While not prompted to do so, he referenced readings as well as a YouTube video from earlier weeks' assignments and wrote about the responsibilities he feels teachers have to multicultural classrooms:

> …it is an educator's duty to build curiosity and awareness of other cultures as it is to overcome the barriers to make the effort. Having learned about the knowledge construction process as an educator and combining that with culture awareness is a much-needed combination for any teacher. These competencies further combat racisms or ethnocentrism that is ever prevalent…I realize now, how much of a disservice it is to not take these steps as an educator for the upcoming generations…

Marcus concluded his final essay response by reiterating how engaging in the curriculum has modified his thinking about teaching and helped him personally:

> Before this curriculum and after, I definitely had two opposing teaching philosophies. Now with the material and writings I achieved many new insights and revelations about teaching and I am greatly appreciative for them. It definitely helped me focus on the subtleties of the culture, my feelings and possible lessons I would have possibly overlooked. [As a result,] I have signed up to do another semester abroad to further my experience and lessons learned.

His final statement outlines how he plans to use his learning in his future classroom:

> I do know that the formation that occurred here will stick with me and how I will take on future endeavors has been further formed during this experience. The only task in which I will be able to incorporate this is would be in my teaching within the US, and being able to speak for experiences rather than theory.

From the findings, it can only be postulated that these pre-service teachers have *begun* to make that cognitive shift and were provided with preliminary tools needed to conduct on-going reflection. Although the participants' responses can be classified as naïve and in need of further shaping and refinement, the foundation for enacting an advocacy stance within a diverse classroom has been laid. Evidence about how the participants internalized their learning and anticipate using their study abroad experience to shape their future pedagogical practices was presented. It is assumed that intercultural skills and culturally sensitive pedagogical tools can be translated into practice in the participants' future classrooms. Further research would be required to authenticate that assumption.

Statistical Tests

The profile produced upon completion of the IDI v3 survey presents information about a participant's perceived orientations, his/her developmental orientations and the gap between the two. The Perceived Orientation (PO) is the location along the developmental continuum where an individual placed him/herself. The Developmental Orientation (DO) is the location along the continuum as assessed by the IDI. The Orientation Gap (OG) is the difference between the Perceived and Developmental scores. A gap score of seven points or higher indicates a significant misalignment between perception and development. The larger the gap, the greater the spread between what an individual thought of him/herself and what the IDI assessed. A Perceived Orientation score that is seven points or higher than the Developmental Orientation score suggests that the individual *overestimated* his/her intercultural competence. A Developmental Orientation Score that is seven points or higher than the Perceived Orientation score indicates that that individual *underestimated* his/her intercultural competence. None of the participants in this study underestimated their intercultural competence. All of the participants overestimated their intercultural competence by a margin greater than seven points.

A paired sample t-test was used to calculate difference among the pre- and post-semester Perceived and Developmental Orientation and Orientation Gap results for each unique group (A, B and C). Following the paired sample t-tests, the ANOVA statistical test was used to measure changes between the pre- and post-semester IDI scores among all three groups. The ANOVA statistical test was used to calculate for differences in pre- and post- semester IDI Perceived and Developmental Orientation and Orientation Gap scores to see if the experiential curricular intervention had a statistically significant impact on the participants from Group A versus the participants in the control groups (B and C). The ANOVA can calculate the ratio of the actual difference to the difference expected due to chance alone.

There are several limitations of the study that deserve attention. First, the sample size of each of the groups was small ($n = 21$) and not representative of all pre-service teachers in California State University programs. A larger sample would need to be assembled to draw definitive conclusions and to make generalizations. Future research should consider this limitation and work to convene a larger group of participants.

Paired Sample t-Test

While the data in Table 7.1 outline positive trending change in the direction of an intercultural mindset for the Group A participants, the paired sample t-test run between the pre- and post-semester Group A Perceived and Developmental Orientations and Orientation Gap (Table 7.2) resulted in no statistically significant change because 0.107 (PO) and 0.167 (DO) and 0.283 (OG) are greater than 0.05 (Table 7.2). Similarly, the Group B perceived and developmental orientation and orientation gap data highlights no significant statistical change because 0.448 (PO), 0.513 (DO) and 0.566 (OG) are greater than 0.05. Finally, while the data in Table 7.1 highlight change between pre- and post-semester Group C Perceived and Developmental Orientations and Orientation Gap trending in a positive direction toward an intercultural mindset, the data presented in Table 7.2 indicated no statistically significant change because 0.342 (PO), 0.596 (DO) and 0.841 (OG) are greater than 0.05.

ANOVA Statistical Tests

The ANOVA test was run to calculate for difference in pre- and post-semester PO, DO and OG Group scores to examine if the experiential curricular intervention had a statistically significant impact on the participants in Group A versus the participants in the control groups. If statistically significant difference was noted, it could be assumed that the experiential curricular intervention had made an impact and that the change between the pre- and post-semester results was not due to chance alone.

As noted in Table 7.3, the statistical significance of the PO (0.684), the DO (0.783) and the OG (0.806) is greater than 0.05, thus it cannot be stated that the experiential curriculum had a statistically significant impact on Group A in contrast to the control groups.

As evidenced in Table 7.4, no statistical significance exists when the groups are reviewed against one another because in every case, the statistical significance (1.0) is greater than 0.05.

Group A: Study Abroad Participants with the Experiential Curriculum Pre-and Post-Semester Individual IDI Profiles

While the data presented in Tables 7.2, 7.3 and 7.4 highlight no statistical significance in pre- and post-semester intercultural competency development as measured by the Intercultural Development Inventory (IDI) when viewed as collective groups and between groups, it is important to highlight the individual pre- and post-semester scores of the participants in Group A to supplement the qualitative data presented.

Table 7.5 depicts the pre- and post-semester Perceived and Developmental Orientation and Orientation Gap scores of the Group A participants. The data is

Table 7.1 Group pre-semester perceived orientation, developmental orientation and orientation gap scores

Group	n		Pre-PO	Post-PO	Pre/Post PO Δ	Pre-DO	Post-DO	Pre/Post DO Δ	Pre-OG	Post-OG	Pre/Post OG Δ
A	7	Score	119.91	121.90	+1.99	85.15	89.27	+4.12	34.76	32.63	−2.13
		Mean	119.9914	121.8971		85.1529	89.1529		34.7586	32.6257	
		Std. Deviation	3.75903	3.66257		10.07142	9.25888		6.45150	5.8482	
B	2	Score	122.88	121.48	−1.40	90.81	87.98	−2.83	32.07	33.50	+1.43
		Mean	122.8750	121.4800		90.8100	87.9850		32.0650	33.4950	
		Std. Deviation	7.84181	6.16597		22.93854	18.77369		15.0967	12.6077	
C	12	Score	118.16	119.86	+1.70	85.90	88.12	+2.22	32.25	31.74	−0.51
		Mean	118.1567	119.8625		85.9017	88.1183		33.0714	32.2047	
		Std. Deviation	8.57057	5.87198		22.06259	16.93306		11.3590	9.4650	

Table 7.2 Paired samples test: groups A, B, C pre- and post-semester perceived orientation, developmental orientation and orientation gap

Group	n		Pre/post PO	Pre/post PO Sig. (2-tailed)	Pre/post DO	Pre/post DO Sig. (2-tailed)	Pre/post OG	Pre/post OG Sig. (2-tailed)
A	7	Mean	−1.98571	0.107	−4.11857	0.167	2.13285	0.283
		Std. Deviation	2.77367		6.93678		4.78751	
B	2	Mean	1.39500	0.448	2.82500	0.513	−1.43000	0.566
		Std. Deviation	1.67584		2.94500		2.48901	
C	12	Mean	−1.70583	0.342	−2.21667	0.596	.510833	0.841
		Std. Deviation	5.94874		14.04686		8.60252	

Table 7.3 ANOVA: tests of within-subject effects groups A, B and C

Measure	Type III sum of squares	df	Mean square	F	Sig.
PO	9.461	2	4.730	0.389	0.684
DO	37.830	2	18.915	0.275	0.763
OG	11.646	2	5.823	0.219	0.806

Table 7.4 One-way ANOVA multiple comparisons of differences between pre- and post-semester perceived and developmental orientation and orientation gap scores

Difference	Group		Mean	Std. error	Sig.
Post PO—Pre PO	Group A	Group B	3.38071	3.95615	1.0
		Group C	0.27988	2.3466	1.0
Post PO—Pre PO	Group B	Group A	−3.38071	3.95615	1.0
		Group C	−3.10083	3.75684	1.0
Post PO—Pre PO	Group C	Group A	−0.27988	2.34667	1.0
		Group B	3.10083	3.76854	1.0
Post DO—Pre DO	Group A	Group B	6.94357	9.40463	1.0
		Group C	1.90190	5.57855	1.0
Post DO—Pre DO	Group B	Group C	−6.94357	9.40463	1.0
		Group C	−5.04167	8.95865	1.0
Post DO—Pre DO	Group C	Group A	−1.90190	5.57855	1.0
		Group B	5.04167	8.95865	1.0
Post OG—Pre OG	Group A	Group B	−3.56286	5.84855	1.0
		Group C	−1.62202	3.46919	1.0
Post OG—Pre OG	Group B	Group A	3.56286	5.84855	1.0
		Group C	1.94083	5.57121	1.0
Post OG—Pre OG	Group C	Group A	1.62202	3.46919	1.0
		Group B	−1.94083	5.57121	1.0

presented to highlight where along the DMIS continuum the student placed her/himself (Perceived Orientation-PO) and where the IDI placed the student (Developmental Orientation-DO). The gaps between the two scores, Orientation Gap (OG) are presented in the final column.

The data in Table 7.6 represents the Group A individual Perceived Orientation (PO) pre-/post- semester scores, the Developmental Orientation (DO) pre-/post-semester scores and the Orientation Gap (OG) pre-/post-semester scores. Just as in Table 7.1, the difference between the pre-/post-semester scores is indicated in the Δ columns. A positive value in the PO Δ and DO Δ columns indicates movement along the continuum in the direction of an intercultural mindset as perceived by the individual (PO Δ) and the IDI (DO Δ). A negative value in the PO Δ and DO Δ columns indicates a regression along the continuum toward a monocultural mindset. A positive value the in the OG Δ column represents a widening of the Orientation Gap and a negative value signifies a closing of the gap.

In summary, five of the seven Group A participants (Becky, Ava, Marcus, Derek and Olivia) demonstrated positive movement along the continuum, toward a more intercultural mindset as indicated by their post-semester Perceived and Developmental

Table 7.5 Individual pre-and post-semester perceived orientation, developmental orientation and orientation gap scores for group A

Group A participant	DO/PO	Denial 55–70	Polarization 71–85	Minimization 86–115	Acceptance 116–130	Adaptation 131–145	Orientation gap
Olivia	PO$_{Pre}$				124.19		26.92$_{Pre}$
	DO$_{Pre}$			97.27			
	PO$_{Post}$				127.72		20.95$_{Post}$
	DO$_{Post}$			106.77			
Derek	PO$_{Pre}$			114.61$_{Cusp}$			45.28$_{Pre}$
	DO$_{Pre}$	69.33$_{Cusp}$					
	PO$_{Post}$			115.20			40.07$_{Post}$
	DO$_{Post}$		75.13				
Noelle	PO$_{Pre}$				123.19		32.13$_{Pre}$
	DO$_{Pre}$			91.06			
	PO$_{Post}$				122.29		34.55$_{Post}$
	DO$_{Post}$			87.74			
Joaquin	PO$_{Pre}$				123.65		28.75$_{Pre}$
	DO$_{Pre}$			94.90			
	PO$_{Post}$				121.96		34.65$_{Post}$
	DO$_{Post}$			87.31			
Marcus	PO$_{Pre}$				117.28		34.29$_{Pre}$
	DO$_{Pre}$		82.99$_{Cusp}$				
	PO$_{Post}$				122.80		33.44$_{Post}$
	DO$_{Post}$			98.36			
Ava	PO$_{Pre}$				117.50		40.59$_{Pre}$
	DO$_{Pre}$		76.91				
	PO$_{Post}$				122.22		33.92$_{Post}$
	DO$_{Post}$			88.30			
Becky	PO$_{Pre}$				118.96		35.35$_{Pre}$
	DO$_{Pre}$		83.61$_{Cusp}$				
	PO$_{Post}$				121.09		30.80$_{Post}$
	DO$_{Post}$			90.29			

Table 7.6 Group A pre- and post-semester IDI scores and change

Group	Name	PO pre	PO post	PO Δ	DO pre	DO post	DO Δ	OG pre	OG post	OG Δ
A	Olivia	124.19	127.72	+3.53	97.27	106.77	+9.50	26.92	20.95	−5.97
A	Derek	114.61	115.20	+0.59	69.33	75.13	+5.80	45.28	40.07	−5.21
A	Noelle	123.19	122.29	−0.90	91.06	87.74	−3.32	32.13	34.55	+2.42
A	Joaquin	123.65	121.96	−1.69	94.90	87.31	−7.59	28.75	34.65	+5.90
A	Marcus	117.28	122.80	+5.52	82.99	89.36	+6.37	34.29	33.44	−0.85
A	Ava	117.50	122.22	+4.72	76.91	88.30	+11.39	40.59	33.92	−6.67
A	Becky	118.96	121.09	+2.13	83.61	90.29	+6.68	35.35	30.80	−4.55

change scores (Table 7.6). While the remaining two Group A participants (Noelle and Joaquin) not only rated themselves lower on the continuum as evidenced by their negative change scores in the Perceived Orientation change column, their IDI assessed Developmental Orientation scores in the post-test were also less than their original scores (Table 7.6). While the quantitative data indicates positive growth for only five of the seven, all of the Group A participants articulated some level of personal growth and recognition of new professional tools to be used in their forth-coming practice in their qualitative journal responses.

Discussion and Implications for Practice

When the goal is to *shift* the thinking of pre-service teachers from monocultural to intercultural, evidence found through this study provides some degree of support for an intentional, experiential curriculum designed to align with the principles of intercultural competency development and culturally relevant pedagogy conducted during a semester-long overseas experience. The findings from this study affirm that if pre-service teachers participate in study abroad programs with an intentional curriculum designed to encourage reflection upon culture and pedagogy, individual pre-service teachers *can* become better equipped to work with diverse students in their classrooms.

Therefore, a new model for educating our future teachers must be considered. The "pathway model" represents a significant shift in the current paradigm for educating future teachers. Incorporated within the model are critical points for assessing intercultural competence using the IDI and culturally responsive teacher self-efficacy using the Culturally Responsive Teacher Self-Efficacy scale designed by Siwatu (2006, p. 1088); feedback sessions to understand and interpret the results of the intercultural competence and self-efficacy assessments; signature courses aligned with intercultural competency acquisition, instruction in the principles as-sociated with culturally relevant pedagogy, teaching and motivational strategies for diverse classrooms, etc.; a pre-departure orientation program; experience in a cul-tural setting with a reflective curriculum (overseas or domestic); a practicum/stu-dent teaching experience; and finally completion of teacher certification/licensure requirements (Roller 2012, pp. 151–152).

Each stage of the pathway model is developmental and based on the preceding learning, ultimately leading to an ability to demonstrate intercultural competence and pedagogical practices associated with culturally responsive teaching. Through-out the pathway, students are encouraged to "capture their learning" at various points by submitting coursework, their IDI assessments and profiles, reflections and practicum supervisor notes to an e-portfolio. The e-portfolio thus serves as a re-pository for demonstrations of learning and an area to be reviewed and examined at multiple points throughout the progression toward certification by both the faculty and the pre-service teacher.

The success of the model hinges on the collaborative efforts of the student, edu-cation faculty and study abroad professionals. As the pathway model calls for the inclusion of an overseas experience (or in specially approved cases, an experience

in a cultural setting close to the home campus) education faculty and the professionals in the international education office must work together to provide sojourn experiences appropriate for the student and the desired learning outcomes. To achieve the aims of the model, open communication and extensive cross training are necessary. The study abroad professionals must have an understanding of the goals of the model and work with education faculty to provide appropriate overseas placements. The education faculty must have an understanding of the study abroad application process, pre-departure preparation and re-entry issues. If the model is operationalized, all faculty and study abroad professionals associated with the education of the future teachers will need to be trained in the theoretical underpinnings, administration and interpretation of the Intercultural Development Inventory (IDI).

I contend that international education professionals need to design more intentionally structured environments (formal didactic classroom instruction or experiences) that challenge the growing number of study abroad students to engage in critical reflection, strategic thinking and practical application of lessons learned. While the curriculum used in this study was designed for pre-service teachers, study abroad professionals can adapt/amend the curriculum and associated learning outcomes to meet the needs of any undergraduate student, majoring in any field of study.

The design and implementation of a purposeful, experiential curriculum for study abroad participants is an undertaking to be done in the spirit of collaboration. Faculty, study abroad professionals, administration, and curriculum review boards must work together to establish the learning objectives for the course that relate to the broader context of the degree achieved. Careful assessment of study abroad student learning, in line with undergraduate courses of study, department student learning outcomes and institutional mission must be part of the equation.

Facilitation of student learning in the overseas environment is key if intercultural competency acquisition is to take place. We have seen through the evidence provided in this study and other research, that intercultural learning does not take place to a great extent through mere exposure to the cultural environment. Therefore, cultural mentoring along with assessment is imperative for the achievement of student growth and development.

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Chapter 8
Student Teaching Abroad: Intercultural Learning in Context and a Changing Approach to U.S. Educator Preparation

Opal Leeman Bartzis and Thalia M. Mulvihill

Introduction

The preparation of U.S. educators can be greatly enhanced when exposure to diverse cultures and ways of thinking are embedded into the degree program. Few experiences for the teacher education student can achieve this better than student teaching abroad (Cushner 2007, pp. 27–39; Marx and Moss 2011, pp. 35–47). Through entering a new culture and being confronted with differences in beliefs, values and attitudes, the student begins an important process of reflection that unfolds during the teaching placement but continues beyond its conclusion. Indeed, this chapter will describe meaningful processes of contextualization and self-examination that two student teachers experienced through their teaching placements in Northern Ireland, some of the impact of which they did not recognize until returning home and applying their learning in professional teaching positions. It should be noted that the interviews conducted as part of this study allowed yet another important opportunity for reflection, as participants thought back to their on-site, student impressions through the lens of the professional teacher in responding to the inquiries posed to them. As this chapter will detail, student teaching abroad caused the participants to think critically about themselves as cultural beings and to re-examine their application of theory to practice. As a result of their study abroad, immersive learning experience, the participants reported that they used a more culturally sensitive pedagogy in their classrooms than they believed they would have if they had not participated in this form of student teaching.

Thomas (2012, p. viii) points out that there are few studies to help guide our understanding of the impact study abroad experiences have on U.S. teacher education students, and only a limited number of those (Bryan and Sprague 1997; DeVillar and Jiang 2009; Firmin et al. 2007; Martin 2012) have focused specifically on the effects of student teaching abroad on novice teachers' professional practices.

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The purpose of this preliminary study was to conduct pilot interviews with two people who completed their student teaching abroad in order to learn more about the potential impact these study abroad experiences had on their eventual teaching practices. In particular, this exploratory project was intentionally designed to understand the perceptions of participants about their student teaching abroad and to capture evidence of their intercultural learning and its application in their professional classrooms.

The kind of student teaching abroad experience this chapter explores was highly structured and enabled through collaboration between home and host universities. Participants were degree-seeking teacher education students at U.S. universities at the time of study abroad. They completed approximately one-half of what they described as their required student teaching placements at local U.S. schools and the other half (eight to ten weeks) at the same university in Northern Ireland. The host university arranged for their placements in local Belfast schools with cooperating teachers, while host university teacher education faculty supervised and provided assessment of their performance. Students concurrently took classes at the university—a regular university course on Northern Ireland culture and education and a special curriculum development project course which consisted solely of visiting U.S. student teachers.

During the participants' particular term of study abroad, the fall of 2012, there were a total of eight U.S. student teachers at the host university, all undertaking experiences similar in structure.

Theoretical Approach and Methodology

An interpretive theoretical perspective provided the framework for this phenomenological, Institutional Review Board-approved, study. Data collection methods consisted of face-to-face, semi-structured interviews (Patton 1990) with two participants by way of purposive sampling techniques (Onwuegbuzie and Leech 2005). As all of the data were analyzed in accordance with interpretivism, themes within individual participant responses as well as those common to both participants were sought, identified and explored for the purpose of illuminating the student teaching abroad experience and its meanings for participants (Saldana 2013). Responses were noted, examined and discussed with the participants for confirmation of investigator understanding, and clarification was sought where necessary.

Pseudonyms were assigned to the participants and all identifiable information, such as their home institutions, to protect their privacy. The first participant is referred to as "Beth" with a home institution of "Darrington University." The second participant is referred to as "Annie" from the home institution of "Wendell University." The names and precise locations for their teaching placement schools in Belfast, Northern Ireland, and their current places and locations of employment are not referenced.

Why Students Teach Abroad?

The participants were asked about their motivations for seeking student teaching abroad options. Each responded that the simple reality of having a prolonged international experience, with its accompanying opportunities for further travel, held nearly as much attraction as did the idea of student teaching in another culture. Generally speaking, their responses indicated that the opportunity to travel throughout Europe and encounter a variety of cultures was virtually as motivating as the idea of living in a single location while simultaneously satisfying degree program and professional licensure requirements.

Regardless of the possibility that teaching abroad was not the sole or distinctly overriding motivation in their decision, each clearly went into the experience with goals associated with teaching. Although Annie, for example, initially indicated equality in motivation between simply being abroad and teaching abroad, her later responses revealed specific intention to acquire international teaching experience, which would not have been possible in a traditional study abroad program. She explained that she saw the teaching abroad experience as a means of bolstering her credentials for a permanent position that she hopes to eventually attain, teaching for the U.S. Department of Defense. Beth, too, became more introspective about program selection goals based on teaching and learning, realizing:

> I wanted to see what it was like … how they teach … to see what it was like to be in schools in another country. It was about learning their ideas.

Additionally, each knew from the outset that they wanted to learn from observing and working closely with their host culture cooperating teachers. Again, this recognition indicated a desired outcome that could not have been realized without the teaching component. Finally, their responses revealed their intentions to gain new perspectives and to explore ways of teaching and interacting with pupils that would make them more appealing to employers. Interestingly, Beth intended to use her acquired skills domestically while Annie hoped for targeted résumé enhancement for the purpose of being able to again live overseas.

In the development of student teaching abroad opportunities, teacher educators and program administrators should realize that students may initially select programs as much (or nearly as much) for the international experience itself as for the chance to teach and learn cross-culturally. This realization does not have to suggest that the experience will not be richly rewarding in ways directly tied to learning about teaching, but it does suggest a reality for consideration when making students aware of the program and during frank pre-departure preparation discussions. It may also suggest close consideration of program goals and how students are being made aware of programs. An optimal approach might include strongly emphasizing the learning benefits of teaching in another culture, and blatantly connecting those to degree program and teacher licensure goals, while intentionally giving less attention to the accompanying chances the program affords for less focused pursuits. This approach does not diminish the wonderful opportunities presented by study abroad for international travel and experiencing other cultures, ways of

thinking, food, customs, or sites; but, rather, it allows those opportunities to be more appropriately viewed as a complement to the overarching goal of learning through teaching in another culture. Indeed, framing preparatory conversations in such a way may help the student prioritize the teaching experience and firmly ground it within their degree programs and professional goals.

It is also imperative for programs to address the participant's reasonable expectation to learn from, and be guided by, an enthusiastic and qualified on-site mentor. As has been noted by Martin (2012), the importance of professional relationships and collaboration to the overseas student teacher should not be overlooked (60–61). Finally, student teachers would undoubtedly benefit from a mentored, culminating learning experience, perhaps a post-program online forum or a single day workshop, wherein they discover ways in which they can accurately articulate their special skills gained through student teaching abroad to potential employers, both verbally and via résumé and portfolios.

When asked why they chose the Northern Ireland program specifically, Annie recalled an attraction to what she perceived would be an overseas cohort experience, since she was aware of other program applicants from her own institution as well as Darrington University. She described how she simultaneously applied for a U.S. Department of Defense teaching internship and had received notification of a likely placement in Germany, but this opportunity did not hold the same appeal because she envisioned it as a mainly independent pursuit. She also wanted to discover what it was like to be a degree-seeking student in the host country and knew she would be enrolling temporarily as a visiting student at the host university in Northern Ireland. Both participants were made aware of the program by their campus study abroad officials and faculty within their teacher education departments, so they sensed institutional support and supposed smooth application and credit transfer processes. They also shared a feeling that their choices were limited since Wendell and Darrington offered few study abroad options for teacher education majors. In fact, Beth felt as if participating in the program in Northern Ireland was her only viable option, due to the sequential nature of her education courses at Darrington and the overall structure of her degree program. Regardless of these perceptions, neither participant felt dissatisfied with their restricted programmatic choices; instead, they recounted a willingness to accept reality and embrace available options.

Preparing for the Overseas Experience

> It's one of those things that you just have to do to understand it. You have to experience it to get it. (Beth)

> I couldn't have been prepared for it anyway. Even if someone told me what to expect, I had to do it for myself. (Annie)

The participant responses above followed questioning about the ways they were prepared, and the ways they prepared themselves, for the experience of student

teaching abroad. They suggest a healthy approach, with demonstration in each participant of open-mindedness and flexibility. Interestingly, at another point in the interviews, each offered these characteristics as those among which they further developed while abroad. The responses also reveal a realistic approach, as participants believed that spending significant amounts of time in preparation for something that had to be lived to be understood may be inefficient. There was even evidence of intentionality in confronting the unexpected, as seen in this comment from Beth:

> I know I also intentionally didn't research it too much because I just wanted to be thrown in and figure it out as I went. I knew it was one of those things that I would have to experience, so I didn't really see the point in researching it.

Preparation was provided to each participant on their home campus in the form of a pre-departure orientation session that addressed intercultural issues, differences in education systems, and safety and security. Annie's session was more informal than Beth's, but both were prepared and jointly conducted by study abroad staff, teacher education faculty and representatives from the host university in Northern Ireland. At these meetings, they were given resources for the standard Northern Ireland curriculum from which they would be teaching. Additionally, Annie and Beth, along with the other program participants from Wendell and Darrington, took part upon arrival in a dedicated on-site international student orientation session, facilitated by host university staff. During this meeting, they were joined by local degree-seeking students, some of whom would later become their friends.

The participants indicated appreciation for each of the preparatory events described above; however, each also recalled feeling frustration with a paucity of time to conduct personal research about the education systems they were going into. While they knew what to expect of student teaching in general terms through preparation received from their home institutions and by the skills and dispositions practiced during their instate placements, they would have preferred gaining a greater degree of familiarity with the standard Northern Ireland curriculum prior to commencing student teaching. Annie received from Wendell a general student teaching handbook, and Beth received from Darrington a student teaching handbook tailored to the Northern Ireland program. Yet, as stated by Annie:

> We had so much to do at that time. It was … just one more thing on our plate… I had to prioritize.

Lack of time to prepare was a strong theme within their responses. Each participant was student teaching instate until the day prior to their departure for Northern Ireland, leaving them with limited time to mentally shift from one experience to the next. Annie characterized her last few days as being filled with teaching during the day and the preparation of a required project sample for Wendell University in the evenings. Beth remembered teaching until the last moment, then packing furiously for the airport. Remarkably, however, neither participant described being particularly upset with these circumstances. As noted in their responses to other situations, they demonstrated great flexibility and the ability to accept and adapt quickly. Undoubtedly these were traits that served them well in their adjustment to Northern Ireland.

Outcomes of Student Teaching Abroad

The results of the student teaching abroad experience for the participants were myriad, but can be described summarily as follows:

It Challenged Them as Educators

They learned news methods of classroom management and explored new ways of teaching while encountering instructional approaches with which they were unfamiliar. Beth remembered her bemusement with daily "oral maths" (guided counting aloud in 15–30 min blocks) with first- and second-graders and her bewilderment at being required, due to government-approved curriculum obligations, to somewhat tediously review the "br" and "gr" sounds with students who were already reading at advanced levels.

They were confronted with different expectations regarding teaching material and content. Beth recounted being required to teach a music lesson and a religion lesson, as is typically expected of primary educators in Northern Ireland. Evidence of her growing intercultural awareness is seen in this comment:

> My Northern Ireland friends thought it was so funny that I was struggling to prepare that [religion] lesson … and that I was nervous. They got a good laugh out of it … I guess, you know, it's their system and so they get it.

They developed new ways of thinking about pupil ability. Annie explained how impressed she was with the development of the pre-kindergarten and kindergarten students she taught in Belfast. She had expected to focus on phonemic awareness but instead encountered a classroom of pupils who were already reading full sentences, and declared:

> That's one thing I've carried back with me, that you can expect a lot … I mean, within reason … and they can achieve it with your help. You can hold the children to higher standards.

It Challenged them as Students

They encountered different kinds of relationships between cooperating teachers and student teachers than those to which they were accustomed. Each described familiarity with such structures at home that were similar to mentor/mentee relationships where they learned from watching the instructional practices of their assigned teacher. The equivalent Northern Ireland arrangement placed the cooperating teacher more in the role of observer and advisor as needed, with the student teacher having a much larger degree of responsibility.

Underlying cultural differences impacted their lives as university students. Annie provided the example of her frustration with campus library hours, which she

did not perceive as being as accommodating as those at Wendell. She eventually realized, and came to appreciate, that they were established to complement the patterns of the university student in Northern Ireland, who typically returns home on weekends. She recalled similar frustrations with printing services. Still, she found value in the initial annoyances that she eventually accepted as cultural differences, explaining:

> It makes you realize how much you can do on a limited budget and with limited time. I also realized … this is important … that you, as a teacher, can plan a great lesson with very little. You don't need fancy resources, you just need a great idea.

It Provided Nuance to Their Evolving Cultural Identities

Beth had always thought of herself as ethnically Irish because of her heritage; but now, as a result of student teaching abroad, she self-identifies more strongly as simply an American. She recognizes this shift as a result of the differences that were made prominent during her time in Northern Ireland and also because her degree-seeking friends at the host university referred to her and the other U.S. student teachers as "the Americans." Annie generally thought of herself as American, but she recalled feeling that identification more intensely when in Northern Ireland. She recalled feeling fortunate about her home and background while traveling through some of the more sectarian and socioeconomically challenged neighborhoods of Belfast. She also noted that her growth in intercultural awareness was facilitated mainly through a university course that compared home and host education systems and cultures. Their enrollment in this course presented yet another layer to their cultural self-identification, as they interacted during meetings with classmates from other countries. Most students from the class were also members of the campus international club; but Beth and Annie had little time to participate in club activities because of their student teaching commitments, and they sensed that the other international students were unhappy with them because of it. Thus the participants found themselves grappling with multiple cultural identities and affiliations while in Northern Ireland.

Their religious affiliations were brought to the forefront of their perceptions of themselves. Each participant volunteered that she is Catholic and that this fact directly impacted their interactions with their Northern Ireland friends, who were all Protestants. Each described being questioned intensely about their beliefs and traditions, and they recognized that their presence on campus gave these peers their first opportunity to talk openly with a Catholic person. This intensely interesting aspect of the interviews is worthy of further consideration from all sorts of scholarly angles; but, for the immediate purposes of this study, these participant observations speak to a situation that undeniably emphasized examination of self-identity during the student teaching abroad experience. Indeed, Beth referred to the weekly meetings of a religiously-affiliated university social group to which they both belonged as being the primary avenue through which her intercultural growth occurred.

It Enabled Professional Focus

Each participant remarked on the student teaching abroad experience as being the culmination of their educational preparation and helping to refine their goals for professional positions. Annie had only positive comments about her early childhood placement and felt that it provided her with confirmation of her chosen career path. Beth was a dual elementary education/special education major who had completed her student teaching in special education in the U.S. and was, therefore, placed in a whole classroom elementary education setting in Northern Ireland. The experience solidified what she already sensed was her long-term goal, to focus solely on special education. She found herself feeling frustrated by the whole classroom experience and being fascinated by the only pupil with special needs at her Belfast placement. Although Northern Ireland does not typically utilize an inclusion approach with pupils who have special needs, this child had inexplicably been placed in a standard classroom. While Beth was delighted with the pupil's presence, she described her cooperating teacher as being very uncomfortable with the situation.

It Got Them Hired

The impact of student teaching abroad, and the refinement of professional goals that it enabled, fostered the development of qualities and allowed for unique experiences that made the participants especially attractive to hiring principals and heads of schools. Beth was hired while she was still abroad and now blissfully teaches a diverse class of special education students. She recalled how her principal was impressed during their Skype interview from her dorm room in Northern Ireland, where she was dressed for the occasion and had taken into account the time difference. He refers to her to this day as "Ireland" instead of by name. Annie recalled the positive reactions of the hiring panel in her face-to-face interview when she depicted her experience with 'learning through play' in Northern Ireland. She recounts it as a turning point in the interview and credits student teaching abroad with making her an appealing hire. She has now completed a semester of teaching pre-kindergarten with students from a variety of backgrounds and has already been offered a promotion to a senior administrative position. Her long-term goals still include teaching overseas.

Reflect, Reflect, Reflect

Each participant stayed in touch with Education faculty from her home institution while abroad, a process that was reflexive in that it was accomplished through a pause in student teaching, a personal review of experiences, and a narrative of learning. Beth maintained contact in a more structured way than Annie, sending

scheduled emails to a designated faculty member and participating in an occasional teleconference meeting with fellow teacher education students at home. Annie initiated most of her contact with Wendell. She also maintained a detailed blog of her experiences and made it available to her students from her instate teaching placement. One of the participants was visited and observed by a senior education faculty member from her home institution. Beth and the other students from Darrington were given weekly reflection questions by their home institution to prompt their thinking about specific teaching issues. She found these exercises to be useful, but she did not find that they necessarily forced her to be inter-culturally introspective. Thus, on-site reflection that intersected with the home institution occurred through formal and informal means. It would seem, though, that the foundations for meaningful reflection were established even earlier, during the previously mentioned pre-departure and on-site orientation sessions.

The participants were asked about self-directed learning and reflection that may have occurred on an individual basis. In response, Beth described how she opted to keep a journal for the first time in her life. She did not explicitly think of it as a reflective component of the program, but she realizes now that much of what she has, to date, considered a simple record of events actually included cross-cultural commentary and, thus, represents intercultural development. She offered an example from her journal, describing what happened when she helped her Belfast pupils put the finishing touches on their school uniforms (required of all Northern Ireland students) after swim practice. The children were truly shocked by her inability to properly tie a necktie, which came naturally to boys and girls alike at her assigned school as they were required to wear them. She recalled sharing in their laughter about this evidence of her difference from them. During the interview, she concluded that requiring journaling that is focused on the intercultural would be beneficial to future student teachers, stating:

> …now that I think about it, yeah, my journal was a good way to reflect… Reflection is so big in teacher ed. I think it would have been good if we had had to write about cultural topics, so we could … be introspective … my journal could have been a required part of it.

It is not an overestimation to state that the interviews conducted as part of this study provided a further opportunity for reflection for the participants; and, importantly, that reflection took place after they had completed a full semester of teaching in professional positions. They remarked on this realization at various points during the interviews and indicated appreciation for our conversations' prompting of memories and re-consideration of events and experiences through new perspectives.

The participants' responses presented many themes that warrant increased intention from study abroad program developers and providers, as well as U.S. schools and colleges of education; prominent among them, however, was this importance of incorporating structured intercultural reflection. The student teaching abroad experience, while already meaningful for the participants, could foster deeper intercultural development in future student teachers with the inclusion of a highly structured reflective piece that requires intentional contextualization and consideration of the experience in a cross-cultural sense and on a consistent basis. At the same time,

however, the process should allow for spontaneous focus on aspects of the experience that feel important for what may yet be unknown reasons. In this way, student teachers can consider their immediate reactions to events while predicting their longer-term impact on intercultural development or teaching choices. Research on student teacher journaling conducted by DeVillar and Jiang (2009, p. 165) culminated in a reminder that such writing processes allow for authenticity and unpredictability as student teachers become "agents in their particular series of intentional acts of communication" while they "describe, grapple and interpret the student teaching experience."

Ideally, the kind of reflection described could be accompanied by a periodic meeting of the U.S. student teachers with their degree-seeking counterparts, for the purpose of comparing and contrasting perspectives and progress in terms of student teaching's role within the degree structure and within the local idealization of the development of the professionally certified teacher. Gaining insight into how each culture views student teaching as part of official and traditional processes of educator preparation would undoubtedly enrich the learning experience. In fact, both participants characterized their interaction with local degree-seeking students as the being the most beneficial to their growing senses of intercultural understanding. Annie described impromptu meetings that were usually associated with a particular university club both participants joined as being helpful:

> I would say it was more peer-driven than anything else. We talked informally as fellow student teachers when he had the chance.

She suggested that future student teachers would benefit from organized meetings of this kind.

Also worthy of serious consideration is the arrangement of periodic group meetings of the U.S. student teachers, with discussion facilitated by a trained intercultural educator (Vande Berg 2007, p. 392–399; Marx and Moss 2011, pp. 35–47) who could aid them in unpacking their own experiences, sharing them frankly with their peers, and learning from the range of impressions surely to be found within the group. Finally, facilitating students' reflection on their intercultural learning during and post-program may help them frame their experiences from abroad in different ways. This approach may lead, through word of mouth from student to student, as so often is the case with study abroad, to future applicants who select the program mainly for the intercultural learning it fosters, and less for the travel opportunities it may afford. Study abroad returnees often serve as the best ambassadors, giving the most vivid testimonials and speaking in ways that resonate easily with potential program participants.

Cultural Connections

Each of the participants felt that the experience helped them develop greater cultural empathy that would serve, and has served, them well in U.S. classrooms, but they also felt that they were already somewhat empathetic and certainly used to

intercultural situations due to living in diverse communities throughout their lives. Here, Beth referenced her elementary school education in a Japanese immersion program and the multicultural areas in which her family has lived in the U.S.; and, Annie consistently referred to her birth and upbringing in overseas locations, necessitated by her parents' employment with the U.S. State Department, as the primary reason for an already existent understanding of and comfort with people of many cultures.

Student teaching in a culture other than one's own can involve a marked degree of 'culture shock' (DeVillar and Jiang 2009; Spooner-Lane et al. 2007). Annie and Beth did not feel that their encounters in or adjustment to Northern Ireland could aptly be described in such a way. Beth attributed what she felt was a smooth transition to her upbringing, as previously mentioned. Interestingly, however, she also believed there was a connection between similarity in physical appearance and the ability to fit in. She remarked of her time in Northern Ireland:

> I didn't look different, so I wasn't immediately recognized as being different. So, I guess I could ease into situations a little better than someone who obviously looks different.

She perceived her ability to blend in visually as a benefit in terms of cultural adjustment, but also recognized that her ethnicity became immediately apparent when she spoke. Finally, each participant pointed out that the lack of a language barrier made their transitions easier, but also perceived that moments of shared amusement with Northern Ireland peers about differing accents as being opportunities to think about culture.

An argument could easily be made that limited or completely lacking culture shock was a missed learning opportunity for the students. Levy (2000, p. 77) described the potential harnessing of culture shock as a planned learning tool in study abroad, exposing students to, among other things, concepts of ethnocentrism and cultural relativism and serving as a starting point for critical journaling. In their comparison of reflective journals kept by student teachers assigned to three different countries, DeVillar and Jiang (2009, pp. 13–14) found that the students who reported the most intense feelings of culture shock were also more introspective about the effects of teaching abroad on their future domestic teaching and that they provided richer, more thoughtful analyses in their writing than their counterparts who adapted to their host cultures more easily. These students also reported feeling more sensitive to their pupils' backgrounds and needs. Another argument could be made, however, that Annie and Beth were not adept at identifying their moments of culture shock, or that the amount of time that that had passed between the early days of their study abroad experience and the interviews had softened the sharp edges of transitional jolts or simply caused such memories to fade to insignificance.

Neither participant had a developed understanding of the idea of culturally responsive pedagogy, although Annie was more familiar with it than was Beth. Annie offered that cultural awareness had been emphasized in her teacher education degree program, but Beth did not recall it as a topic that was explicitly addressed in hers. As the interviews progressed, however, Beth guessed accurately at its meaning and quickly became comfortable with it, appreciating that some of her teaching choices

reflect culturally responsive approaches. Annie, who already had facility with the concept, was able to readily apply it when describing her chosen teaching practices. When asked about the importance of culturally responsive teaching, Beth replied:

> I think it matters. I see lots of perspectives now. I think my student teaching abroad experience helps me interpret some of the things that I see my students going through. Like this year I had a student who was terrified of going home to El Salvador. He said 'the police are scary and the chickens are dirty.' He kept repeating that … he cries about not wanting to ever go home.

The participants were able to identify some of their teaching choices as being the result of their experiences abroad. As examples, Annie described her enthusiastic involvement in her school's international week activities, as well as her use of a poster display she created, depicting life in Northern Ireland and including photos of other countries she visited while abroad. The poster remains in her room permanently and her pupils enjoy referring to it. Although she laughed about them struggling to understand the basic concepts of U.S. city, state and country, she also finds value in their interest in international locations, as they voluntarily point to photos in the poster display and ask her questions about them. She also created a lesson utilizing a Venn diagram approach that guides students in comparing the differences between the typical American classroom and the typical Northern Ireland classroom (she used the terms "backpack" and "rucksack" as examples). Finally, she explained that she bought several children's books while in Northern Ireland, and she reads to her class from them often, enjoying the books' unique perspectives and voices. Beth described her delivery of a St. Patrick's Day lesson for her students that included stories of Fionn MacCool. She also readily incorporates her experiences in Northern Ireland into classroom discussions, a habit that developed as a result of her coming to the school mid-year. She feels that the students always think of her as having just arrived from Northern Ireland and their curiosity about the unusual start to her presence there never wanes.

It seems appropriate to conclude this section with the idea of giving thanks, which was elaborated upon by Annie. Here we can use the concept of the American Thanksgiving holiday as a touchstone for bringing together all that has been discussed above, since Annie ended her interview with an expression of how much it meant to her and the other U.S. student teachers that the host university prepared a large and wonderful Thanksgiving dinner for them. She characterized this as being the moment that she was simultaneously homesick for the first time and also most acutely aware of her cultural identity as an American abroad. She was impressed by the generous tendencies of the people of Northern Ireland, represented in the delicious meal so kindly provided to their guests. She said she learned from that evening about sharing her culture, as her hosts joined in, enjoying the event and celebrating alongside them, even if, as she remarked, they could not fully appreciate its meaning without being Americans. Finally, as is to be expected from any good teacher, she adeptly translated the experience into a creative instructional lesson for her pupils. The next school day found her Belfast classroom filled with children wearing little Pilgrim hats made out of construction paper as they busily assembled their Mayflower craft projects. She has photos of these boys and girls in their

American garb, and so now her students in the U.S. point to that particular picture on her poster display and ask her questions like, "What's happening there?"

Looking Ahead

There is something to this idea of being immersed in another culture. We can attempt to prepare global educators through solely campus-based coursework, however internationally-focused it may be in content, and through local student teaching; but the value of teaching and learning within the situated context of a culture other than one's own cannot be underestimated. Vascellaro (2011, p. 197) asserted that the education of teachers should be a process that integrates many ways of knowing the world and that it should "move the learner outward physically as well as socially and intellectually."

Several studies have been undertaken to examine the effects of study abroad program length on students' intercultural learning. Some studies were broader and longitudinal, such as Dwyer's (2004, pp. 151–164) examination of 50 years' of student data, focusing on a wide variety of outcomes. Findings indicated that longer study abroad experiences correlated to greater impact on the participant. Other researchers have taken more compact, targeted looks, such as Kehl and Morris (2007, pp. 67–79), who found evidence of greater growth in global-mindedness in students who participated in semester programs, as opposed to short-term programs. Nevertheless, research on the perceived impact of short-term study abroad on participants, exemplified by that which was presented by Chieffo and Griffiths (2004, pp. 165–177), indicates noteworthy growth in intercultural awareness and increased engagement with internationally-minded activities. As Annie and Beth spent eight to ten weeks in Northern Ireland, their program length fell somewhere between the commonly held characterization of short-term in study abroad (i.e. one month or less) and full semester. It is reasonable to assume that the growth they reported was facilitated, at least in part, by program length. At the same time, it is also likely that outcomes may have been even more marked had the participants spent more time immersed in the host country culture, navigating their placement school communities. The correlation between length of study abroad and the development of intercultural skills in student teachers presents but one possible area for further research.

While consensus seems to have been reached on the value of study abroad, there is still plenty of debate (Ramirez 2013, pp. 1–11) about how programs can be most effectively designed and how we as international educators can increase students' chances of engaging authentically with local cultures. Perhaps these goals are no more important for any group than they are for student teachers. Particularly because their study abroad experiences involve immediate impact on the lives of host culture children, carefully designed programs are crucial; and, since student teaching abroad has the potential to directly impact teaching choices, we can relish the opportunities well structured programs afford for returning educators to positively affect their schools and their communities. Intercultural development is a

necessary component of the preparation of such educators, and the experience of being a minority abroad, interacting with individuals who have attitudes, values, beliefs and customs that are different from one's own, and finding ways to make cross-cultural connections between teacher and student, can occur through international teaching programs.

In his literature review of studies focusing on the impact of student teaching abroad on participants, Quezada (2004) noted a common theme that he calls genuine multiculturalism, remarking on increases that were evident in the studies in cultural awareness and global thinking, as well as students' tendency to question their cultural beliefs, especially from the perspectives of other cultures. He concluded the review (462) with the summation that returning teachers clearly benefited from personal development, but so too did the school systems to which they returned. He reported, "Cultural enrichment in many instances was evident for the entire school community."

More student teaching abroad programs are needed (DeVillar and Jiang 2009, p. 165; Thomas 2012, pp. 93–96), and real or perceived barriers to students' participation in them must be removed, if we wish to have culturally sensitive educators meeting the needs of the increasingly diverse U.S. classroom. As remarked by Annie:

> Just landing in there, in a new culture, as an American … that made me be able to know more what it's like for others.

DeVillar and Jiang (2009, p. 165) asserts that student teaching abroad settings are laboratories for the development of culturally sensitive teachers who will embody new values that benefit "the students, parents, and the wider community they serve." Aglazor (2012, p. xv) has suggested urgency, describing "deeply entrenched beliefs that preservice teachers bring to teacher education" and an existing dichotomy in the U.S. based on race, culture, ethnicity and language. She reiterates that "unless preservice teachers are exposed to multicultural experiences in addition to their courses, the racial gap between students and teachers will continue to widen."

Many long-standing as well as innovative new programs acknowledge such needs and are working in concert with international partners to meet them; following are a few examples: Indiana University's Overseas Student Teaching Project (Stachowski and Sparks 2007, pp. 115–132), in operation since the 1970s, places teacher education candidates from multiple degree institutions in international locations, with experiences that include academic focus and emphasize community engagement; the University of Virginia's unique program in collaboration with Homerton College, Cambridge University (Wilson 2009), offers teaching placements to Curry School of Education students in British schools, with dual modes of support from home and host institution faculty; the University of Northern Iowa's Out-of-State and International Student Teaching Program (University of Northern Iowa 2013) facilitates student teaching programs in a wide variety of international locations, engaging UNI and non-UNI participants who are encouraged to develop diverse perspectives on teaching; and, Shawnee State University's exchange program with South China Normal University (Huang and Haider 2011) enables teacher candidates from SSU and the University of Cincinnati, nearby, to teach in English language immersion schools in China while fulfilling degree elements and Ohio state licensure requirements.

In addition to an increase in student teaching abroad opportunities, more analysis of the student teaching abroad experience is needed. The benefits of such programs include increased self-awareness, cross-cultural understanding and the development of cultural empathy in teacher candidates; these claims are evidenced clearly by the two participants in this study, and further research is warranted.

A few words to consider from Beth about her vision of the perfect U.S. classroom:

> I don't want the well-adjusted, well-prepared kid who has everything going for him. I want the little boy from El Salvador who has an anxiety attack at the thought of going home. That's what I love! … I do think being there [Northern Ireland] helped me understand where he's coming from, the little boy from El Salvador, I mean … I have some idea of his feelings.

Her perspective, developed while abroad and informing her teaching practice at home, represents the kind of cultural sensitivity that a student teaching abroad experience can foster.

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Chapter 9
Navigating the Performance Arts in a Globally Networked Classroom

Lenora Z. Helm Hammonds and Emmanuel Oritsejafor

Introduction

A team of three North Carolina Central University (NCCU) faculty and staff, Lenora Helm Hammonds, Dan Reis, and Emmanuel Oritsejafor, created a new course for a National Endowment for the Humanities project, Collaborative Online International Learning (COIL). The implementation of the course resulted in globally networked learning environments among two international partners and North Carolina Central University. The course, structured for blended delivery (online and face-to-face classroom), was implemented in Fall 2012, featured asynchronous and synchronous learning tools, and required coordination of new media designers, faculty, instructional technologists, and international program administrators on three continents[1].

Background

COIL (Collaborative Online International Learning), is a program that began in 2006 as a faculty-led initiative by Jon Rubin from the State University of New York (SUNY), in Purchase, NY, to support the development of collaborative online international courses. The initiative grew to attract substantial funding from the

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[1] International Partnership Team for the Coil Project.

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National Endowment for the Humanities, beginning a three-year project (2010–2013). The NEH funding resulted in SUNY developing the COIL Institute hosting a series of conferences and professional development trainings for educators. Each conference elicited a round of Call for Proposals, with initial rounds open only to SUNY system schools, and subsequent rounds for other U.S.-based colleges and universities. Winning proposals were selected and 23 institutions formed teams of COIL Fellows with international partners, with whom to design and implement collaborative online international courses in the humanities. The U.S.-based institution would serve as lead partner, charged with the responsibility to organize the international team, and attend planning and development workshops and training at the COIL Institute in NYC. After the planning and development workshops, the international teams participated in online training and mentoring via the COIL Institute Commons—a customized social networking platform. This training extended over an eighteen-month period throughout the design, implementation, and delivery phases of each course.

NCCU's Assistant Professor, Lenora Helm, Hammonds received word of the COIL Call for Proposals through a friend and colleague living in Denmark—an American expatriate filmmaker and new media specialist—Lana Garland, and they began discussing the COIL opportunity. Lenora attended the COIL Institute informational workshop weekend for the COIL Institute in Spring 2011, and upon return, approached NCCU colleagues, Dr. Emmanuel Oritsejafor, then serving as Director, International Affairs, and Dan Reis, Instructional Technologist, to ask about possible international partners and their individual interest. Dr. Ortisejafor contacted University of South Africa, Pretoria (UNISA), an institution with whom NCCU had an existing Memorandum of Understanding, and the connection was made to Dr. Arisa Voges, Director of Directorate of Music/International Programs. The team chose Jazz as the subject of the collaboration based on the strengths of the partner institutions, and Lenora's idea that Jazz would be a common denominator and unique cultural connector among the three countries. Lenora contacted a professional friend and colleague, NEA Jazz Master/American saxophonist/educator, Dave Leibman, who is also the founder of the International Association of Schools of Jazz. Leibman connected Lenora to IASJ member, The Royal Academy of Music (RAMA), Aarhus, Denmark, and Lana Garland (who speaks fluent Danish) reached RAMA's Keld Hosbond, Head of International Relations, who enthusiastically agreed to participate. The NCCU team and Lana Garland began writing the proposal. The NCCU team's winning proposal was chosen as one of 23 international COIL teams of Fellows—the only team with two international partners, and the only team with a subject based in the performing arts. The course was titled *Jazz! Born in America, Created Internationally.* Culminating the work of a 12-member team, the course established new paradigms in multicultural online learning environments. The purpose of this study is to explore best practices and implications for curriculum revisions focused on student-centered, multiculturally-designed, multimedia tools, uses of technological resources, technology-based music instruction, trends in student engagement in twenty-first century classrooms, team building activities, and assessment.

GLNEs—Definitions and Distinctions

A globally networked learning environment (GNLE) refers to an environment for learning where students and faculty connect and engage in different parts of the world. The course objectives in GNLEs focuses on students gaining reflective learning and collaborative knowledge creation skills. The goal is that attaining these skills engenders global awareness and understanding of the participants' cultures. Although the NCCU COIL Fellows' course focused on Jazz, COIL participants were open to select from a broad array of subjects in the humanities. In a GNLE, the subject provides the context for multicultural exploration and cultivating student cultural competencies.

Typically GNLEs take place online,[2] through delivery media such as course websites, teleconferences or Skype sessions, linking face-to-face, geo-physically separate live classrooms. What is necessary is the establishment of cohorts of students from at least two cultures, with teachers actively present from these cultures. A blended approach to learning may be incorporated, with tools used in both online delivery and traditional face-to-face teaching. However, there is a particular emphasis on the integrity of content, intellectual sharing, and cultural representation by each cohort. The critical distinction is that GNLEs are *not* like online courses, in which students may be enrolled in the course from different parts of the world, learning the course content together according to the syllabus from one instructor. Rather, GNLE students are *geographically* apart from one another, and must have an instructor from the geographic area present as a co-designer, and/or as an instructor, fully co-teaching online for the duration of the course. The role of the geographically-placed co-instructors is to share responsibility for the integrity of the curriculum, to assure the unique cultural geographic perspective of their respective student cohorts. All students are enrolled in the course at their respective institutions. Thus, each instructor is solely responsible for grading the work of the students in his/her cohort, but expected to give feedback to the international students instead of official grades. The intent is for each student cohort to learn the course content through its own distinct cultural lens, and then exchange their perspective with the other student cohorts in the course (Starke-Meyerring et al. 2008, pp. 1–17)[3]. Another important distinction of GNLE is the dual role of the course content. The content should be designed to include activities to facilitate and encourage intercultural exchange, as well as provide a vehicle for learning the chosen course subject. However, the course subject does not need to have an international focus—the intercultural elements should be embedded within the course syllabus. The course activities take place synchronously and asynchronously; each cohort of students sharing their cultural and experiential lens as they move together through the course content. The cohorts share individually and in teams (or performance

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[2] The Center for Collaborative Online International Learning at the SUNY Global Center. Faculty Guide for Collaborative Online International Learning Course Development, 2010.

[3] Stake Mayerring D, Wilson M. Designing globally networked learning environments: visionary partnerships, policies, and pedagogies. Rotterdam: Sense Publishers; 2008. p. 1–17.

ensembles), within and across the group, from their own perspective. When successful, a globally networked course should elucidate how the involvement of international students may energize a classroom—providing distinct learning experiences for students and faculty.

Choosing Jazz

As the team reflected and discussed the characteristic elements of the GNLE model, the selection of Jazz became a perfect subject for the partner institutions. The international partner institutions described the major influences and impact of Jazz in their respective countries, and these conversations unveiled opportunities to explore the intersection of Jazz music and culture. From these discussions, we agreed that Jazz music is a major cultural export of the United States, and communities around the globe have embraced this American cultural contribution. Our research and discussions opened many points of influence that also factored into our choice of Jazz. The export of Jazz has impacted the local, regional, and national economies of those countries that have fully embraced the music and musicians, as well as the tourism and intercultural awareness engendered in Jazz events and Jazz education. Jazz music has become a platform to coalesce divergent communities who become aware of, and gain respect for, otherwise separate cultures. Accordingly, Prouty (2012) asserts that Jazz has a profound economic impact, through the import of the music and musicians, and through the advent of numerous jazz festivals, events, and educational institutions offering Jazz to their regions (115–177)[4]. Our course activities were designed with these factors in mind, and were the genesis of conversations about how student-centered learning could be reflected in creative, project-based assignments.

Challenges in Developing Globally Networked Learning Environments in Asynchronous and Synchronous Learning

The collaborative planning among the three universities was three-tiered: (a) administrative planning; (b) curriculum development; (c) implementation.

Each tier gleaned avenues to discover cultural connections through our course content, adaptable for distance education syllabi. The course content goals were also multi-layered, utilizing a constructivist pedagogical approach, opting to design project-based experiential assignments where multiple and different cultural perspectives informed learning and the understanding of course content. In identifying

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[4] Prouty K. Knowing jazz: community, pedagogy, and canon in the information age. Jackson: University Press of Mississippi; 2012. p. 115–71.

areas of assessment, the team focused on factors that could indicate success in creating an authentic setting for multicultural learning. In creating this course, the NCCU Fellows and their international counterparts had to: (1) navigate barriers and challenges to success in cultivation of institutional support; (2) access technological and funding resources; (3) cultivate access to professional development and technological pedagogical tools for participating faculty; and (4) synthesize educational theories and online teaching pedagogies to match the COIL and GNLE objectives.

Administrative Planning

Managing Institutional Paradigms and Program Structures

The team encountered a layer of challenges in that the structure of the humanities course offerings for each campus was starkly different. The University of South Africa, Pretoria (UNISA) is an entirely online campus, with no face-to-face instruction, and had just started planning jazz education syllabi. The Royal Academy of Music, Aarhus (RAMA) is a music conservatory that offers jazz and contemporary music coursework, and degrees at the undergraduate and graduate levels and had some experience in offering online courses. North Carolina Central University, a liberal arts institution offering doctoral, postgraduate, and undergraduate degrees, has both distance education courses, and a nationally renowned Jazz Studies program. In light of these organizational differences, we were able to transform the institutional cultures embedded in our habits of course design, and turn the challenge into the opportunity to design a globally networked learning environment in the COIL model. This was not an easy endeavor, and required a measure of equal parts compromise and consensus. We looked for the strengths from each institution. The UNISA students were distance education learners, and were accustomed to learning online. The team could also leverage the experience of NCCU's distance education models of delivery and tools as they also offered courses and degrees online. RAMA had a strong network of international partnerships, and their students were accustomed to interacting with students from other cultures.

Coming to consensus about how to proceed was aided by the time spent together during the planning meetings and professional development training—the team members really wanted to make this course happen. After the team spent time together at a distance education conference in Denmark and the COIL Institute trainings, we were profoundly aware of what there was to achieve, both as contributions to our campus and for our colleagues in the field. At the risk of romanticizing the resulting process, likening it to the mindset of Jazz musicians, our discussions were void of rigidity about institutional culture or paradigms, and stayed firmly grounded in a core concept of jazz improvisation—what serves the music at this precise moment—hence, what would serve our objectives best? The Danish team had recently undergone a rigorous institutional self-study, adopting the Bologna

Process (533–549)[5] as a lens for conceptualizing educational theories of curriculum planning and design. Their contribution to the discussion centered the team on the core themes of the learning cycles of knowledge, skill, and general competence, and how these themes could impact our planning and design.

Curriculum Development

Course Content and Design

The directive from the COIL Institute about team roles informed each member's function. Research has proven that the support of senior administration, international programs staff, instructional technologists, and faculty working in tandem, is integral for a successful international education partnership. Absence of the support of either role could compromise implementation or course design (Sutton and Obst 2011, pp. 1–170)[6]. Our team was fortunate that some of the roles overlapped at the institutions involved: Keld Hosbond (RAMA) and Emmanuel Oritsejafor (NCCU) both had faculty roles and international programs staff duties; thus, their expertise and input drove ideas about course design in meaningful ways. For instance, cultural considerations were discussed first in team meetings—an unusual initial focus for faculty in early course design stages. Once these cultural considerations were vetted, the team discussed appropriate choices for course content, e.g., music repertoire and reflection questions. A distinction of the COIL model is the democratization of course content, thus the expectation is all team members should contribute to the syllabus. At the outset of our planning discussions, this collaborative approach to course design proved easier for some team members than others. Initially, our instructional technologists seemed content to research software and give lists of ideas to assist faculty; international relations staff commented on a reluctance to infringe on course design—an area traditionally assumed the responsibility of faculty. COIL Institute cautioned teams early in the planning stages of the possibility of this dynamic being a barrier for course design, and luckily built necessary resources into our training. COIL provided all Fellows access to research, relevant readings and guided discussions, comparing design elements, thereby equipping the team and fostering a culture of collaborative course design. As the syllabus began to take shape, instructional technologists (Reis, Garland and Short) contributed ideas for lesson content utilizing technology, *and* researched software to assist learning outcomes. Subsequently, the experience of our international programs specialists (Hosbond and Oritsejafor) informed the team of international customs and

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[5] Reindal SM. Building the Bologna process and Kierkegaard's concept of subjective thinking. Stud Philosophy Educ. 32(5):533–49. Netherlands: Springer. Web. doi 10.1007/s11217-012-9344-1. Accessed 13 Nov 13 2013.

[6] Susan SB, Obst D. Developing strategic international partnerships. New York: AIFS Foundation, Institute of International Education; 2011. p. 1–170.

sensitivities, *and* suggested course content engendering learning outcomes in cultural competencies. We had a unique addition to our team in American expatriate, Danish speaking filmmaker and new media specialist, Lana Garland, who, though not affiliated directly with a particular university, offered her services to the course mission and outcomes. She videotaped concert and workshop footage used in our course syllabus, and was a key player in the conceptualization and planning stages. Her professional obligations did not allow her to continue in full capacity with the team for the duration, but her imprint was an important element of the success of the course.

The subject focus of Jazz developed in the course content in two tributaries, which we called Level 1 (musicians or performers) and Level 2 (non-musicians or performers). The primary reasons for the subcategories addressed our student population, comprising music majors and non-music majors. We considered limiting the class to only music majors, but instead explored the affordance of replicating an authentic "real-world" community of music makers and music consumers. Our concern was the possible complication of designing a course for two student populations. However, the decision boded well as the mixed class make-up was a catalyst for stimulating conversations in Live Classroom. Student musicians were sometimes startled as their non-musician peers candidly expressed opinions about tastes in music, concert experiences, and musician stage habits. Iconic jazz artists had student loyalists in each culture, and students' expressions of everything from career influence or family memories to legendary myths or cultural misperceptions—about American artists like jazz saxophonist John Coltrane and singer Billie Holiday, South Africa's Miriam Makeba and Hugh Masekela, and Denmark's Jesper Thilo—were pleasantly surprising to the entire team. Our faculty used these discussion moments to talk about cultural differences, race relations, and shared historical impact on topics ranging from gender bias, South African Apartheid, the Civil Rights movement, and the Nazi occupation of Denmark. The assignments ranged from students' performances of songs composed by artists in each culture, mock and real-life jazz concert and event production, to attendance at jazz festivals or concert series. Each assignment gave instructions for the Level 1 and Level 2 students.

Team Meetings

During our planning stages, we used the access to Moodle (also a learning management system) and to COIL Institute Commons to begin gathering information and receiving training and resources from the COIL Institute. As our planning progressed and moved toward implementation, our team staggered between Google + and Flash Meeting for our weekly discussions, and for our small and large group meetings. We found Flash Meeting to be the most reliable and easy to use among the team.

Internet Access and Technology Team Roles

We chose the learning management system Lore.com, after our instructional technologists provided several sample formats to explore. It was important for the tools to be accessible in a variety of bandwidths, and for the access to be free. Also, it was important that the functionality resemble platforms with which the students were already familiar. Everything we needed was in Lore.com. However, the internet speed and accessibility were problematic for our South African partners. The time of day for our Live Classroom sessions was chosen based on the optimal times for connectivity on available bandwidth for South African students, and the United States and Danish partners had to adjust usual institutional class times accordingly.

Our connectivity was enhanced and facilitated through NCCU's affiliation with nonprofit technology partner MCNC, operating a statewide research and education network called North Carolina Research and Education Network (NCREN). Through NCREN, the institutional partners were provided free connectivity to the weekly Live Classroom. The costs were covered by NCCU's inclusion as a University of North Carolina institution, allowing all UNC system schools NCREN access. NCREN was able to connect our international partners to our Live Classroom each week, archive each class, and assured smooth transmission during Live Classroom. UNISA, being the largest distance education university in Africa, had students connecting from many regions outside of its Pretoria campus, and not all students had availability to the Live Classroom. Those few students either came to UNISA's campus to the Live Classroom, or completed only asynchronous activities, such as watching archived classes and responding to peer comments, and participating after each class online in Lore's timeline.

Real-time monitoring by NCREN staff in the event a lost connection occurred proved a critical benefit. NCREN provided a team, coordinated by NCCU's teleconference specialist, Wanda McIver who would monitor and troubleshoot the weekly sessions among NCCU, UNISA, and RAMA. This technology team proved critical in facilitating Live Classroom, and freed up the faculty to focus during the class on teaching and student engagement. UNISA and RAMA also provided a teleconference person monitoring each class to interact with and respond to Wanda's leadership. Additional roles of the instructional technologists included reviewing the equipment at each institution to insure the equipment and internet connectivity, organizing room assignments, and confirming weekly schedules, equipment and room availability.

The Twenty-first Century Learner in a GNLE

The COIL Institute course planning guidelines designated Fellows develop student-centered courses. Given that the majority of our students are considered "millennial learners" and consensus in academia is that millennial learners are changing the academic landscape, we realized we had to carefully consider our pedagogical approaches. The research about the characteristics of millennial learners, coupled

with the rapid growth and daily use of social media, the internet, and the use of technology, impacts all educators around the globe. Emerging research suggests that asynchronous and synchronous learning environments are tools educators can use to bridge the generational gap between faculty and student, and maintain relevance to, and for, the millennial learner (Novotney 2010, p. 60)[7]. The millennial learner's world is largely a virtual world. Our goal in the COIL course was to achieve immersion of technological tools and new media throughout the course content for maximum student engagement, but not have technology dominate the engagement.

Even with our best effort and COIL professional development trainings, faculty preparedness *and* student willingness to use technological tools became an issue in the course. Again, we understood in our courageous effort to "guinea pig" the technological tools within the course content that we could meet road bumps. In our planning stages, the instructional technologists and new media consultant offered research to allay some concern about technological tools and multimedia infused curricula (Dorfman 2013, pp. 1–49)[8]. As it turns out, millennial learners are not tech savvy—but tech dependent! Yes, millennia's are more engaged when the activities require multimedia and social media websites (Novotney 2010, p. 60)[9], but some assignments incorporated music notation software, internet websites and music recording devices. We learned first hand that our students were not interested in the how-to of technology, and were barely impressed with some tools—they just wanted it to work—via their cell phone. The students complained in the beginning of the course about any tool requiring more than two instructions or trouble with accessing the course website on their cell phones!

Implementation of the Course

Course Description—Jazz! Born in America, Created Internationally

The course examined jazz music from the beginning of the twentieth century until the present. Although the core of the course was designed for online delivery, designated course-related activities occurred in classroom settings or on performance stages. We decided upon Live Classroom performances to the extent the performance would not be hampered by latency—a delay of several seconds that inhibits real-time responses. Also, some Level 2 students were only designated to perform in concerts—either because they did not have time compatibility in their schedule to officially participate in the course, but were eager to participate in the international collaboration, or because only a limited number of students were funded

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[7] Novotney A. Engaging the Millennial learner. Monitor on Psychology. March 2010;41(3):60. Web. http://www.apa.org/monitor/2013/03/undergraduatesaspx/. Accessed 13 Nov 13 2013.

[8] Dorfman J. Theory and practice of technology-based music instruction. New York: Oxford University Press; 2013. p. 1–49.

[9] Novotney 60.

for study abroad to accept the invitation to perform in South Africa at the UNISA First International Jazz School residency. These designated course-related activities included master classes, workshops, performance combos, and concerts. Students utilized various technological tools, facilitating access to course content and activities. Students of all arts and humanities disciplines were encouraged to enroll. The class (Level 1) met online weekly in Live Classroom at a designated time to interact with international students between partner institutions, and were encouraged to participate in course-related activities with Level 2 student performers. The Level 2 performers were organized in several concert activities during the course, which were videotaped and uploaded to the Lore.com website. Level 1 students were then asked to write responses similar to concert reviews or course timeline comments after viewing the performances guided by related course lecture material.

Pre-Course Launch

The commitment of the three international partners for *Jazz! Born in America, Created Internationally* was clear from the beginning of the collaboration. All partners had representatives in Copenhagen, Denmark (August 2011) to attend a Distance Learning Conference in Higher Education in Music.

All partners also attended the COIL workshops (October 2011) in New York to engage in the groundwork for the course planning. These pre-course meetings and conferences were key components to the success of the course for several reasons. First, the partners were able to meet and digest the information while learning the elements of successful course outcomes. Second, the face-to-face time was important to build trust and understanding for academic congruency. This was useful when challenges came up in communications. Third, when personnel changes at each university created a shift in team dynamics, the core personnel were intact, and had fully informed their university administration about the COIL vision and potential. For such a large team, maintaining a shared vision was the glue upon which we relied, (and proved pivotal) given the seemingly insurmountable task of planning and implementing a globally networked learning environment between universities with very different program structures.

Preparation for students could only occur in ice-breaker activities of video bios in which students introduced themselves to classmates and shared any level desired about background in music, personal experience with online courses, and previous travel abroad. (A more comprehensive discussion follows of these activities.)

Course Activities

Jazz! Born in America, Created Internationally was ultimately a course designed to observe and explore the cultures of Denmark, South Africa, and the United States through the lens of jazz.

The significant course activities included:

a. weekly meetings via live teleconference sessions between international partners;
b. online chat during weekly teleconference sessions for students unable to attend in-person;
c. viewing videos of iconic jazz performers;
d. viewing of historical film footage;
e. course readings;
f. student-created video bios;
g. composing music and/or lyrics;
h. learning songs to perform together in class;
i. student performances during weekly live teleconference sessions;
j. short writing assignments;
k. listening to mp3s of jazz recordings for assignments;
l. analysis of jazz recordings and videos for assignments;
m. discussion of observations and perceptions of evidence of cultural customs in conversations, writings, and media.

Secondary course activities included:

a. performing in concert events at UNISA International Jazz School (for our Level 2 students);
b. attending in-person workshops at UNISA International Jazz School (for our Level 2 students);
c. conversations with NCCU Guest Faculty and Artist-in-Residence Branford Marsalis in culminating class;
d. viewing of concert footage of performances of student musicians;
e. viewing archived weekly live teleconference sessions (Live Classroom);
f. faculty-led workshops (Sean Adams at NCCU, and NCCU and RAMA faculty at UNISA)
g. internet research;
h. student-to-student informal discussions.

The primary and secondary course activities above were infused in the weekly assigned tasks during the teleconference sessions (Live Classroom) through access to course content on Lore.com, and during physical face-to-face visits in faculty-led student and faculty guest lecturer study abroad among international partners (UNISA to NCCU, and NCCU and RAMA to UNISA). The weekly lesson plans from the syllabus incorporated synchronous and asynchronous activities to allow students who were not able to join Live Classroom sessions to also experience the course content and engage in dialogue with their classmates. They achieved these tasks in two ways; by watching archived Live Classroom sessions (stored on MCNC's servers and accessible with private access links), or by live-chat if geographically apart from their student cohort's physical class. These extra connectivity features enabled RAMA, which had two campus locations, to have some students dial into our teleconference connection remotely.

Class Discussions

During the weekly live teleconference sessions, student cohorts and all faculty members discussed the assigned videos, course readings, and listening links (mp3s) related to each week's topic. Our syllabus was divided into three modules (four weeks in duration), with faculty from each country leading the discussion for their assigned module, but with input from all faculty present in the session. The GNLE design calls for all faculty to interact with students in each class session. The discussions allowed the students to reflect on observations about numerous cultural comparisons and the impact of related historical events on jazz music. For example, a discussion ensued one week about the similarities and differences of treatments of American jazz musicians being discriminated against during Jim Crow, and South African jazz musicians during apartheid, and Nazi German officers who reportedly convened clandestine listening sessions to Danish jazz musicians during the German occupation in Denmark. Our weekly Live Classroom sessions were a strong component of the students gaining cultural competency because students could meet and interact as if they were in a physical classroom, sitting next to each other. All classes were in English, decided among the faculty as the common language for all students. Students participated by raising their hands, and if not physically present faculty not leading the discussion supported their colleague by monitoring the live chat feed on the Lore.com course page, to assure student questions on live chat were acknowledged in the classroom discussion.

Submission of Assignments

Short writing assignments (reflections and research), student-created video bios, and student compositions were submitted, and uploaded to Lore.com course webpage. Assignments uploaded to the Lore.com course website were viewed by faculty who provided feedback on the students' work. Often faculty would comment publicly on student work on the timeline for all students to see, but again, grading for each student cohort was the sole responsibility of faculty of the university in which they were enrolled. Students were provided with detailed instructions (written by our instructional technologists) to upload assignments to Lore.com, how to create student videos and podcasts, and how to access archived classes.

Student-led Discussions

Informal student-to-student conversations took place on our course website, Lore.com, in a section called "Discussion," similar to timeline status updates on social media websites. Students did not need faculty permission to create a discussion thread. Lore.com was chosen because it functioned much like Facebook's platform

and as such, we had hoped it would enhance communication among students because of its familiarity. This hunch proved successful, and students freely took full advantage to interact offline and online, post comments, and respond to faculty prompts and peer comments. They also posted assignments and uploaded materials and/or results of their own research. Posts were not anonymous, but as Lore is a password-protected site—participants were only granted access as a result of being given a link to join—students' work was secure.

Online Performances

Students were given assignments to create and submit compositions, or create derivative compositions based on traditional folk songs or traditional repertoire. Students performed these compositions during Live Classroom, or submitted them through student-created videos of their performance(s). They accomplished video creation by using simple recording devices on their telephones or personal laptops, then uploading to YouTube with an unlisted (private) link, subsequently pasting the link in submitted assignments or on the course timeline.

Guest Faculty Presentations and Interviews

Guest NCCU faculty, guitarist Baron Tymas and trombonist Robert Trowers led discussions on weekly live teleconference with students to facilitate a deeper experience of jazz history (Trowers) and jazz theory (Tymas). During the last class, world-renowned jazz musician, saxophonist Branford Marsalis, joined the class for a candid and lively discussion about global cultural perceptions of jazz music.

Live Concerts and Workshops

Travel between international partners allowed students and faculty to deepen relationships and perform together. These interactions were important later in the residency as we learned of the challenges with occasional online connectivity and access through Lore.com during the weekly teleconferences—especially for the South African students. However, some of the South African students attended the UNISA International Jazz School, and were able to meet and interact with the NCCU and RAMA faculty and Level 2 students, who traveled to South Africa for the UNISA International Jazz School, a ten-day residency of workshops and culminating concerts. UNISA hosted faculty from NCCU and RAMA, and NCCU obtained funding to take some Level 2 students to participate in the UNISA ten-day residency.

Icebreakers and Intercultural Interactions

The faculty decided upon an icebreaker required for students and faculty of a video bio, and the assignment was called, "Who I Am in Jazz." This assigned task was done in the two weeks prior to the course launch, and designed as an informal and fun introduction between classmates and faculty. It was also a way to test the students' comfort level with using video, using the course website, and using new media. Students that completed the task were very engaged with this exercise and found it interactive. Uploads of the video bios were required to Lore.com and remained there throughout the course.

The intercultural interactions were assisted by weekly assignments; many assignments required students to identify a comparative example of a concept or event represented in their culture. One example is a discussion about organizations that support jazz or promote jazz on television or radio resulting from an assignment to listen to an NPR (National Public Radio) segment dedicated to Louis Armstrong. Our initial discussions and inquiry of similar programs in Denmark or South Africa led to a short research excursion for Danish students, who returned in a subsequent week with information of their new discovery of a similar historical radio program and series in Denmark. Further intercultural interactions that were notable are discussions about South African icons—jazz singer Miriam Makeba and pianist Abdullah Ibrahim, and comparisons with American jazz singer Nina Simone and American (expatriates) in Europe.

Addressing Challenges and Solutions

We had two key areas of challenges: program structure differences and student expectations. We were unable to completely overcome our very different program structures. NCCU is primarily a liberal arts university with undergraduate and graduate programs, and our participants were music majors and non-music majors. The course was primarily offered as a distance education course—with the added feature of a weekly online meeting (Live Classroom), and with some student musicians recruited for the Level 2 component, to assure performers interaction with the student musicians at RAMA. Though it was a distance education course, most students were on campus for traditional courses. Many of the NCCU students enrolled in the course had never taken a distance education course, but were drawn to the course description and wanted to participate due to the nature of the globally networked environment feature. UNISA is a distance education university, and does not have students on campus. Additionally, the bandwidth capacity or accessibility for students was not consistent across students enrolled. Lastly, some students at UNISA commented about being VERY insecure about participating online or in weekly teleconference meetings citing that though they were interested to learn about Jazz, were classically trained and new to Jazz. Some were uncomfortable interacting face-to-face, citing that jazz was a very new field and area for them,

and they instead preferred to take an observer-only approach. RAMA is a program designed entirely of music majors, and though the students were informed that the goal of the course design was to learn about each other's culture through the lens of music, they were expecting to perform together with their international classmates in every class. Because of this expectation, the discussions and assignments that did not involve performing seemed less desirable to the RAMA students. However, many RAMA students stated that they enjoyed the exposure to cultural perspectives and related historical events, as well as learning about the iconic contributions of South African and American jazz musicians.

We tried to address the different program structures and student make-up in a two-tiered syllabus design (Level 1 and Level 2). Student performers and musicians would demonstrate jazz concepts, characteristic elements in jazz music, and create compositions and lyrics in weekly class sessions. All students would complete written assignments, reflections, and prepare to participate in discussions. Some students would travel to perform.

What may have created more realistic expectations for students is a pre-course discussion with students to reiterate the pros and cons of our GNLE course. Our team gained a clearer understanding of the need for integrative and comprehensive course outcomes specific to the collaborative online model during the reflection and analysis of our assessment data. Because some faculty came on board after the October COIL training workshops, there was a learning curve, and a training-after-the-training dynamic that undermined our course objectives, and was not fully apparent until the assessment phase of the project. Though we discussed the concerns for relevancy of course activities with respect to our subsets of Level 1 (music majors) and Level 2 (non-music majors), some of our objectives were overly ambitious. We discerned fewer activities may have been more effective, but were in agreement that having both music and non-music majors interacting and engaged together energized and informed the learning, and provided access for rich and rewarding cross-cultural connections.

Time Changes

A much unexpected challenge which should not have caught any of us by surprise (but did) was Daylight Savings Time. When the time changed in the U.S. and Denmark, the decision had to be made about whether to move the class time, and who would change. NCCU could not move the class—a direct result of the very different organizational structure. NCCU is a state-run university, bound by rigid rules determining course times and student responsibilities. The process of gaining permission to move institutionally-set class times is at the level above NCCU senior administration, requiring a lengthy cumbersome legal process via UNC general administration. UNISA's students are all distance education students, so Live Classroom meeting times and student expectations of face-to-face meetings are easy to adjust. It was inconvenient for RAMA to change the time, but not requiring a policy

change necessitating legal permissions. The easiest solution was for our European and South African partners to move their class meeting time.

Even though we had all discussed this expected change of time, some either missed the meeting, meeting minutes, or forgot the course would not have to be moved to the new Daylight Savings time. We chalked this problem up to a misunderstanding in communication—not an uncommon hiccup for such a large team. It was a scramble, and was somewhat frustrating for everyone. Eventually, we discussed a solution, and the RAMA students and faculty, in the spirit of cooperation, moved their class to accommodate the change. It was a learning experience for everyone involved, albeit uncomfortable. This is an example of organizational structure and dynamics creating challenges in course design.

Unexpected and Interesting Directions

Some interesting outcomes arose out of the students performing online together, and with students and faculty performing together in concert. Memories were frozen in time for some students, who never imagined traveling to South Africa to perform, or having the ability to perform with international musicians online in real time in-person. Students commented the course afforded a first experience of meeting someone from another country with whom to interact with online. Their emotions ranged from being amazed to elation at the commonalities in musical tastes they shared with their musician peers. Consequently, a kindred journey and shared interests emanated. The last class, which featured conversation with Branford Marsalis, was also a memorable and unexpected moment in the course. It buttressed the conversations that had evolved during the course content and provided the context for a strong closure.

Summary

Educators considering a GNLE must take into account the extraordinary amount of time needed for planning, discussion, evaluation, and conceptualization *before* curriculum design can begin. This project was largely successful because of the commitment of the team, where not only the faculty-led efforts, but the entire team effort was remarkable. Inherent in the mindset within Jazz is a predisposition to uncertainty and the need for adaptability. Because of the familiarity, whether as jazz performers or jazz lovers, faculty and staff in the NCCU-RAMA-UNISA COIL team of fellows demonstrated an innate ability to somehow move through challenges with calm and steadiness, as if performing an elaborate jazz solo. Though our planning and implementation was deliberate and calculated, a pervasive feeling that we could all flow, create, adapt, and recreate was sustained throughout the collaboration. Everyone expressed having their creative needle move and their cultural lens sharpened.

Developing the culture among faculty and staff to facilitate the successful design of a collaborative teaching model required a mentoring relationship and structure to support, and in some instances coddle, our international team. The COIL Institute was responsible for the successful foundation upon which *Jazz! Born in America, Created Internationally* was built. Educators endeavoring to adopt a GNLE model must above all else develop these foundational pillars gleaned from the COIL research of best practices: (a) All stakeholders must adopt a thorough understanding of the core GNLE operational construct—student cohorts guided by faculty present geographically developing cultural competencies using the course subject as a learning tool; (b) Technological tools used in GNLEs must feel *invisible* to the learner and instructor in order to avoid the usual pitfall of thinking one must become a technology expert; (c) Prepare students to interact with their international classmates by developing "rules of engagement"—discussing cultural sensitivities for written and spoken communications, providing ice-breaker tasks, and encouraging offline opportunities to engage directly with classmates; (d) Faculty and staff should meet weekly in the planning stages, allowing at least one full year prior to the course launch and at a minimum bi-weekly during the course; (e) Keep the course design as simple as possible!

Our assessment data reflected student engagement and demonstrable learning via the course subject was greatly aided by multimedia and the use of technological resources with which the students were familiar. When the assignment called for photos or recordings to create podcasts, we provided instruction on YouTube account management, uses of GarageBand, iTunes, and photo document management. By mid-course, students were posting music, news articles, and Facebook postings about Jazz artists and current events, or extending in-class discussion onto the Lore.com course equivalent to FaceBook-esque timeline. One particular point in the course was especially gratifying when faculty observed students' postings during the class in real-time resulted in a competition for who would be the fastest student to find and post relevant materials *about the partner countries* on the course discussion. This reflected a sense of students wholly embracing ownership of the class experience and moving from no knowledge of cross-cultural events, to feeling responsible to "find what there was to know" about each country and its culture. The students commented they gained confidence in talking about cultural experiences and perceptions as a result of the course content—a marked difference from comments in the ice-breaker essays at the beginning of the course. Students also observed and commented the project-based nature of the assignments required more substantial use of technology than some other courses. The specific competencies most consistently reported were researching historical Jazz and music film footage, utilizing websites such as www.jazzstandards.com and/or library resources at their institution.

The performing arts presented an interesting challenge simply because demonstrable learning can be hard to detect in certain music contexts. Research in the last decade has encouraged educators who are using technology-based music instruction in project-based learning activities with multi-media resources (Dorfman 2013, pp. 1–49). The knowledge base for musicians, though broad, is consistent

on foundational elements, ex. skills per instrument, fundamental theory and sight-reading abilities as basic requirements, especially at the collegiate level. However, the individual student range of performing talent can vary greatly directly impacting the ability of faculty to assess student outcomes across a single class, not to mention across cultures. Our students knew the same songs; it is expected all jazz musicians know the canon of Jazz standard repertoire. The cultural perspectives and skill level were obvious when performing together (online and in-person) and required adjustments (and rendered discussion) on all sides. For instance, personality traits like assertiveness or creative expression were often misread. How do you assess perception? "Aggressive" was the descriptor used by a Danish participant for a style of Jazz music known as be-bop, (a fast paced and challenging Jazz style) and other students held a quite different perception and descriptor. Does this mean the student did not learn what Jazz be-bop music really is at its core, or is the perception in Denmark of be-bop music a reflection of cultural differences? With divergent opinions such as these, it is clear that the pre-course relationship building activities among faculty would have benefited students.

Though the COIL Institute training was comprehensive, the field of research for best practices in GNLEs is very new. We were warned our work was in a pilot phase for collaborative online learning. In hindsight, the pedagogical content knowledge across the team and divergent educational theories were counterintuitive to the GNLE construct. Music instruction can often operate in a "top-down" teacher-student environment—a "sage on the stage" philosophy. The GNLE model supports a strong "guide on the side" constructivist pedagogical approach. Because we chose an improvisational art form—Jazz—we expected to avoid the troublesome linearity inherent in performing arts instruction. Teaching and learning in an online environment requires specificity and orchestration in every stage of planning in conjunction with an openness to create in the moment—akin to Jazz improvisation. The myth about Jazz, and particularly about improvisation, is creating an improvised solo means musicians are doing whatever they want. To do so would be a recipe for disaster, not to mention a bad jazz performance ethic! The prudent Jazz soloist must have full command of the theoretical and harmonic infrastructure of the genre to reap a cogent performance, and must then fire that performance with creativity, before the freedom to create spontaneous composition—a more factual definition of jazz improvisation—can be mastered.

The collaborative approach to course design and implementation, and the geophysical requirement for faculty and staff representing each student cohort, prevented an American hegemonic presence, ushering in an innovative heterogeneity in our course design. The project-based activities also facilitated a heuristic experience for students who traveled to South Africa to participate in concerts and workshops, and intertwined cultural and global awareness via Live Classroom with a virtual study abroad experience. The qualitative assessment data implicates a premise for further research that globally linked classrooms may be a possible answer for creating study abroad experiences for students. We worked extremely hard, and made the commitment to sustain the collaborative relationships for future courses.

Two such courses with the same three institutions (and modifications where necessary according to subject in faculty assignments) were designed and delivered in Fall 2013 (Composing, Arranging & Song writing in a Global Network) and Spring 2014 (Global Guitar).

Appendix: 1 International Partnership Team For The Coil Project

The NCCU-UNISA-RAMA international team of talented educators and musicians included worked diligently over an 18-month planning, design and implementation period. They are as follows:

Ms. Arisa Voges, (Director: Directorate of Music/International Programs), University of South Africa, Pretoria;

Mr. Sean Adams, Faculty, (Subject Specialist/Directorate of Music), University of South Africa, Pretoria;

Dr. Mageshen Naidoo, Faculty, (Deputy Director: Directorate of Music), University of South Africa, Pretoria;

Charl du Plessis, Faculty, (Piano Specialist/Directorate of Music), University of South Africa

Madeline Short, (Instructional Technologist, Directorate of Music), University of South Africa, Pretoria;

Lenora Helm Hammonds, Faculty, Assistant Professor, Department of Music, North Carolina Central University; United States

Dr. Emmanuel Oritsejafor, Professor, Political Science and Public Policy and Chair, Department of Political Science, North Carolina Central University; United States

Dan Reis, Instructional Technologist, North Carolina Central University/Elon University; United States

Keld Hosbond, Head of International Relations, International Programs, Royal Academy of Music, Aarhus, Denmark;

Jens Christian Kwella, Faculty, (Assistant Professor/Jazz/Pop/Global Department) Royal Academy of Music, Aarhus, Denmark.

Astrid Elbek, Head of Development, Assistant Professor, Royal Academy of Music, Aarhus, Denmark

Lana Garland, Consultant/New Media Specialist, Denmark & United States

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Part III
Transgressing Boundaries Using Technologies

Chapter 10
The Course as Container: Distributed Learning and the MOOC

Sean Michael Morris and Jesse Stommel

We don't want to be teaching in the worst possible way to the most possible people. We want to be learning the best ways to teach by doing careful, open-ended and open-minded research on exactly how massive numbers of people are learning online.
~ Cathy N. Davidson, *"What Can MOOCs Teach Us About Learning?"*

Entering a classroom, we think first about its walls. We think about where the desks sit, where we will stand. Whether there are windows, where the doors are, how the chalkboard, whiteboard, or overhead projector are arranged. We think about the *other* walls of the classroom, too: the semester or quarter schedule, the syllabus, the school's academic integrity statement, our disability policy, our assessment plan. Long before we encounter a student, we attempt to map out the path they will follow for the weeks we will be with them.

The course is central to our ideas of how teaching and learning happen, and not only in higher education. Through all our years of formal education, our learning is divided into discrete chunks, and this tendency persists even for non-traditional learners in continuing education programs, which often model themselves on traditional learning. Fifteen weeks a semester, 10 weeks a quarter, our learning (and later, our teaching) is partitioned, bookended, and contained inside the course. The walls of the course are even more ever-present than the walls of the classroom, and have been clumsily brought into the digital space of our online classes. These walls circumscribe subject matter, project timelines, written work, and assessment. The quarter, the semester and the *course* dictate almost everything we understand about education.

Taken more broadly, the course translates into disciplinarity. Like an equation, courses add up, giving us credentials in our fields. We populate transcripts and

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CVs with the courses we've taken, to demonstrate what we've learned, how thick our knowledge has become. A certain number of courses equal a degree, another number gives us an advanced degree. It is not until we are free from the notion of the course that we write dissertations—and by then the course has made it into our sentences, paragraphs, chapters, introductions, and conclusions. We mistake learning for its structure, rather than see it as a lingering process that shifts and moves invisibly between the accomplishment of one learning objective and another.

But if learning can be sparked at the beginning of a course, and capped off at the end, what happens when we are not enrolled? Do we cease to learn? Do the objectives of the course wash away? No, learning continues between courses. In fact, it happens more deeply between courses as our minds synthesize ideas, make connections, test theories, and mull. For the student entering a new classroom, learning will be contained there, by teachers. But the course as container is unnatural, inorganic, and grossly limited. We and our students assume as necessary the arbitrary limits of walls, desks, chairs, syllabi, rosters, exams. But these are only as necessary as we make them—and there are equivalent fixtures in the online class that become even more limiting.

The openness of the Internet is its most radical and pedagogically viable feature. This isn't to say that every online class should be entirely open, but we should not assume in advance (or use systems that assume) we need a learning space to be closed, or that learning should be contained. Although the course is central to our ideas of how teaching and learning happens, some learning happens best *without* walls—in fields or in libraries or in town squares. In this chapter, we argue that the course as a container is an outmoded way to think about learners and learning, and that we must begin to look at learning as a more incessant, hybrid, and lifelong experience.

Massive open online courses (MOOCs) grasp at a kind of learning that is more perpetual, challenging our ideas that a sound education happens in a prescribed (and circumscribed) environment. Throughout the chapter, we will refer to MOOCs as a single concept, though they are not. The field has divided these massive courses into cMOOCs—which utilize a connectivist philosophy and tend to be more experimental in nature—and xMOOCs—which are generally offered by large institutions or technology companies. When we speak of the MOOC, then, we'll be referring to the commonalities between c- and xMOOCs, namely: the "massive" audience, the (relative) "openness" of their materials and format, that they are held "online" and that they purport, in at least the loosest sense, to be "courses". While xMOOCs tend to have a much tighter definition of "course"—in that they begin and end on a schedule, include course objectives, assessments, and other accoutrement of the traditional higher education classroom—most cMOOCs are also environments in which learning takes place in an ordered fashion. While less prescriptive, most cMOOCs nonetheless approach their subject matter from a specific perspective, and with a particular agenda.

The acronym "MOOC" was coined by Dave Cormier and Bryan Alexander in 2008 as a response to the swelling enrollment in an online course offered by George Siemens and Stephen Downes, "Connectivism and Connective Knowledge"

(CCK08). Prior, others had offered open online courses, but few had seen attendance cross into the quadruple digits. The Siemens-Downes MOOCs that have followed (CCK09, CCK11, Change11, and others) are, as Siemens explains, "defined by a participative pedagogical model. They are unique and different from the emerging elite university MOOC model." In fact, the model seemed so unique and massive enrollment so promising, that universities—like Stanford, MIT, and Harvard—and technology companies—like Udacity and Coursera—began to experiment with and capitalize on the MOOC.

As MOOCs expanded into the American educational marketplace, they freely mined instructional design standards to create courses that could be taken by massive numbers of people with little to no direct instruction. Videos of lectures replaced in-person interaction between student and teacher, and discussion boards housed classroom chatter designed to build community and to help students process content. "Celebrity" professors were hired to lend credibility to these massive courses, and to draw greater numbers.

Some argued that MOOCs were not new. Patrick Masson titled a blog post, "I've been in this really good MOOC for the past 20 years, it's called 'The Internet'", suggesting that the collective resources of the Internet provide the tools one needs to learn for free. Bonnie Stewart proposes that the fundamental ideas behind MOOCs are not new at all, writing, "For the last fifteen or so years of his career, Foucault taught a massive, open course. Every year. That was one of the terms of his chair at the College de France. He was everything MOOC except online." And she claims, "Most of what we're on the precipice of exploring in higher ed with MOOCs is not actually new."

This is the most interesting thing about MOOCs, and the reason why we decided to investigate them in the first place. We don't believe that MOOCs reveal something new about education and learning; rather, they unearth something old, something that has been under the surface all along.

Learning in a MOOC

Instruction does not equate to learning. This is the fundamental fly in the ointment of instructional design, and the epistemological failing of most MOOCs. Learning is something no instruction has ever quite put its finger on, and something that no methodology or approach can guarantee will result from teacherly effort. Instead, pedagogical praxis creates roads along which learning may take place; and assessment is merely a system of checkpoints where we evaluate how well the road, the vehicle, and the driver are cooperating. In other words, assessment does not measure learning. Assessment measures the design of the instruction.

Too many MOOCs are no different from other forms of online learning. They are click-to-read-the-next-lesson environments that guide readers/students down a specific path where information has been contained so that it may be mastered. This

is the old CAI (computer-aided instruction) method of knowledge accumulation. It is the equivalent to lecturing from ages-old notes without regard for the student audience (and without regard for their circumstance or the culture in which they live when outside the classroom). In these instructionally-sound but teaching-deprived MOOCs, learning is meant to happen in coordinated steps; and as long as preconceived and quantifiable outcomes appear to be met, we assume a win-win result for students and teachers.

These sorts of forays into massive learning don't teach us anything new. Even as large as these experiments may be, they are too contained, too mechanical, for incessant learning to emerge. They do not teach us to learn beyond the walls of the course, even though MOOCs have the capability of moving beyond those walls. The kind of learning we need to have happen in MOOCs isn't contained—not in meticulous discussion fora, video lectures, and standardized assessments. It's learning that gets funneled through the course, but is not architectured by the content there. We must start seeing MOOCs as anthropological opportunities, not instructional ones, if we want to unearth what Stewart and others claim has been there all along.

MOOCs have revealed the value of distributed learning—learning in community, and learning from multiple different locations within the learning environment. In distributed learning, there is no 'head of the class', not even the illusion of one. Students must, instead, construct their own strategies, without a recipe, in the moment. And they are even called upon to help map the terrain in which that can happen. This is far more than "group work" or peer review. This is learning at the level of teaching, it is a participant pedagogy, where each learner is not only responsible for her own learning, but also for the learning of others.

To begin to look at how this works in practice, we'll examine MOOC MOOC, a meta-MOOC about MOOCs, which we designed as a sandbox to learn about MOOCs and to learn about learning in MOOCs. This week-long course ran in August 2012 with over 600 registrants and again in January 2013 with over 1000 registrants. (A follow-up, 24-hour MOOC ran in June 2013 to explore the ways MOOC-inspired pedagogies can support learning outside massive online settings.) Our audience was educators, administrators, educational technologists, lifelong learners, and college students. Going in, we did not know what the final outcomes would be; in fact, we asked the participants to write these late in the week as part of their involvement in the development of the course. We began with several hypotheses: (1) learning is inherently social; (2) learning doesn't happen inside containers, like classes, but between them; (3) and we learn best when able and encouraged to critically interrogate the platforms for our learning.

We did not design our MOOC to champion MOOCs, nor to denounce them. In fact, our goal with MOOC MOOC was to start a conversation, to reflect at a meta-level on the nature of massive open online courses. We used Instructure's Canvas for MOOC MOOC, because we wanted to model open course design with tools that any educator or learner can easily access and use. We wanted a container that participants could hack and that would allow the course to live openly on the web.

As the course progressed, the container overflowed into open platforms like Twitter, Wordpress, Tumblr, Github, and more. We created the MOOC so that

anyone could join, nobody had to sign-in (and so actual participation well exceeded our official registrations), and each iteration of the course was left open after it was over to allow access to non-synchronous participants.

MOOC MOOC was architectured to be a catalyst. The course was designed to outgrow its container, and was just brief enough to make space (and leave space) for community engagement and response. MOOC MOOC did not end when the course finished. The ongoing digital community that rose up around it sustains the questions and discoveries of the course, turning them to new ends.

Our course plied strategies from both cMOOCs and xMOOCs, wading in the space between them. We trust MOOC MOOC as a case study because of its goals, its strategies, and the data we collected from its three iterations.

Community as Learning

Learning is by its very nature meta-cognitive. Therefore, those who teach must maintain a second-order perspective on their own craft. When we design, or begin thinking about designing, online or hybrid learning, we must not take anything for granted—including such instructional standards as the lecture, the discussion, the assignment, the assessment. We must remember that learning happens often without these things, and so adjust our thinking and design to make room for a more rampant sort of learning. Best practices can't be codified; they must be continually encountered and revised.

MOOC MOOC took the approach of a wildly open pedagogy, asking participants to provide their own content to a great extent, and offering only a skeletal structure for discussion and collaboration. The result was one in which the community of participants were inventive, creative, and intensely productive—perhaps exactly because they had to be. Essentially, we asked the participants themselves to invent the MOOC as they worked within it. For the MOOC to succeed, participants had to work together to build the content. (Participants created hundreds of videos and blog posts, a database of useful tools, and also curated dozens of collections of useful material.)

While critics of MOOCs hold that these massive courses cannot possibly be interactive, we discovered that an interactive community rose out of MOOC MOOC and formed the heart of the participants' learning experiences. As analytics from MOOC MOOC demonstrate, interaction is not only possible within a MOOC; it also has the potential to be extremely dynamic.

While the course was set up as an investigation of a cultural and educational phenomenon, what it revealed was that learning can happen spontaneously and effectively when community is formed. Although some might argue community does not equate to learning, we claim just the opposite: community functions not as a methodological approach toward a set of outcomes but as the outcome in and of itself. As Dave Cormier says in "Rhizomatic Education: Community as Curriculum":

> In the rhizomatic model of learning, curriculum is not driven by predefined inputs from experts; it is constructed and negotiated in real time by the contributions of those engaged in the learning process. This community acts as the curriculum, spontaneously shaping, constructing, and reconstructing itself and the subject of its learning in the same way that the rhizome responds to changing environmental conditions.

We don't need courses to scaffold content. Community is its own content—with its own requirements for learning and mastery—intrinsically not instrumentally rigorous. The action of interactivity is itself a learning experience.

Building Community in a MOOC

Participants in MOOC MOOC functioned almost like a hive mind. They had individual agency, but the course activities emphasized the capacities of learners working in concert. For example, one of the first activities had groups of 50 coauthoring and revising a single 1000-word essay. The goal here was both to complete the essay, and also for participants to figure out *how* to complete the essay. The writing of the piece was far less challenging than the process, the determination of rules and policies for writers to follow for collaboration to be effective, and the editing of the work (and the creation of guidelines for that editing). All of this had to be actively negotiated by the collaborators. Natural leaders came to the fore, as did the workhorses—those who took on greater portions of the writing or editing. The collaborative community was self-selecting, with many potential participants backing away from the activity due to personal learning style, a discomfort with group activities and communication, or sheer overwhelm. However, even those who chose not to participate remained onlookers, watching a confusing process unfold into a truly cooperative and surprisingly effortless one.

Participants also formed their own social media communities to discuss the nature of participation in MOOCs, and formed collaborative groups to brainstorm their own MOOCs. These activities were created by the designers of the course, and so any associated outcomes could be measured. But more important to our assessment is how a community formed around the activities, and how participation in that community allowed the various activities to be hacked.

The products of daily assignments, the artifacts created independent of those assignments, as well as participation in fora native to the course are all measurable by traditional instructional metrics. We contend, though, that the richness of these products derived specifically from the dynamic collaboration and community that was the learning environment. However, what is even more interesting to examine is the less concrete proliferation of interaction outside the course on social media, much of which went beneath our notice (because of its sheer quantity, spontaneity, and heterogeneity).

It is a fledgling community that carries out networked learning like that described above. In all of these activities—both assigned and unassigned—collaboration was not always a perfect fit for everyone. Rather, collaboration was something that

learners had to get to, had to negotiate, and not without a certain degree of conflict resolution. Openly collaborative work is not utopian, it is ultimately democratic, with learners making motions, seconding motions, and calling for votes to determine just how to arrive at a cooperative approach. Also, it is important to note that (at least in the case of MOOC MOOC) the democracy remained true; in other words, no leaders were elected, no "teachers" hired to guide the process. Instead, learners sustained a dialogic approach throughout the learning process.

As educators, we have worked in networked environments to encourage a reconsideration of the divide between work we do in classrooms and work we do in the world. More and more, social media platforms—and Twitter in particular—have become the fulcrum around which this element of our pedagogies tilts. Twitter enables exactly our desire to facilitate improvisation within a framework. The 140-character limit of the tweet invites a careful consideration of each utterance, often asking for a flurried dance of abridgements within its frame. And the loveliest aspect of Twitter is what gets built around those only seemingly constrained 140-character tweets: an ecosystem of interconnected, conversant, and ecstatic bits that break their own frame through links, photos, videos, mentions, replies, favorites, and archives.

MOOC MOOC relied heavily on Twitter to build a diverse community of learners. Daily chats using the #moocmooc hashtag helped the community connect around ideas presented in the course. But more than that, Twitter served to make the course a continuous experience—across time zones, days, activities, discussions, etc. More than being the course we built inside the Canvas learning management system (which served as a portal not a reservoir), MOOC MOOC was the distributed community that rose up around it. If the community was the learning, then Twitter was where learning happened.
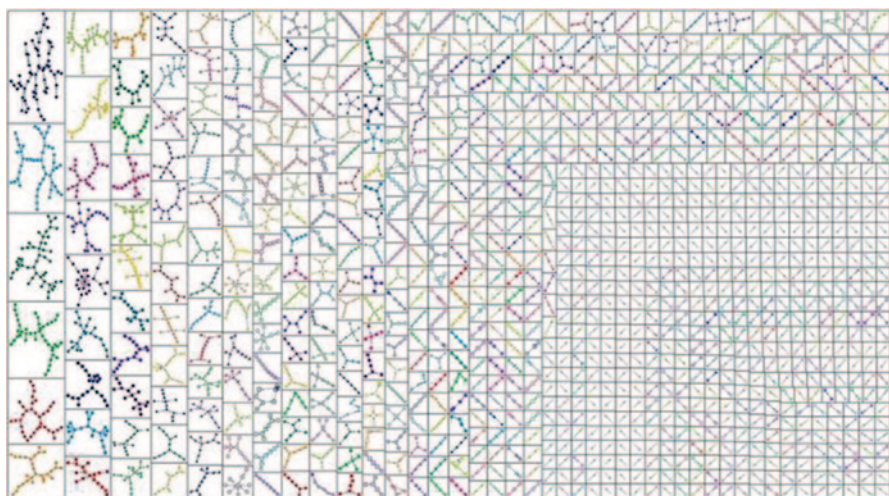
This data visualization from Martin Hawksey (a participant in MOOC MOOC and the designer of the TAGS Twitter archiving tool) depicts over 6500 tweets from the #moocmooc hashtag, each node representing a single tweet linked to other tweets through @ replies and assembled into a diverse array of what Hawksey calls "conversation shapes." Interactions range from a simple exchange to complex branching patterns of epiphany, response, interruption, and confluence. The varied connections and paths of each discussion illustrate that this is not a cacophony of disparate voices but a colorful and complex web of collaboration and dialogue. What this visualization depicts is learning—connections being made between people around ideas, questions, and discoveries.
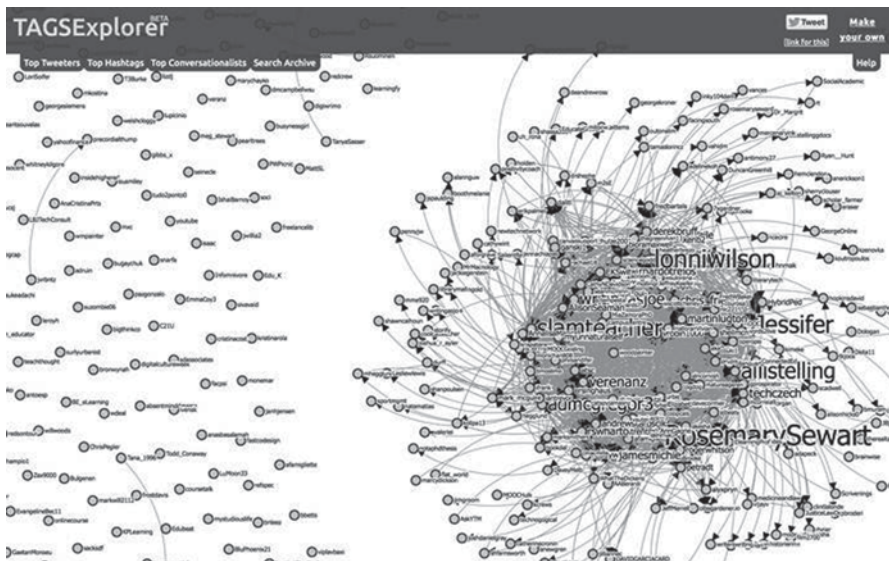
The participants in the first iteration of MOOC MOOC composed approximately 40 tweets per hour on the #moocmooc hashtag. Tweet volume increased over the course of the week, hitting a peak on Thursday (with 1246 tweets that day). The above image, a screenshot from another interactive visualization by Martin Hawksey, offers a different view of the nearly 7000 tweets from that first week in August 2012. This time the nodes depict people, the size of their names proportional to their level of participation. The course designers and facilitators loom large but are part and parcel with the rest, orchestrating the environment but equal players in the encounter. A whirling mass of participants in dynamic conversation with a halo of outliers, single remarks casually tossed into the din from lurkers or momentary passersby. Several concentric circles, each depicting a participant group that engaged the course in a particular way: fully immersed participants, more casual participants, and disconnected onlookers. The ball rolls across the screen almost appearing to gather up rogue tweeters in its wake.

Data as Poetry

Something we discovered (and that other MOOC designers have discovered) is that the MOOC MOOC community persisted beyond the end of the course. Participants created personal learning networks based on their experiences and experiments within MOOC MOOC, and, using those communities, they carried their learning from the course out into the world. MOOC MOOC, then, affected learners who never even entered the course, by transmission from those who did.

This kind of learning can't be scaffolded or too-carefully architectured, but must be discovered in the act. In *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change*, Douglas Thomas and John Seely Brown write, "Our understanding comes not through a linear progression, in which each step confirms that you are on the right path. Rather, it arises through approaching the problem from many angles and ultimately seeing its logic only at the end" (98).

So what does the data from MOOC MOOC tell us? Is it enough to take note of the significant participation by hundreds of people in the course? Or should we be looking at ways that particular conversations led to other particular conversations? When looking at the data assembled by Martin Hawksey, some will not see the qualitative value there. But this objection may come from an inability to read the data for what it represents. The data suggests that something is happening. What we need are new ways to read the data, analyzing its poetry where once it had only quantitative character. We need to close-read learning data to begin hypothesizing and ruminating on what it means, rather than jumping too quickly (and prematurely) into assessment. We should not ask learning to conform to the methods we have for measuring it; instead, when we wonder how (or whether) learning happens, we must begin not with "how do we measure this?" but with "what is really going on?"

If the course is not the content but is instead the community, then MOOC MOOC was not 7 days long. In fact, the Canvas course only turned the key in the ignition… But the community that persists is the engine itself. When we build learning experiences that persist beyond our ability to make them go, our courses become permeable and live outside the institution in which they're housed, beyond the term during which they're taught, and even off the continent where they're born. This is the kind of learning to which MOOCs (or any course) should aspire—not a poor mimicry of what we already do, but learning that's informed by the peculiar potentials of people working in community.

Permeability is an important component of open learning environments. In a classroom, not only is enrollment controlled, but the door can be closed. Any teacher who values her autonomy knows that on-ground traditional courses cannot usually be overheard or eavesdropped upon. But online, the number of possible auditors in a course is incalculable. MOOC MOOC may have had 1000 official registrants, but the site remains open, the material still available for discussion, the hashtag continues to generate conversations, and the archive on Scoop.it is a living document. Openness, then, is not just the character of a course when it's in progress, but is actually the key to breaking the idea of the container of the course entirely. Open courses are perpetual courses, evolving and inciting learning long

after the last assignment has been completed. The Canvas course—the discussions and e-mails that reside inside the LMS shell—may be the only relic of MOOC MOOC; but the true course, the distributed learning community of the course, lives outside that container.

The original announcement for MOOC MOOC offered this statement, "Content and learning are two separate things, often at odds… Most content is finite and contained; whereas, learning is chaotic and indeterminate. It's relatively easy to create technological infrastructures to deliver content, harder to build relationships and learning communities to help mediate, inflect, and disrupt that content." A course, then, is a container for people and not content—a gathering place, a laboratory, that is intensely and necessarily social. This is a kind of learning we don't yet know how to adequately measure.

The Community as Text

Measuring the learning that takes place in distributed learning has proven to be a sticking point for many instructors and students. And we admit that discerning the veracity of content generated by a widely strewn community—even keeping track of or archiving that content—may be impossible, at least impractical. So we are not saying that educators need to find ways to apply traditional assessment to networked learning; rather, we believe that networked learning requires a *new view of assessment entirely*. This involves inherent and important risk. If digital learning is to be truly explored and understood, we must treat it as new territory. So, what help for the traditional instructor? Only the encouragement to be brave. We recognize that this may lead to a population of self-selecting digital instructors, those who are willing to begin not by throwing the baby out with the bathwater, but with new bathwater and a new baby.

We contend that traditional qualitative approaches to educational data can't adequately depict the shape (and success) of learning that happens outside the bounds of a course, whether a MOOC or a small-format on-ground or online course. We have been especially unsatisfied with the lack of information gleaned by collating data from self-reports collected via surveys administered at the outset and conclusion of a course. While we did administer surveys during MOOC MOOC, the information gathered was largely underwhelming. We collaboratively produced the questions for this survey in a Google Doc with participants. Things we know from this survey:

- Approximately 20% of the nearly 2000 official participants across three iterations of the course completed the survey.
- Nearly 30% of the participants had completed doctoral level work prior to joining the course.
- Almost 3% of the participants had done no college-level work.
- 57% had never participated in a MOOC before.
- 70% reported that they spent more time consuming content than creating content.
- 40% reported that "information overload" affected their level of participation.

- 15 % of respondents were using Twitter for the first time.
- 60 % described the ongoing #moocmooc Twitter-chat as one of the most fruitful learning activities of the course.
- In answers to the final open-ended question, the word "think" appeared 6 times more than the word "share."

Even in a course where most of the content was learner-generated, content consumption and passive reflection still played a large role. While the hashtag chats were overwhelming for some participants, we were genuinely surprised at the community's very positive response to our extensive use of Twitter. The information here is particularly useful as we consider how to revise our approach for future MOOCs.

Still, we find the images captured with Martin Hawksey's analytical tools, no matter how impressionistic, more telling. The visualizations point to a whole landscape of learning and educational data that is altogether more lively and playful—one that pushes the bounds of words like "qualitative" and "quantitative," asking us to read data more like a literary text. Our work here is a beta approach to a new kind of interpretation—a way of talking about learning that can't be pinned down neat and tidily in graphs, metrics, and standardized tests. If we don't yet have the words to describe this sort of learning, how can we expect to create survey questions to assess its success? If we allow learning outcomes to be truly emergent, how can we determine *a priori* what questions to ask?

During a Digital Pedagogy (#digped) Twitter-chat we hosted about the course as container, Elizabeth Switaj tweeted, "The course is a convenient and familiar unit for producing credits in disciplines that count towards certifications (degrees)." The administrative function of the course is often at odds with our pedagogies. Most MOOC-providers have responded to the chaos introduced by the sheer mass of participants by controlling the boundaries of the course even further and locking down the learning through draconian terms of service. In this, the best potentials of the crowd are squandered by a desire to build something that *makes sense*. Many attempts at educational research make a similar mistake, choosing to focus not on what is meaningful but on what is measurable. In the same Twitter-chat, Janine DeBaise tweeted, "A course looks different to each person in it. Each student learns something different. But our curriculums don't recognize that." Later, she continued, "I like the idea of a course as a map, a route, a series of interconnected paths." In this Twitter-chat, we circled around a half-dozen metaphors, but assessment presented a continual barrier. It quickly became clear that structures like courses and curricula are often driven, not by learning itself, but by our educational system's fetishization of non-ambiguous qualitative and quantitative measures for learning.

If we "map" the discussions that rose up out of MOOC MOOC, we find a complicated web of interactions that drove both the content creation and consumption during the course. It is not the intersections along the line of the web—places where data is easily analyzed—but the spans between those intersections—much more difficult to evaluate and catalog—where learning actually took place. In other words, when we look at data, we do not see the information we're looking for. We have to look at the spaces between data points, the space beyond the statistics, in order to understand how learning works within a course.

Uncontainable Learning

Not everyone loved MOOC MOOC because not everyone feels comfortable learning in chaotic environments. For many, the MOOC looked leaderless, confusing, and intimidating. The data shows that some learners did not feel comfortable enough to succeed in this environment; and we heard from participants who dropped out of MOOC MOOC simply because it did not fit their learning style. The majority of participants learned on the fly how to use these and other new tools. They embraced the curious chaos of the course, and opened themselves as much to productive failure as to unanticipated success.

Distributed learning relies on the idea that human beings are *educable animals* (Gray 112), that we are natural-born learners. While connectivism may feel to some to *lack a structure to support learning* (Brennan), it is nonetheless reflective of the kind of learning each of us does before and after our years of formal education. The learning we do on our own—by forming networks with others, doing research on the problems we seek to solve—is the learning that happens between and outside of courses.

The hundreds of authors who contributed to the collaborative MOOC MOOC document, "A MOOC by Any Other Name," echo this notion that deep learning takes place outside of courses:

> Laura Gibbs' vision of an ideal MOOC is that it is an opportunity to create content collaboratively and to curate existing content. Ideally, MOOCs should facilitate active, meaningful, and productive learning relationships. Learning in MOOCs is not about remembering facts, but creating innovative, fresh knowledge through communication with peers, while giving new shape to shared meanings and concepts. In this way, a MOOC becomes an environment where a Community of Practice (CoP) develops, and where members interact and learn from each other, sharing understanding, solving problems collaboratively and defining their identity as practitioners. Etienne Wenger states that a CoP 'has an identity defined by a shared domain of interest' and 'implies a commitment to the domain'.

There are different kinds of MOOCs, some altogether more contained than others. Courses are, perhaps, the appropriate container for some people or for some kinds of learning. We aren't proposing here that courses cease to exist, but rather that we think critically about where learning happens and make conscious decisions that aren't obedient to mostly arbitrary systems.

Some Proposed Tenets

Learners are not a finite resource. More people want access to education than our institutions can currently accommodate. This isn't to say that we should forget quality and turn abruptly toward mere accommodation. Our work aims to build and guard space for learning at every scale, which means championing the work of teachers, while also encouraging peer-to-peer learning and trusting students to take ownership of their own educations. These are the questions we are turning toward now: How can we create learning experiences that persist beyond our ability to make them go? When learning is inherently social, it cannot be contained in a course—so what kind of container is fitting, if any?

The teacher's voice is not the fulcrum upon which the discussion tilts. Even as we build and guard space for discussion, we must think carefully about when and how we step back. If our goal is to foster a persistent community of learners, it is important that we not make that community reliant upon us. It is important that when we think about "peers," that we number ourselves among them—with all the accompanying possibilities and responsibilities.

The teacher must be willing to "abdicate authority," which means actively (and visibly) stepping off the stage. This does not look like absence but a re-imagined sense of presence. It also does not mean that we should diminish our own expertise. Rather, the development of new expertise (not championing of existing expertise) becomes the focus. We must also interrogate the nature of authority, recognizing that abdicating authority is itself an act of authority.

We should build learning experiences that make our courses permeable, asking students and ourselves to do work both in the classroom and also in the world. A course should live outside the institution in which it is housed, beyond the semester during which it is taught, and even off the continent where it is born.

We need to create flexible learning experiences with multiple points of entry. This means recognizing that every learner is different, has different skills and background, and that rubrics and outcomes are only maps and not destinations.

Sometimes less is more. We must build platforms permeable enough for something to emerge safely upon them. We must inspire dialogues but not shut them down by designing activities with just enough guidelines to give rise to something truly generative. Can this begin by modeling the first motion in a series of motions and trusting learners to fumble their way through the rest?

If we are to build containers for learning, they should look less like courses, classrooms, and semesters, and more like communities. Unlike these other containers, the best learning communities are permeable, non-hierarchical, responsive, playful, and so on.

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Some Material from this Chapter Adapted from a Previously Published Article

Morris SM, Stommel J. MOOCagogy: assessment, networked learning, and the meta-MOOC. Hybrid Pedagogy. 22 July 2013.

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Chapter 11
The Efficacy of LSA (Variant)-Based Feedback for Assessing Student Learning in an Introductory International Relations Course

D. Roman Kulchitsky, Amir F. Zeid and Ahmed M. Hamza

Introduction

The proliferation of new technologies (such as Facebook, Twitter, cloud computing, Google+, Skype, Ipads, and smartphone apps) has not only transformed the way we deliver, interact with, and store digital information, but it has also created new opportunities for learning and its assessment. The debate about utility of these new technologies in education, however, has both supporters and detractors. Some argue that new technologies are revolutionizing teaching and learning (Dey et al. 2009; Stover 2007; Anderson and Whitelock 2004). Others suggest that their integration in the curriculum is leading to the demise of education, as we know it (Ferreira 2012). Still others maintain that the digital environments created by these technologies offer instructors an exciting opportunity to experiment with different modes of teaching and learning in ways that cannot be replicated in a conventional learning environment (Kulchitsky 2009; Beydoun et al. 2007).

The central purpose of this chapter is to contribute to the discourse surrounding the third perspective. More specifically, it endeavors to present an example of how automating and using the feedback/checking of student notes can support teaching and learning activities in an introductory course on international relations at the

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American University of Kuwait (AUK). Much of the learning behind this chapter is based on research designed to answer the following questions:

Using Latent Semantic Analysis (LSA) can:

1. We approximate with minimal human (e.g. the instructor) intervention the relevance of a "student's note-taking" to the "instructor's lecture" vis-à-vis the manual assessment while taking into account the variation of vocabulary and other linguistic limitations?
2. The score of the student's note-taking activities serve as a good predictor of the student's classroom performance?

The chapter is organized into six sections, except for the introduction. Sections 2 and 3 present the underlying logic behind the design of the course and the use of digital note-taking exercises. Sections 4 and 5 describe the implementation of digital note-taking and the use of the LSA automated feedback/checking system. Section 6 reports on the experiments conducted in the classroom at AUK and highlights future work.

Course Design

The course entitled, "Introduction to International Relations (IR101)" is designed to introduce first- and second-year students at the American University of Kuwait to the most common theories and approaches in the field of International Relations. It surveys the basic concepts and theoretical approaches used in the analysis of international politics and charts the development of different ideas and debates surrounding nation-state behavior against a historical background of the evolution of the international system since 1900. The course also focuses on pressing international issues, from the environment, global trade, and regional integration to the UN system, nationalism, and humanitarian intervention.

Whereas all teaching and learning activities take place in a computer-mediated environment, the primary teaching method in IR 101 is the class lecture. The lecture is delivered in the classic sense of a British or German semi-public articulation supported by powerpoints or e-lectures. Alternatively, the principle mode employed by students to *think* about lecture content is digital note-taking. Students are instructed to use their notes as a forum to critique the substance and relevance of lectures and readings; and as a study guide for two traditional tests. Table 11.1 below highlights the teaching and learning activities in IR 101 along with measures used to determine the student's grade.

In addition, Table 11.1 shows that whenever complex ideas are covered, the instructor devotes class time to discuss and debate the ideas, issues, concerns, problems, and examples related to the concept. An online conflict resolution game is also used to introduce students to the realities of decision-making in the international arena. Table 11.2 highlights the evaluation scheme for IR 101.

Table 11.1 IR 101 overview of learning resources, methods of delivery, and measures

Learning resource	Teaching activity	Description	Measure	Source
Introduction	Lecture, w/pptx	Introduction to IR at AUK	Discussion	Lecturer
Chapter 1	Lecture, w/pptx	Exploring World Politics	Discussion; notes	Text
Documentary	Facilitating a discussion	Cuban Missile Crisis	Discussion; writing assignment	BBC
Note-Taking Strategies	Lecture, w/website	Summarizing Notes	Discussion; notes	Lecturer
Chapter 2	Lecture, w/pptx	Theories of World Politics	Discussion; notes	Text
Movie	Facilitating a discussion	Lord of the Flies	Discussion, writing Assignment	MGM
Rubric	Lecture, w/digital doc	Note-taking Rubric	N/A	Lecturer
Chapter 3	Lecture, w/pptx	Theories of International Decision-making	Discussion, notes	Text
Movie	Facilitating a discussion	Missiles of October	Discussion, writing assignment	Mpi Home Video
Test Questions	Test	17 Questions (Chaps. 1, 2, 3, 5, 6)	Definitions, multiple choice, T/F, essay	Lecturer
Chapter 5	Lecture, w/pptx	Global South	Discussion, notes	Text
Chapter 6	Lecture, w/pptx	Non-State Actors	Discussion, notes	Text
Chapter 8	Lecture, w/pptx	Alliances	Discussion, notes	Text
The Game	Lecture, w/pptx	Why the Simulation Game	Discussion, notes, short paper	Lecturer
The Rules	Lecture, w/pptx	How to Play the Simulation Game	Discussion, notes	Lecturer
Role Playing	Game	The simulation is played	Decisions, individual blogs	Lecturer
Chapter 10	Lecture, w/pptx	International Finance	Discussion, notes	Text
Movie	Facilitating a discussion	Commanding Heights (part 1)	Discussion; writing assignment	PBS
Chapter 11	Lecture, w/pptx	International Trade	Discussion, notes	Text
Movie	Facilitating a discussion	Commanding Heights (part 2)	Discussion; writing assignment	PBS
Chapter 13	Lecture, w/pptx	Human Development	Discussion, notes	Text
Chapter 14	Lecture, w/pptx	Environment	Discussion, notes	Text
Test Questions	Test	20 questions (Chaps. 10, 11, 13, 14)	Definitions, multiple choice, T/F, essay	Lecturer

Table 11.2 Evaluation (Grading) scheme for IR 101

Evaluation method	Weight
Test 1	20%
Test 2: Conflict resolution simulation	30%
Test 3	30%
Digital note-taking	10%
Class participation	10%
Total	100%

The Logic Behind Digital Note-taking in IR 101

Historically, note-taking has been the conventional modus operandi of students in academia to internalize the instructor's lecture (Williams and Eggert 2002, p. 173; Lavelle and Zuercher 2001). Studies suggest that the pervasiveness of student note-taking is tied to its learning benefits. This line of inquiry reports that note-taking: (1) increases student focus (Williams and Eggert 2002, p. 180), (2) stimulates reflection (Lavelle and Zuercher 2001, p. 374); (3) helps students connect ideas found in related course content (Kulchitsky 2009, p. 2604); and (4) lays the foundation for deep learning (Makany et al. 2009, p. 1).

However, note-taking in IR 101 at AUK was not commonplace until it was mandated in the course syllabus. Prior to the note-taking requirement, the instructor noticed that students in IR 101 rarely took notes. During this period, students reported that they (1) considered the instructor's powerpoints a substitute for note-taking; and (2) regarded the instructor's lectures as replacements for the course textbook. On the other hand, the students found the three (3) student-centered learning exercises utilized in IR 101 (such the documentaries on the Cuban Missile Crisis and the Commanding Heights and the online conflict simulation) more interesting and thought-provoking than listening to the class lectures. Furthermore, they identified the new technologies that supported the online conflict resolution simulation as a source of motivation.

The lack of student note-taking in IR 101 juxtaposed by the perceived learning benefits of taking notes and the increased motivation of students during the three (3) student-centered activities prompted the instructor to explore how:

1. Student note-taking could be transformed into a student-centered activity
2. New technologies could motivate students to take notes in class

Student-centered activities generally consist of five (5) components, namely a problem space, related cases, information resources, cognitive tools, and collaboration tools (Pederson et al. 2003, p. 59). Whereas in the conventional classroom the teacher is the center of the learning process, in the student-centered learning activity, the student influences the course content. As a result, the major function of the instructor is to watch, listen, and respond to the methods used by the students to problem solve, critically analyze, and select strategies to externalize patterns of thinking (Weigel 2002, p. 10). Table 11.3 below aligns the five (5) components of student-centered learning with the three student-centered learning activities in

Table 11.3 Examples of the original three (3) student-centered activities in IR 101

Component	Game-simulation	Cuban missile crisis	Commanding heights
Problem space	The game	Writing assignment	Writing assignment
Related cases	Example of previous simulations	Lectures on the Cuban missile crisis	Introductory lectures on international political economy; and globalization
Information resources	Access to academic articles, current news media, and Internet sites related to the simulated countries	Access to academic articles and internet sites on the Cuban missile crisis	Access to academic articles and Internet sites on globaliza-tion and economic development
Cognitive tools	Writing assignment oriented around the student's simulated country and role; Lec-tures on how to play the game; Keeping a simulation journal	Class Discussion on the documentary	Class discussion on the documentary
Collaboration tools	Skype, WhatsApp, Facebook, Google+; In-class game debriefing	In-class group discus-sion and presentation	In-class group discus-sion and presentation

IR 101, namely the on-line conflict simulation and the two writing assignments related to the BBC and PBS documentaries.

Access to new technologies offer the instructor a way to transform the process of student note-taking into a student-centered activity (Kulchitsky 2009, pp. 2598–2608). Suppose a student is listening to a professor's lecture and finds what he or she is saying relevant to a passage they read earlier in the course textbook? This thought can either become a fleeting reflection or be captured using a pen or pencil on a sheet of paper. But if written down digitally, the student now has the opportunity to formulate and refine a complex idea by returning to, reworking, and improving the connection after it was expressed. This allows students to connect their learning during the note-taking process to other course content (such as the textbook or other lectures) and to rework their connections into the notes. As a result, the student is introduced to a process of "thinking about" what she or he is learning throughout the semester; not just right before the exam.

In the pre-digital era, students would use paper tools to make these nota-tions (such as paper notes or posted notes) and paper-inspired search conven-tions (such as turning pages) to revisit and rework written down ideas. Where-as these conventions allowed students to "think about" what was being said in class, they did not lend themselves to be easily searched. In the digital era, access to digital notes and e-lectures enables the student to capture their reflec-tions in a rich and dynamic context that can be synchronously or asynchro-nously reworked, refined, and searched.

Digital note-taking also introduces new assessment opportunities for the instructor. Lectures in the traditional classroom are verbal synchronous activities.

But, the lecture method only transfers knowledge from the teacher to the students. What the students are thinking while the lecture is being delivered can only be inferred from the questions they or the class discussion that takes place in the class. However, once a student's reflections are made explicit through digital note-taking, the instructor can assess asynchronously how his or her students are thinking about the complex concepts introduced during the class lecture. In addition, timely access to this information offers the instructor a means to provide feedback to the student on what they should be focusing on during the course of the week. Studies show that teacher feedback improves a student's writing performance (McGrath et al. 2011, p. 4). Equally important, this insight can help the instructor redesign subsequent lectures to ensure that learning objectives are being met. The next section describes how digital note-taking is collected and assessed using the LSA framework in IR 101 at AUK.

Student-centered Digital Note-taking and the Design of the LSA Framework in IR 101

Since fall semester 2010, digital note-taking has been used by instructor to create a student-centered learning activity connected to the instructor's lecture notes. Digital note-taking in IR 101 is graded on a (1) point scale:

- zero (0)=assignment does not meet expectations; and
- one (1)=assignment meets expectations.

At the end of the semester, the top ten grades are calculated to determine the final grade for the digital note-taking activity. In addition, the instructor uses the student's notes to evaluate the student's learning on a personal level; and to provide feedback

Table 11.4 Student-centered note-taking

Component	Note-taking
Problem space	Students are instructed to: (1) watch and listen how the professor critically analyzes and externalized patterns of thinking during the class lecture; (2) think about ideas and thoughts triggered during the class lecture; and (3) relate their ideas and thoughts to other course content. In addition, students are required to record their thoughts and ideas on a weekly basis in the form of class notes
Related cases	The instructor provides students with examples of student notes and discusses how the notes meet or do not meet the instructors expectations
Information resources	The instructor provides access to effective and organized note-taking strategies, as well as to explain the relevance of note-taking strategies to the student's learning process
Cognitive tools	The instructor reviews each student's class notes and provides feedback within one week
Collaborative tools	The instructor requires the students to take digital class notes

on a weekly basis. Table 11.4 below aligns the process of note-taking in IR 101 with the five components of student-centered learning.

However, the use of digital note-taking into IR 101 has not been a smooth process. Multiple sections of the course are offered every semester at AUK and class sizes range from 10 to 35 students. Consequently, the process of assessing (for the instructor) digital notes on a weekly basis becomes overwhelming as the class size increases. This leads to the problem of information overload (IO) (Makany et al. 2009, p. 1)

To resolve the IO problem, the IR professor, along with colleagues in the Computer Science and Information System Department at American University of Kuwait (AUK) designed a Latent Semantic Analysis (LSA) framework to support digital note-taking. LSA (also called LSI in information retrieval contexts) is a mathematical/statistical technique for extracting and inferring relations of expected usage of words (Deerwester et al. 1990). In IR 101, the LSA framework attempts to alleviate the explicit identification of what is "important", in semantic terms, by linear decomposition of the standard term-document matric produced from a document (e.g., lecture) or set of documents (e.g. set of lecture notes).

This is accomplished by allowing words and documents to be set in a vector space of concepts, where document-to-document relations and word-to-word relations can be easily calculated. Figure 11.1 below attempts to conceptualize the vector space of concepts created by the LSA-variant.

The matrices produced by the singular value decomposition allow the representations of "concepts" as mathematical relations on terms, which are sorted in order
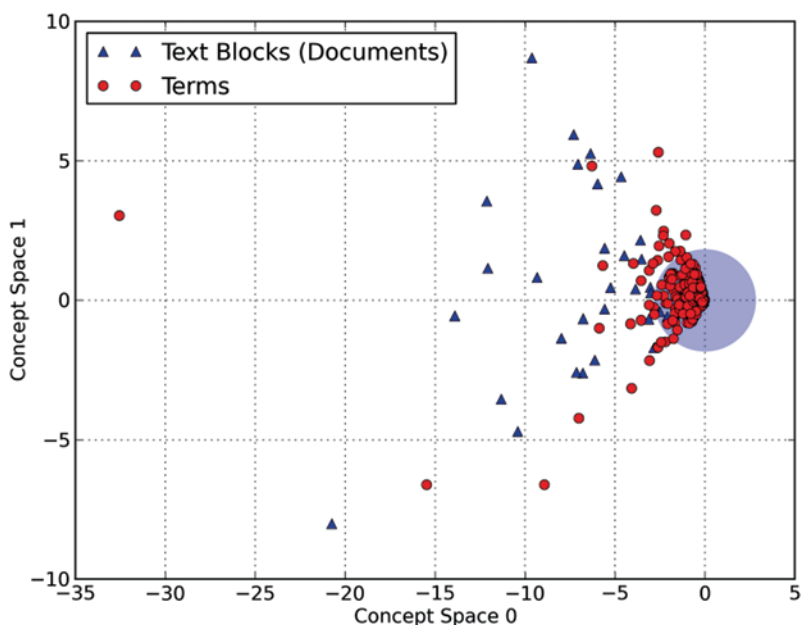

Fig. 11.1 Vector space of concepts

Table 11.5 Semantic coherence levels and conventional manual rubric

Semantic coherence level	Manual rubric
Strong relevance (default set at 0.91.0)	Exceeding expectations (1)
Strong partial relevance (0.73–0.89)	Meeting expectations (0.5)
Partial relevance (0.4–0.72)	Approaching expectations (0.25)
Semantic divergence (0.01–0.39)	Not Meeting expectations (0)

of prevalence in a document corpus. As a result, the LSA method generates four types of measures. They include:

1. One-to-many—measuring the similarity of digital text (collectively created by the students) and the LSA space created by the digital text supplied by the teacher;
2. Pairwise comparison—measuring the similarity of texts within a particular LSA space;
3. Sentence comparison—measuring the similarity of sequential sentences created by the student with the sentences constructed by the teacher; and
4. Matrix comparison—measuring the similarity of multiple texts or terms created by students within a particular LSA space constructed by the teacher.

Using the LSA-variant technique, we constructed a normalized CCC (Cross-Conceptual Coherence) score to measure the quality of the student notes. Quality is defined as the level of coherence of the student's notes to the instructor's lecture. This is accomplished by adopting a normalization process that converts the raw numbers into a properly scaled (0.0–1.0) figure, which is then given a "semantic coherence level" of the compared documents, this being one of four grades. Table 11.5 below compares the "semantic coherence levels" to the manual rubric used in IR 101.

The next section describes the digital note-taking process in the LSA framework.

Note-taking Workflow Process in the LSA Framework

The digital note-taking workflow consists of six stages. Figure 11.2 below describes the six-stage process.

- *Stage 1: Writing*: During the course of the week, students continuously take digital notes based on the lectures prepared by the instructor.
- *Stage 2: Text Preparation and Preprocessing:* Both the teacher's lectures and the students' notes are gathered/extracted from electronic note-taking sources at the beginning of each week. Text is stripped of punctuation and special characters (barring some exceptions, like currency symbols) and common stop words (e.g., "be", "and", "is") are removed. Text case is normalized to lower case. Lemmatization (reducing words to their lemmas or roots) and spelling normalization is done at this stage, using modified versions of available Natural Language Processing kits and a dictionary-type lemmatization system.
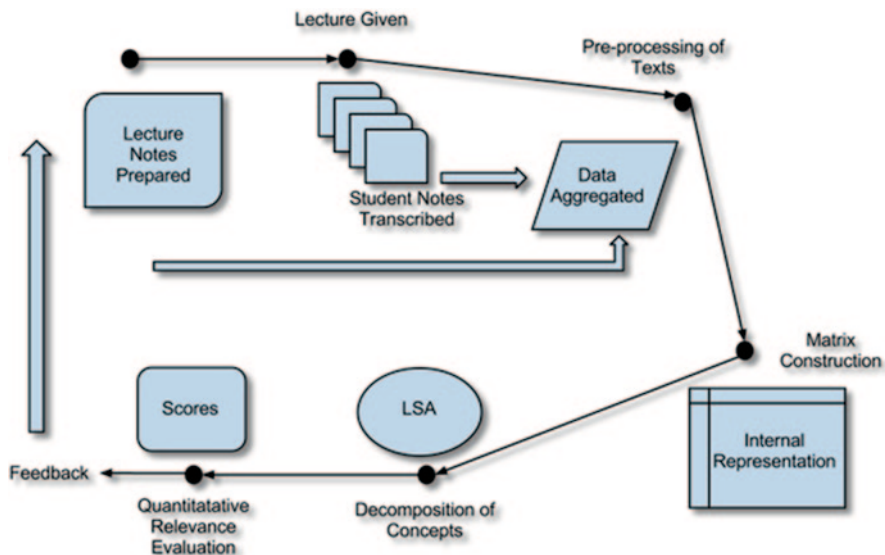
Fig. 11.2 Note-taking workflow

- *Stage 3: Paragraphing/Segmentation:* Document segments/text blocks are delimited by paragraph boundaries, which are double new lines.
- *Stage 4: Term-Document Matrix Manipulation*: This is the first step in the LSA stage. Matrices are constructed and decomposed as in described, results depending heavily on what text blocks and which words are chosen.
- *Stage 5: Relevance Calculations:* We estimate the agglomerative shared-significance of segments between student notes and lecturer notes. This produces several scores per run of the program. These are normalized measures that present quantitative answers to questions (1) and (2) in the introduction.
- *Stage 6: Feedback:* The instructor interprets the scores and communicates the results of the student.

The final section summarizes the preliminary results of using the LSA framework and future work.

Summary of Preliminary Results and Future Work

Based on our initial comparison, we conclude that the semantic coherence of student notes to instructor notes, with some minor exceptions (e.g., Student Four), is a meaningful approximation to the manually graded performances. Table 11.6 below compares LSA scores with manually-graded performance from Week 1 to Week 11 in spring 2013.

Table 11.6 LSA scores compared to manually graded performances

		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Grade
Student 1	Semantic-correlation	1	0	1	1	0	1	0	1	1	1	1	8
	measure manual grading	1	0	1	1	1	1	1	1	1	1	1	10
Student 2	Semantic-correlation	1	0	1	1	1	0	1	1	1	1	1	9
	measure manual grading	1	1	1	1	1	1	1	1	1	1	1	11
Student 3	Semantic-correlation	1	0	0	0	0	0	0	1	1	0	0	3
	measure manual grading	1	0	0	0	0	0	0	1	1	0	0	3
Student 4	Semantic-correlation	0	0	0	1	1	1	1	1	0	1	1	8
	measure manual grading	0	0	0	1	1	1	0	0	0	0	0	3
Student 5	Semantic-correlation	1	0	1	0	0	0	0	0	0	0	0	2
	measure manual grading	1	0	1	0	0	0	0	0	0	0	0	2
Student 6	Semantic-correlation	0	1	1	0	1	1	0	1	1	1	7	
	measure manual grading	0	1	1	0	1	1	1	1	1	1	0	8
Student 7	Semantic-correlation	1	1	1	1	1	1	1	1	1	1	1	11
	measure manual grading	1	1	1	1	1	1	1	1	1	1	1	11
Student 8	Semantic-correlation	1	0	1	1	1	1	1	0	1	0	0	7
	measure manual grading	1	0	1	1	1	1	1	1	1	0	0	8
Student 9	Semantic-correlation	1	1	1	1	0	1	1	1	1	0	0	8
	measure manual grading	1	1	1	1	0	1	1	1	1	1	0	9

Table 11.7 Summary of score-relations/compatibility tests

Student groups	Final scores (% correlation)	Mid-term quizzes (% correlation)	Class attendance (% correlation)
Group A (high-scores)	100	87	90
Group B (low-scores)	100	95	93
Average	100	91	92

Our working hypothesis was a simple direct correlation between our automated, normalized scores (categorical), and the given manually-graded performance scores. The degree of matching of the scores in Table 11.6 below illustrates the suitability of the Semantic Coherence methodology in helping the instructor assess quality of the student's notes, or at minimum, as an alert to major deviation from the material expected to be covered by the student. This works well at an individual level and as a group/averaged indicator—the instructor can predict fairly well if the class *as a whole* is "following" the material presented.

Using the LSA coherence scores as a predictor of the student's classroom performance is, however, not as straightforward. We grouped students in the top and bottom tier of the class grades. The top tier contained three students, the bottom tier contained four. Several correlation studies were done per grade-type. For example, primary performance measures (Final/end-of-semester class grade, Midterm Quiz Scores) and secondary performance measures (Quiz Attendance) were used.

Once the studies were grouped according to the top and bottom tiers, the level of correlation between coherence scores and performance measures in each measure category were calculated as average (mean) scores. The actual performance (manual grading) of each group was compared, on an individual-student basis, to the normalized note-lecture coherence score produced by our algorithm, and a quantitative correlation figure was produced. Table 11.7 below highlights the results.

The results can be interpreted as follows:

1. Matching high scores and matching low scores produce a high level of correlation.
2. Ill-matched/ill-fitting scores contribute to a lower correlation of manual/automatic feedback scores across the time period.

For instance, there was an 87% correlation between the Group A midterm grades, and the average of the semantic correlation scores on student-lecture notes for the same students, leading up to the exam.

Note that the overall degree of correlation is high (averaging around 90 %), between the various class performance metrics and the Semantic Coherence of student-lecture notes. In simple terms: students who are able to express classroom material well in their note-taking, as measured by Latent Semantic concepts, are also likely to perform well in various manually-graded metrics.

Based on these preliminary results, we conclude that the Semantic Coherence of student notes to instructor notes provides a meaningful gauge of class performance,

related to all measured class activities. More specifically, the degree of matching of the scores illustrates the suitability of the Semantic Coherence methodology in providing automatic instructor feedback that is meaningful as an indicator of student performance as a whole, as well as in the note-taking task itself.

In sum, our current approach lies in applying latent semantic methods from artificial intelligence to the problem of automating, or at least aiding, the evaluation of student note taking, class notes being an expression of student understanding of prevalent concepts discussed during a lecture. The focus has been to use Latent Semantic techniques, with some technical innovations and adaptation, to provide a more sophisticated, concept-aware method than the basic word overlap methods and similar algorithms in computational linguistics.

The method adopted for our experiment proved very useful, but is not without limitation, and in fact it shares with common formulations of LSA the same weaknesses that all bag-of-words interpretations of text, exhibit. This stems from the inability of the LSA representations to understand the meaning of phrases, and the linguistic inflection in meaning that is imparted by small differences. For instance, negation is not captured very well. So the system is not perfect—it can never replace a human reader/instructor/expert. It still, however, recognizes major topical groups and their overlap in different documents, and so makes for a valuable addition to the framework of learning aids, both for the student and the lecturer. That is, the instructor is provided with efficient computational tools that can be used as an automated feedback mechanism on the efficiency of the teaching process itself, and not merely from the point of view of individual evaluation of student note-taking.

In addition, we acknowledge that the use of student note-taking as an assessment measure must address internal validity: Is the inference regarding student notes and their understanding of the class lecture an accurate approximation? Research on note-taking in college classrooms points out that students face the challenge of moment-to-moment attention when listening to a course lecture (Williams and Eggert 2002). As a result, students don't always capture what they hear. To overcome the challenge faced by students to balance listening with processing, we make the digital recording of each lecture available to students the day after the lecture is delivered. Lecture notes are also available in powerpoint format in Moodle before and after the date they are delivered in Moodle. Further research on the relevance of these learning aids must be explored.

Further work in using this method to score reworked notes based on teacher feedback should be conducted. We expect the LSA score to increase after the students incorporate the teacher's feedback. In addition, future research should investigate the usefulness of the LSA score to approximating student performance on other writing assignments such as the Cuban Missile Crisis exercise based on the Commanding Heights documentary.

We also envision an ensemble system of similar semantic methods to ours, being used simultaneously, perhaps in a weighted scheme, to avoid reliance on a single method. Integration with partially-manual methodologies; however, should be avoided, due to the inevitable issues with scalability and practicality in even small-classroom settings.

Finally, we note that part of the challenge of building a complex framework combining different avenues of expression (and indeed different formats of information) is in the comprehensive individual testing of the respective components against their purported tasks. Clarity in defining the task at each level will be paramount in defining the usefulness of the overall integrated system we strive towards.

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Chapter 12
Can Technological Code-switching be Taught: Utilizing Twitter as a Classroom Communication Tool

Abigail G. Scheg

My undergraduate composition students use Twitter as a means of constant communication with one another. They also use the appropriate hash tags on Twitter to converse with university officials regarding financial aid, placement test scores, and to inquire as to textbook purchases and returns. As the university officials respond to the students through Twitter as well, it is clear that this has become an acceptable form of "business," or "formal" communication, replacing what would have been an email, phone call, or a walk across campus. Trying to harness this incredible writing tool, I attempted to utilize Twitter as part of the classroom communication requirement. I asked my students to create Twitter accounts (if they did not already have them, but most of them did) to complete a weekly discussion in that medium instead of using Blackboard's discussion board component. All of the face-to-face courses in my department are required to utilize online components to enhance the course. Therefore, the context of the situation that I describe throughout this chapter is that of an online-enhanced face-to-face composition course. Likewise, it is important to note that these are first-year composition students who are typically very new to the college experience and utilizing multiple technologies for a single course.

To put it mildly, the Twitter discussion exercise did not succeed in the way that I had hoped. My students were not able to differentiate effectively between their out of the classroom communication and using Twitter for an educational purpose. Their responses were forced, stiff, and impersonal; this was nothing like the face-to-face or online discussions from the same group of students, nor was it like the non-course related tweets that filled the rest of their feeds. They seemed to lack the ability to codeswitch, or, understand that it is possible to use the same tool to facilitate discussion across their multiple life roles. An understanding of the necessity to switch codes on social media is something that I have grown accustomed to, and did not critically examine the process before attempting to implement it in my

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own classroom. This experience led me to question the responses of the students: did they merely not want to give up their personal online platform for classwork? Or, as I believe, did they not understand that they *could* use the same platform for personal communication and classroom discussion? More importantly, can technological codeswitching be taught?

Codeswitching has many definitions; generally it is used to describe the ability for individuals to effectively switch between one language and another in the same conversation. Chad Nilep's (2006) article "'Code Switching' in Sociocultural Linguistics" explains, "Weinrich's (1953) description of switching codes suggested that bilingual individuals possess two separate linguistic varieties, which (ideally) they employ on separate occasions" (5). Hans Vogt (1954) describes codeswitching "in itself [as] perhaps not a linguistic phenomenon, but rather a psychological one, and its causes are obviously extra-linguistic" (368). In these cases, codeswitching refers to one's ability to switch between *languages* in the case of a bilingual or multilingual conversation. However, codeswitching has also been used to refer to variations of the same language based on situation and context, such as dialect. John J. Gumperz's (1958, 1961, 1964a, b, 1982) numerous publications demonstrate that it is contextualization that most impacts one's abilities or choices to codeswitch ("Dialect Differences and Social Stratification in a Northern Indian Village," "Speech Variation and the Study of Indian Civilization," "Hindi-Punjabi Code-switching in Delhi," "Linguistic and Social Interaction in Two Communities," *Discourse Strategies*). Gumperz (1958) explains, "Grammatical rules define the bounds of the linguistically acceptable" (Gumperz 2009, p. 66). The speech that we choose, based on our context, "may reveal his family background and his social intent, may identify him as a Southerner, a Northerner, an urbanite, a rustic, a member of the educated or uneducated class, and may even indicate whether he wishes to appear friendly or distant, familiar or deferential, superior or inferior" (Gumperz 2009, p. 66). Therefore, a single person possesses the speech capabilities to represent a variety of contexts. More simply, the way in which we converse in different contexts represents our abilities to codeswitch, the difference in the way we speak to our mothers, our spouses, our children, our employers, and our colleagues. We assess the situation linguistically and respond with appropriate tone, language, dialect, humor, sarcasm, explanation, and much, much more.

It is my assertion that switching between face-to-face correspondences or between technologies also requires some level of codeswitching. Understanding the complexity in determining a shift between oral and written communication is one aspect of it; in participating in an oral classroom discussion (for example), students and instructors share their responses based on the direction of the conversation as it unfolds. The instructor may have a rough outline of the potential direction of the conversation, but must react to the comments made by the students at the time that they are made. In the online realm, whether in a LMS (Learning Management System) or on a social media site, the participants have more time to reflect upon what to say to demonstrate their point successfully. The writer/speaker can draft a response, re-read it, edit it, or delete it entirely and start over if they feel that their perspective is not aligned with the direction of the conversation. Also, the language that we use in an oral conversation can be drastically different than our written

voice; therefore, we are effectively choosing our communication based on the location of the conversation and letting outside influences impact our choice of words, grammar, tone, and more.

The way in which we switch (or the timing in which we switch) is also an important facet of communication. Milroy and Muysken (1995) explain, "Sometimes switching occurs between the turns of different speakers in the conversation, sometimes between utterances within a single turn, and sometimes even within a single utterance" (7). So although it may just seem that speakers would codeswitch based on the natural turn-taking in conversation, that is not always the case. In discussing codeswitching between two languages, the majority of the sentences could be in English, whereas the names, nicknames, or terms of endearment are in a second language (such as: "You shouldn't worry so much about things, *chica*."). This is just one example of a way in which codeswitching occurs within a sentence rather than when the conversational pattern is handed off to the next person[1]. Codeswitching within a single sentence or utterance can occur for many reasons, such as what Gumperz (1958) "has also emphasized as the strategic activities of speakers in varying their language choice within an agreed framework of social values and symbols" (Milroy and Muysken 1995, p. 9).

The same thing can occur in our use of technology. If students use Twitter as a means of personal communication, then that is undoubtedly the type of conversations that they typically have in that environment. Thus, they may use abbreviations, slang, expletives, no punctuation, or other varieties of written discourse that may be less than appropriate for classroom discussion or writing. Compound that with the profile, description, and photo that the student may have as their Twitter profile (which may or may not be inappropriate for educational purposes), and they are suddenly thrust into an unfamiliar territory, unable to assess what is correct, incorrect, or how to effectively determine these factors. Even if students do not have anything noticeably "bad" in their social media profiles, it may still be a part of their lives that they do not want to share with their instructors—who they want to see them in a certain light. Gumperz (1958) also explains, "Regardless of the linguistic differences among them, the speech varieties employed within a speech community form a system because they are related to a shared set of social norms" (Gumperz 2009, p. 67). The social norms of Twitter, especially among a community of students, are drastically different than the social norms of a classroom environment.

The social norms of a classroom environment require a certain behavior, etiquette, and association of speech such as: it is generally appropriate for the students to sit at their desks, while the instructor assumes a position at the front of the classroom; students typically raise their hands to ask or answer questions; students maintain a level of formality and politeness in their language with both the instructor and the other students. Obviously there are derivations to this classroom behavior. For example, I don't require my students to raise their hands to ask questions or speak; they wait their turns, but are allowed to speak openly. Some instructors do not assume a position at the front of the classroom, but have the desks arranged into a

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[1] More details about the nuances of codeswitching can be found in such publications as Peter Auer's (1998) *Code-Switching in conversation: language, interaction and identity*.

circle or another arrangement demonstrating their position as equal to the students. Since the purpose of this chapter is to examine the movement of classroom discussion into Twitter, I find it appropriate to assess classroom discussion and behavior as though it is the first day of class. Therefore, even though I explain to my students on the first day of class that it is not required that they raise their hands to speak, the majority of them still will for the first few weeks because it is a social norm of classroom behavior that they are used to following. In transitioning to a social media like Twitter for discussion, most elements of social norms are skewed and therefore, difficult for the students to assess "correctness."

Nilep ([2006](#)) also explains Erving Goffman's ([1979](#)) concept of footing, "the stance or positioning that an individual takes within an interaction. Within a single interaction—even within a short span of talk—an individual can highlight any number of different roles" (6). Within the classroom, students may be engaged in a conversation in which all members of the classroom are involved (the instructor included). When they respond, they may begin by speaking directly to the instructor and speaking with a certain level of vocabulary and grammatical correctness, but then shift to gesture and respond to a classmate, where they could use an entirely different tone and level of vocabulary. Nilep ([2006](#)) continues:

> Goffman suggests that changes in purpose, context, and participant role are common in interaction, and offers *footing* as a useful theory of the multiple positions taken by parties to talk in interaction. During the course of an interaction, an individual is likely to display a number of different stances; much of Goffman's discussion of footing is thus dedicated to switches in footing. Alternating languages, among other linguistic markers, can serve to mark these shifts in context or role. (6)

Whether referring to a shift in footing, or a more substantial change through codeswitching, it is critical to understand that the process of choosing one's language and subsequently, grammatical considerations, is dependent upon the context in which one is speaking—whether that is in terms of location, audience, purpose, or written or verbal communication. Thus, "Gumperz's ([1958](#)) preferred terminology was *conversational code switching*" as to best represent the situations that impacts such shifts in language decisions (Nilep [2006](#), p. 9).

Based on Carol Myers-Scotton's research, Nilep ([2006](#)) makes the following claim:

> By speaking a particular language, a participant signals her understanding of the current situation, and particularly her relevant role within the context. By using more than one language, speakers may initiate negotiation over relevant social roles. Myers-Scotton assumes that speakers must share, at least to some extent, an understanding of the social meanings of each available code. If no such norms existed, interlocutors[2] would have no basis for understanding the significance of particular code choices. (11)

Therein lies the problem identified that my students exhibited in attempting to use their social media as an educational tool. My students explained that they had never

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[2] According to the *Oxford English Dictionary,* an interlocutor refers to "One who takes part in a dialogue, conversation, or discussion" or "One who enters into or takes part in conversation with another."

used their Twitter accounts for educational purposes and classroom communication. Therefore, they were unsure of the social norms (or adapted social norms) for blending of the two environments in which they were familiar. Basically, they understand the process of effective communication was created to in the classroom, as well as the process of effective communication in their social media accounts, but combining these communicative modes demonstrated that yet a third method of social norms would need to be developed so that appropriate communication was created to represent this shift in environment. It is therefore up to the instructor and the students to create a series of acceptable social norms for the Twitter-based classroom environment.

Perhaps that is where my misstep occurred with this project. I misunderstood my students' and my own ability to use Twitter as our ability to understand the social norms associated with Twitter. My students and I know how to send a tweet, re-tweet, favorite, quote or comment on a tweet, add hash tags, and follow new individuals on Twitter. What we did not have was an appropriate communicative style and language to use with one another in the Twitter classroom. I mistook their comfort for the tool as their ability to use the tool effectively regardless of audience or fellow participants. Auer (1998) poses the question, "How can we…prove that a given set of co-occurring linguistic features is perceived by the participants as a distinct code?" (13). Basically, do the participants of the conversation recognize the linguistic occurrences and their decisions to use language in a certain way? Auer (1998) responds, "The only valid answer is: by showing that switching between this set and another is employed in a meaningful way in bilingual conversation" (13). Students understand the linguistic and grammatical social norms of the classroom and therefore, how to exercise their use of communication between student-student and student-instructor in the classroom. The ideas of how to resolve this issue further complicates the discussion.

Undoubtedly, I want my students to feel comfortable to express themselves in reference to our class discussions, even if they have an unfavorable review on a text or concept that we are discussing in class. I do not want the students to feel as though they have to shield their true responses because they would upset me with their reactions to a reading; I would rather have an honest discussion and hear the students' honest reactions to writing, concepts, organization, and style. The longer that my courses proceed, my students learn that they are allowed to not like something or to disagree with me; they cannot protest out of anger, but if they have evidence to support their claims, then all perspectives are welcome in the classroom. As members of the learning community, we negotiate acceptable social norms and appropriateness of conversation. But, to be considered codeswitching, according to Auer (1998), this needs to "be an interactional achievement which is not prior to the conversation…but subject to negotiation between participants" (15). Therefore, the negotiation of appropriateness should occur within the process of conversation and not established in a formal manner prior to the conversation occurring.

Part of the considerations of codeswitching comes in the development of a community of speakers (or learners). It is important to me that all of the students feel that the communicative community of the classroom is accessible and that they

have entered it and been accepted as part of the community. Liebscher and Dailey-O'Cain (2005) suggest that:

> when the classroom is conceptualized as a bilingual space by both students and teacher, code-switching patterns emerge in the learners that are similar to those found in non-classroom data. We further argue that the members of this classroom as a community of practice (Wenger 1998) orient to rules and shared views about their actions and about themselves as members of a community and, through their practices, show to such a community can facilitate their development from second language learners to bilinguals. (235)

I do not presume to believe that the difficulties navigating technological codeswitching with Twitter is as difficult as learning or teaching a new language. However, it represents a communicative change that, in some cases, is just as significant. If the students have only ever known one way to use language as their online persona in Twitter, then any shift in that language would essentially require a paradigm shift where they would have to reimagine their familiar online space in an entirely new light.

Some may argue that learning what is appropriate or inappropriate self-representation in an online forum is something that is learned; sometimes it is something that is learned the hard way, or it may just fade and level-off as the years progress. For students in middle to high school and even through college, the concept of self-image plays a significant role and therefore, a social media space can be created to demonstrate their best physical attributes or even humor. Forward thinking or a sincere recognition that an online space is indeed public is something that is often overlooked by all social media users, not just high school or college-aged students. Some institutions offer well-prepared Career Services departments that discuss social media self-representation as part of the job search process and that is part of my speech in basic technical writing courses, or any of my courses that teach résumé writing: If your email address is sexykitten69@hotmail.com, for the purposes of job searching and sending out your credentials, make a new email address. But, if up until that point the email address with "sexykitten69" was used only for informal discussion or conversations with friends, then there was really no need for a more formal email signature. It is not until they are faced with this paradigm shift that they begin to understand the potential inappropriateness of soliciting a job with that as their representative persona.

So, are we able to recreate students' pre-existing Twitterspheres as areas for academic discussion? Returning to the earlier quote by Liebscher and Dailey-O'Cain (2005), the learning space is a negotiable area for all participants to help shape. "Learners," they argue, "orient to the classroom as a community of practice (Wenger 1998) through their code-switching patterns as manifestations of a shared understanding about their actions and about themselves as members of that community" (234). It is also necessary for the students to understand and recognize the new space, such as Twitter, as an extension of the classroom and learning community. It becomes critical for the classroom to be considered a successful learning community by the student participants before they will feel that it is acceptable to engage in conversation and start the process of codeswitching their technological language

skills. Rena M. Palloff and Keith Pratt's (2007) text *Building Online Learning Communities: Effective Strategies for the Virtual Classroom* provides both the argument for and practical suggestions for developing a learning community in the online realm. As a starting place, Palloff and Pratt (2007) provide some basic steps that must be taken to build such a community:

- Clearly define the purpose of the group.
- Create a distinctive gathering place for the group
- Promote effective leadership from within.
- Define norms and a clear code of conduct.
- Allow for a range of member roles.
- Allow for and facilitate subgroups.
- Allow members to resolve their own disputes. (34)

One of their main assertions throughout the text as to the successful development of an online learning community is that there needs to be a shared goal for learning (159). They argue:

> Clearly, in the online classroom, those goals should relate to the learning process. An instructor can use a number of techniques to move students in the direction of embracing a shared goal, beginning with the negotiation of guidelines early in the course and continuing through an end-of-course evaluation of how well those goals were met. Beginning an online course with a discussion of learning objectives and working toward a common goal creates not only the foundation of that learning community, but also the first step towards collaboration. (159)

In considering this perspective, it is necessary that the instructor and the students discuss, in detail, the purpose of Twitter as an educational tool and why it is important to have a class discussion utilizing that particular tool for communication rather than another. Perhaps the rationale is just that the technology is mobile; perhaps it is because limitations of 140 characters or less are important for the assignment; perhaps the concepts of linking conversations to individuals and hash tags represent a significant lesson related to the course concepts. As with any technological tool, it should not be chosen just for the sake of using it, but rather, there should be a key pedagogical purpose for using *that* technology in particular (Scheg 2013).

Palloff and Pratt (2007) also note that it is important to negotiate guidelines of the classroom with the students: "We cannot assume, as instructors, that our students will simply understand why collaboration is important or how it fits into their online course" (159). But, especially in development of an online course, substantial room for collaboration must be made as that is the key ingredient to creating an online learning community. Online courses, whether from the position of students or faculty, can be an incredibly rewarding experience, but it can also be incredibly isolating as one does not have to go anywhere or meet anyone; all of the meeting occurs within the online classroom space. Therefore, it is critical that the online classroom space and others in that class become a cohesive learning community; it dramatically increases the potential for success of the students in the class when they feel responsible, accountable, understood, accepted, and needed as a part of the community.

It is necessary for the instructor to develop the course and, subsequently, the Twitter discussion assignment in a way that promotes collaboration and a sense of community-building among the students. Perhaps, because of the difficulty in understanding this technological codeswitching, it would be better to establish a learning community among the students prior to starting the Twitter discussion; therefore, the students would already have something invested in the class and among each other. The instructor should also negotiate the guidelines and the parameters of the discussion with the students to ensure that the metacognitive principles of the technological pedagogy is understood by all in the community and that they understand their participation in this Twitter discussion, as with any other course discussion held in another capacity, is critical for the success of the discussion, other students, and the course.

Once the students have developed an online learning community and effective dialogue has started in Twitter, the instructor should look for ways in which those relationships can be fostered and participation can be further encouraged. Therefore, the instructor should respond to students' tweets in ways that allows the students to know that their comments were acceptable and encourage them to continue such as, "@Twitterhandle Interesting perspective. Tell me more #courseID." In much the same way that I would encourage discussion in an online discussion board or even in the face-to-face classroom, this type of encouragement demonstrates to the students that their language, tone, and ideas are welcome and, essentially, correct. Also, by attaching all course comments with a required hash tag course ID, the students' tweets are then connected to the classroom conversation using that hash tag. Therefore, they can still participate in outside conversations with friends, family, or others simultaneously without it being confused for classroom discussion participation, as it would lack the class ID hash tag. Perhaps that can also be a negotiated guideline of using Twitter in the classroom; as the instructor, I will only follow their discussion using the class ID hash tag and not *all* of their tweets, personal and otherwise. A guideline such as this one seems to be the type that may be appropriate on the outset to create a sense of community, but I would imagine that my students would grow more lax of that regulation and eventually even ask me to review their profiles for other reasons, such as a better understanding of how their social media profile is recognized from an outside perspective.

For the students to feel comfortable in the online environment, especially one with which they are already familiar, but used for other purposes, the instructor and the student must develop some common ground upon which to build the learning community and use the technology. These regulations should not be implemented solely by the instructor, but rather, should be agreed upon at the start of the class as a tool that is necessary to the learning process. Therefore, students' difficulties with technological codeswitching is a result of a poorly defined learning community and the teacher's assumption that just because a technological tool is used effectively by students in one way, it does not mean that they can effectively switch to using a new code within the same tool. Rather, this is a skill that the students will need to learn and develop; a sort of language skill that they need to negotiate, familiarize themselves with, test the waters, and feel respected and as though there is a

significant purpose to using this tool. Students must understand the rhetorical situation in which they are engaging and respond accordingly.

In the situation that occurred within my class, I wrongly assumed that students would naturally understand the rhetorical situation and understand how to effectively communicate on Twitter in an educational capacity. I also underestimated the necessity of developing an online learning community; while my face-to-face students may have developed a sense of community among themselves in the classroom that does not necessarily ensure that their community will directly transfer into the online realm. Depending on all of the circumstances, it certainly may be the case that a learning community is transferable online from face-to-face, but it is not guaranteed. Therefore, the classroom goals for the technological tool (or online version of the course) need to be renegotiated, understood, and agreed upon by all members of the learning community in order to transpire effectively.

Until a time when codeswitching between technological discussion and face-to-face discussion becomes more commonplace, or even a teachable skill in K-12 and higher education, I believe that a renegotiation of the learning community and development of recognized learning goals will be necessary for students to successfully codeswitch between these communicative environments. Depending on the participants in a course, development of a learning community can be an easy feat or a difficult task. Perhaps some classes, especially higher level major courses, may have a similar group of students enrolled together over and over again. In that case, the students are already familiar with each other and are probably accustomed to working with one another and discussing concepts in varying formats. I typically teach first-year composition, so I see a highly diverse group of students (from all majors) for the duration of one (or two, maybe) semesters and then I typically do not see them again. So these students do not have the familiarity level that other groups may have and the learning community needs to be developed from scratch in order to have the students engage one another both face-to-face and online.

As various technologies find permanent places in the educational realm, students and instructors alike will become more familiarized with the unique constraints of communication in any of these environments. Educational technologies, including social media websites, are finding an increased popularity and permanent position in our classrooms at all levels. According to Babson Survey Research Group and Pearson (2012), "2/3 of all faculty have used social media during a class session" and "80 % of faculty use social media for some aspect of a course they are teaching" ("A New Teaching Tool"). Especially in terms of mobile devices (such as cell phones and tablets), one's ability to utilize and engage with a social media website is becoming commonplace and the accessibility level of these sites makes them invaluable learning tools. As the utilization of these social media tools (on mobile devices or not) becomes more common in K-12 education, then the familiarity level will eventually extend to higher education, and our students will have an understanding of technological usage in multiple environments and the ability to switch effectively between the two (or more) capacities.

The purpose of this chapter was to better understand the process of technological codeswitching—that is, students' abilities to switch effectively from one version of

their self-representation in a particular technological environment (largely a personal persona) to another (in this case, an academic persona). Significant research has been done in the area of codeswitching, in particular, switching between two languages, dialects, and regions. However, nuances of language can represent many more changes than just these three; versions of ourselves are represented differently with different types of communication (such as the way we communicate with our bosses, our spouses, and our children). Technological codeswitching is a skill (or set of skills) that can effectively be taught if there is an online learning community in place to support the communicative navigation of all participating individuals. In establishing this learning community, the guidelines and parameters of using the technological tool in an academic manner must also be discussed among all participants and agreed upon as a beneficial course of action for the purposes of the assignment. In achieving these goals, the group of learners (students and instructors) can better navigate the changes between the environments, understand their roles, and successfully communicate across technologies and spaces.

Instructors should carefully consider the options of technological tools available to them before choosing one to use for the classroom. Twitter serves as an excellent short writing tool for general conversation and classroom discussion, but there are many other options that are better suited for other communicative contexts such as blogs, wikis, Facebook, traditional discussion boards, synchronous chats, and many, many more. Choosing a tool that meets the constraints of the assignment or best suits the students or classroom is necessary for the success of the assignment; additional consideration of the rhetorical situation and codeswitching will follow as students navigate building their identity in new contexts.

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Chapter 13
Conflict in Online Learning

David Mathew

The Importance of Conflict

Among the many definitions of conflict available, Laursen and Hafen (2010) offer the following: 'conflict entails disagreement, which is manifest in incompatible or opposing behaviors or views. Conflict is distinct from related constructs such as aggression, dominance, competition, and anger; any of these may arise during a conflict, but they are neither necessary nor defining features.' In the same way that illness is important to a human being, conflict (as represented by Laursen and Hafen 2010) is important to the immune system of any group. As individuals, we need to catch colds and endure fevers, the better to protect ourselves against more serious metabolic assaults; as a group, we must go through periods of conflict to keep together or to pave the way to dissolution and disbandment. 'No group can be entirely harmonious,' writes the Conflict Research Consortium (2005), 'for then it would lack process and structure. Group formation is a result of both association and dissociation, so that both conflict and cooperation serve a social function. Some certain degree of conflict is an essential element in group formation.' Or as Coser (1956, p. 31) himself writes, six decades earlier, conflict is 'a form of socialization'. Among other things, Coser (1956) argues in favour of conflict's role in establishing and maintaining group identities (see below). Indeed, for a group to prevail, the members must respect the idiosyncratic differences of the other members, and often this respect will happen at an instinctive, unconscious level.

However, not all members of a group will either like one another or maintain a steady sense of calm; nor do 'surface' displays of tolerance and quasi-respect mean that conflict, by necessity, will be subdued. Conscious attempts made to tolerate a group member's characteristics, behaviour or personality are deliberate methods of containing and responding to group anxiety; and group anxiety is a valuable

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commodity. If a group does not contain tension or friction—or in the unlikely event that the group members appreciate one another's individual qualities equally well—the group is slowly drained of life fluid and energy; it becomes apathetic, exhausted, and it dies. Although studies of behaviour and group dynamics might have moved on from what the text *Group Psychology and the Analysis of the Ego* (Freud 1921) propounded, we remain in thrall to a group mind (or a herd mind) and it is an extremely wilful person who does not, after a due process of indoctrination, conditioning, or group 'reasoning', give up his/her individual ego in favour of the group ideal. But this does not happen immediately, and conflict must precede any such act of brainwashing. Referring to Coser's (1956) seminal text (*ibid.*), the Conflict Research Consortium (2005) (*ibid.*) continues: 'Coser (1956) makes a distinction between two types of conflict: that in which the goal is personal and subjective, and that in which the matter in contention has an impersonal, objective aspect.' The latter is 'like to be more severe and radical. These are conflicts in which parties understand themselves as representatives of collectives or groups, fighting not for themselves, but rather for the goals and ideals of the group. Elimination of personal reasons tends to make conflict more intense. On the other hand, when parties are pursuing a common goal, objectification of the conflict can serve as a unifying element.'

Put simply, there is no certain long-term future or function for a group that does not create, control and, above all, learn from its own internal conflicts (not to mention the conflicts with forces beyond the group's boundaries). Furthermore, as educators, we would do well to remember that the learners who enroll in our courses are unpredictable. Previously (Mathew 2011), I argued that the most unpredictable factor in most dynamics is the human being, on the grounds that a piece of technology might well let us down, but in general it will work or it will not work. A human being in a distance learning course is infinitely more variable; or to put it another way, a human being is infinitely more unreliable, which ushers in a host of ironies, of course. However, it might lead us to concede that no group is less likely to prevail than one in which everyone agrees. Without the tension that derives from conflict, the work produced by the learners (for example, on discussion boards) might be patchy, irrespective of subject matter.

Conflict can be used in a variety of ways in an educational setting. In the opinion of Sociology Guide (2014) 'The explosiveness, the outward costs, and the divisiveness of conflict are so great that it is often difficult to see the ways in which conflict fulfils socially useful functions. Yet it does at least the following three things. First, it promotes loyalty within the group. Second, it signals the needs for, and helps promote, short-run social change. And third, it appears intimately involved in moving societies towards new levels of social integration.' Or, to expand upon the point: 'If conflict pits groups and organizations against one another, it also tends to promote unity within each of the conflicting groups. The necessity to work together against a common foe submerges rivalries within the group and people, who otherwise are competitors, to work together in harmony… [It] serves to notify the society that serious problems exist that is (*sic*) not being handled by the traditional social organization. It forces the recognition of those problems and encourages the development of new solutions to them.'

Conflict's Engine

But how does it work? For most people (and certainly anyone possessed by a puni-tive superego among their psychic apparatus), conflict is a 'bad' thing, a 'negative' thing—'unnecessary'. It is all too easy, when considering the notion of conflict, to think of political skirmishes and foreign wars, riots at the hands of *homo urbanis* (aid-ed nowadays by one of conflict's cleverer tools, social media), or hooliganism, hate crimes, domestic violence—a relationship (however large the scale) in which power transfers from one party to the other, in which there is a winner and a cowed, blooded, frightened or dead loser. Indeed, if we transfer the argument to a seat of pedagogy, the argument, in the eyes of many, would maintain its hold, at least to a certain extent.

'If a person sees the school in the image of a moral community, a Temple,' write Rozycki and Clabaugh (1999),

> conflict seems to be an indication of something wrong. Similarly, the image of the school as Factory tolerates little conflict. But this is primarily because under both images, the school is seen as *monocratic* (emphasis in original), ruled by a single person, or group of people. Consequently, it is the perceptions of the powerholders that become the norm for the entire organization. The principal as moral leader speaks for the school. How subversive, how immoral, to suggest his interests might be narrower than those of the entire community! As director of production in the school factory, the principal looks at conflict as "inefficient", impeding production. Again, to suggest that he might favor personal goals is to attack his competence or sincerity! So it is that our fixation with either image of the school blinds us to the way conflict serves to maintain and enhance groups… Indeed, conflict may occur because it serves the interests of groups, particularly, the interests of group powerholders. In many school systems, board members promote antagonisms between school adminis-trators and teachers because they feel that each group does its own job better that way. Also, such antagonism prevents administrators and teachers from forming a cohesive group against the school board.

Irrespective of any possible bias caused by the writers' country of origin (the U.S.A.) or the focus on learners whose age is younger than those who attend university—even taking into account the fact that this quotation will be 15 years old by the time this chapter is published—it is worth taking a moment to note the similarities with our own experiences. Worth too, perhaps, acknowledging the somewhat ambivalent stance towards the subject that the authors take.

'There are five basic functions which conflict serves both among different groups and within a single group,' Rozycki and Clabaugh (1999) (*ibid.*) continue. 'They are connection, definition, revitalization, reconnaissance and replication.' If conflict is akin to a vehicle—to one of many vehicles—that can drive our learners through a particular course, then we should also acknowledge some of its engine's components. It is Rozycki and Clabaugh's (1999) notions of connection, definition, revitalization, reconnaissance and replication that form conflict's engine, we might say, although not necessarily in the way that those authors would agree with: not only are they the *functions* of conflict among different groups and within a single group; they are also (simultaneously and paradoxically) *the results, the causes and the reasons* for conflict. They are part of the engine, which would not be able to function without them; but without the engine itself, the single parts are all but use-less unless transferred to a different vehicle entirely.

Group Formation

It is easy to underestimate the importance of groups (and the accompanying methodologies) in the online learning milieu. Of course, solitary study is possible and is adamantly preferred by many learners. However, it is not the learners engaged in such study that need concern us for the moment. For the purposes of this paper, the learners are enrolled in an online course (the level of study need not concern us either). To facilitate a 'classroom' spirit, or at least the sense of camaraderie, of communal intent, one tool that might be used is the discussion board. When used correctly, the discussion board is simultaneously a social adhesive in the online learning milieu, and a means of gauging how the group is faring (including a sign of who is not providing a contribution). It can also be used as an assessment tool. In other words, not only can boards be used as collection repositories for learners' thoughts and opinions, they can also be employed as a way of assessing tasks that have been achieved in groups. Indeed, discussion boards are an important part of the learners' experience, as useful as formative assessment and a ready way of augmenting group-based learner activity. But how do we make them successful?

A successful discussion board will probably display active engagement by the educator. This might include challenges to existing posts or the positioning of deliberately provocative statements to stimulate debate. If the discussion is synchronous (using a tool such as Collaborate, for example), the educator will show signs of knowledge and of wider research or reading; the educator should be prepared and should show clear signs of knowing the material to a high standard. The educator should also have encouraged the learners to have prepared well themselves: the learner who is not prepared will have less to contribute and will understand the discussion less. In a similar way (and in line with any face-to-face discussion), all parties in an online discussion will benefit from being confident with themselves and with sharing their opinions: the educator can encourage individual responses, whether the discussion is synchronous or asynchronous. Furthermore, a good discussion board might show evidence of participants who have considered the 'five W questions'—who have considered, in other words, 'what is important about this topic?' (for example); or 'when did the event occur?' Why is this important to the way we live our lives today? And so on.

There are two other matters that should probably be addressed. For a discussion board to be successful as a learning tool, a task must be provided that will both engage the learner and provoke the learner into providing a spirited opinion or comeback. (One example might be a debate.) Long gone are the days when discussion boards were simply where chit-chat occurred, or where people with shared interests could talk through new releases, or unofficially 'review' creative work in an atmosphere that veered from the cordial to the corrosive. Those discussion boards could be interesting or they could be dull; to a reasonable extent they gave an alternative to people who lived too far away to meet face to face with any kind of regularity (even if they had wanted to do so). The boards were entertaining, sometimes illuminating, but they can now be used in a wider variety of settings, including education. By using discussion boards, we get to see if and to what extent people's

views differ; the educator is able to see how an individual learner is dealing with the information that has been provided (by the educator and by the other members of the group). Group formation will occur as the result of disagreements among its members every bit as much as it will as the result of participant harmony: the group is (usually) not a perfect shape; it is jagged, with uneven sides, and people *should* disagree as well as agree. Misunderstandings are not only inevitable (or at least highly probable), they are life-affirming for the group. They help to assert a sense of structure; help to let people know what they might expect from a certain person in a certain situation, next time. From the educator's point of view, therefore, misunderstandings are to the good and should be encouraged (within ethical bounds). At the end of the disagreement, with the group structure (possibly) altered, it is the educator's responsibility to question why the misunderstanding occurred and what the group learned from the experience.

The second matter to be addressed, however, is the fact that many members of staff are anxious about new technologies and also about new methods of working that challenge the status quo. Discussion boards do both; the challenge would seem to be to convince all of the relevant staff to make regular contributions to the discussions, particularly in light of the fact that (in some cases) it has replaced some face-to-face delivery (Hedges et al. 2011). Regular contributions from the staff are the lifeblood of a successful discussion board: without a two-way means of communication, the project is unlikely to succeed for long.

We need problems. We are programmed to seek out forms of challenge and even peril. In an article entitled 'Taking the Non-Problem Seriously', Garland (1982) writes of the group in a psychotherapeutic setting, but the principles remain analogous. Referring to a 'problem' who arrives for treatment 'as representing the nodal point of the system within which his/her pathology exists', Garland (1982) argues that 'if we put him/her into another system, the nodal point will of necessity be altered by this new system.' We might infer, in that case, that the balance in any group system is a delicate, precarious thing. As the author continues:

> In a group… we cannot change, directly, the rules governing the individual's pathological transactions within his own system, but we can bring about change in the individual by making him part of a powerful alternative system, in which a different set of rules is operating… we may see every expression of interest and concern manifested in group matters as a step towards an involvement in the alternative system offered by the group, in which the rules, simply by being different, no longer serve to sustain the status quo. (1982, p. 6)

Conflict in the Group Situation

The success or failure of conflict in a group situation depends on its management. Conflict is a very exacting ingredient: too much and there is the risk run that the group will fall to pieces, either because of (a) factions forming that cannot agree on the simplest tasks, or (b) a collection of individuals forming because no one can agree and no one can appreciate or respect the group leader, who will usually be the tutor. Conflict that is in too short supply, however (as mentioned above), can

weaken the group with inertia and insipidity. Whatever else happens, the conflict that is built into the learning programme must be managed appropriately. The airing of differences, for example, should lead to a situation in which the members of the group are able to come up with both satisfying interpersonal relationships and quality decisions.

Using *Experiences in Groups* (Bion 1961) as one example, Bion was one of the seminal writers on the subject of the life of the group, including what happens on a conscious and an unconscious level; and what is happening on an intra-psychic plane. Stokes (1994: 20) provides us with a useful summary of the phenomenon. He writes:

> Bion (1961) distinguished two main tendencies in the life of a group: the tendency towards work on the primary task or work-group mentality, and a second, often unconscious, tendency to avoid work on the primary task, which he termed basic assumption mentality. These opposing tendencies can be thought of as the wish to face and work with reality, and the wish to evade it when it is painful or causes psychological conflict within or between group members.

Applying this formulation to my argument somewhat, it seems vital that we inspire writing that is linked to the primary task—on discussion boards, for example. Whereas the basic assumption mentality will likely lead to unstructured conflict, the deliberate challenges within the work done by the group engaged by the primary task is productive. Managed well, the writing produced—in blogs, in wikis, on discussion boards, and finally in summative submissions—is drained of any stereotypical 'coldness' by the structured conflict. In other words, with the scattered group, the implications are that clearly we want a primary task; but how do we avoid basic assumption mentality? Ironically, by stressing conflict itself.

What we must try to avoid is what Stokes (1994, *ibid*, p. 22) elaborates on in this passage:

> When under the sway of a basic assumption, a group appears to be meeting as if for some hard-to-specify purpose upon which the members seem intently set. Group members lose their critical faculties and individual abilities, and the group as a whole has the appearance of having some ill-defined but passionately involving mission. Apparently trivial matters are discussed as if they are matters of life or death, which is how they may well feel to the members of the group, since the underlying anxieties are about psychological survival.

In this state of mind, the group seems to lose awareness of the passing of time, and is apparently willing to continue endlessly with trivial matters. On the other hand, there is little capacity to bear frustration, and quick solutions are favoured. In both cases, members have lost their capacity to stay in touch with reality and its demands. Other external realities are also ignored or denied; the group closes itself off from the outside world and retreats into paranoia. A questioning attitude is impossible; any who dare to do so are regarded as either foolish, mad or heretical. A new idea or formulation which might offer a way forward is likely to be too terrifying to consider because it involves questioning cherished assumptions, and loss of the familiar and predictable, which is felt to be potentially catastrophic.

Stokes (1994, ibid, p. 19) also cites Freud (1921), another pioneer in the field of group dynamics: '*Essentially, Freud (1921) argued that the members of a group,*

particularly large groups such as crowds at political rallies, follow their leader because he or she personifies certain ideals of his/her own. The leader shows the group how to clarify and act on its goals.' Something similar occurs with the teacher and the learners in an online learning programme. To take further examples from the twinned worlds of training and psychoanalysis, Sebastian Foulkes (1964) argued for the necessity of a reliably consistent context, and Winnicott (1965) stated the case for the 'spontaneous gesture.' In terms of the latter, it is worth noting (parenthetically) the contribution that Winnicott (1965) made when he spoke of the true self and the false self in this same paper. Winnicott's (1965) view was that the true self described a sense of self based on spontaneous authentic experience, whereas the false self was a defensive mechanism that protected the true self by disguising it. Winnicott (1965) predicted serious emotional problems for people who seemed unable to feel spontaneous, alive or real to themselves in any part of their lives, yet managed to put on a successful exhibition—or act—of being real. Feelings of emotional deadness and fakeness can result if the false self is overactive.

However, it is possible to wedge together the concepts of Foulkesian consistency and Winnicottian spontaneity: these emotional entities are not mutually exclusive, even if at first they seem paradoxical. Indeed, might we not say that reliability married with chaos (for which we should probably read creativity) is at the heart of education—online or face-to-face—and that a balance between the two might be the very best spur to student invention?

Learner Anxiety

Anton Obholzer (1994, p. 171–172) writes: 'All societies have an "education service", in the broadest sense, to teach their members to use the tools they need to survive.' If learners encounter conflict, however, it might be useful to examine what exactly they are learning. They are learning the rules of argumentative engagement; they are learning the skills of how to stave off boredom and ennui. For as Obholzer (1994) continues: 'the education service is intended to shield us from the risk of going under. It is also, therefore, an institution that is supposed to cope with—whether by encouragement or denial—competition and rivalry. The debate about which nation has the best education system could be seen as a debate about who will survive and who will end up against the wall.'

Furthermore, Obholzer (1994) (a teacher/trainer himself) is convincing in his assertion that workplaces (and by extension online environments in which work is the main reason for meeting and engagement) are containers for elements of anxiety, and in his implication that we might draw something analogous from our work with learners. 'Institutions,' he writes, 'often serve as containers for the unwanted or difficult-to-cope-with aspects of ourselves.' (Here the writer uses 'contain' and its derivatives in the sense of the metabolizing of anxieties, to such an extent that feelings become bearable. When this happens, anxieties have been 'contained' (Bion 1961). Education, in addition to providing a specific need 'through its primary task,

also deals constantly with fundamental human anxieties about life and death, or, in more psychoanalytic terms, about annihilation… the individual who is prey to these primitive anxieties seeks relief by projecting these anxieties into another' and it is 'this process of containment that eventually makes possible the maturational shift from the paranoid-schizoid position, which involves fragmentation and denial of reality, to the depressive position, where integration, thought and appropriate responses to reality are possible. In an analogous way, the institutions referred to above (including education) serve to contain these anxieties for society as a whole'. (170)

But how might this happen? In 'The Absence of 'E'' (Mathew 2011), I compared two distance learning programmes in a reflective, impressionistic manner, using (limited) qualitative data. One of these programmes had only internet contact; the other of these programmes had no internet contact (a prison setting, assessments sent by Royal Mail). I argued that the absence of the internet had very little negative impact on the learner experience: but the person facilitating the group most certainly received a negative impact. 'A tutor online might be subjected to the transmission of negative feelings (from the learners) that might have been dissipated more effectively via the internet, if this option had been available. Anxiety about assignments and exams, though directed primarily at the learners' respective tutors, were projected onto (and into) me, thanks to the absence of 'E'—the absence of an online provision… Perhaps an internet conduit of some description might have helped to contain the learners' anxieties, and by doing so, have improved the overall learning experience; just as likely, however, it would have complicated matters' (485–6).

Online and possibly 'protected' by a faux-identity, a learner is able to express opinions, respond to conflict, solve problems, make mistakes… and above all, endure anxiety. The psychoanalyst and organisational psychologist Jacques (1965, p. 246) puts the matter succinctly when he writes: 'Out of the working through of the depressive position, there is further strengthening of the capacity to accept and tolerate conflict and ambivalence. One's work need no longer be experienced as perfect… because inevitable imperfection is no longer felt as bitter persecuting failure. Out of this mature resignation comes… true serenity, serenity which transcends imperfection by accepting it.' In a roundabout way, conflict has led to peace!

The Creation of Conflict

One of the problems, of course, with the deliberate creation of conflict in an educational setting is the setting itself—the educational setting—in and around which rules are often in place to stamp out corrosive behaviour. To reiterate what we have said above, the balance is delicate; or to put it another way, we face the paradox of challenging our learners up to a point and no further, via online discussion, robust (but fair) feedback to assessments that are deliberately provocative (they engage a learner's individual or collective sense of outrage or anger); or via the deliberate imposition of unexpected questions (unexpected, that is, by the learners). Alternatively, the educator might show a film that will spark debate and claim

(for the duration of the session) that he or she is very much in favour of its topic, which would normally be condemned as inappropriate; or the same might go for a controversial piece of text, music, art—broadly, anything that will challenge and engage the learner's opinion. In addition, one might use the full potential of alternative identities and the deliberate mischief that they can cause, all (naturally) within the institution's strict ethical guidelines, and (to be blunt about it) within one's own professional common-sense. After all, if there are limits as to how far a *learner* is allowed to go (and if there are not, there should be), there are certainly limits to how far an educator should permit matters to continue once a boundary has been reached… and then breached. It should go without saying that we as educators will not tolerate cyberbullying, virtual crimes or any Munchausen-by-the-Internet complex.

The delicate nature involved in the creation of conflict suggests that one must—simultaneously—avoid any downward spiral of incivility. One is trying to use conflict as a driver for creative thought and philosophical or quasi-philosophical thinking (whatever the academic subject). A downward spiral of incivility—any situation where one party exhibits disrespectful uncivil behaviour and the opposing party responds in kind but in an escalated manner—will create an atmosphere of tit-for-tat gainsaying and an unproductive situation that has nowhere to go but downward, towards its disintegration—and possibly the disintegration of the group. Although we simultaneously both want and do not want friction among and with our learners *that is out of our control,* we very much hope for the creativity that comes with tension and strife *which we control on our learners' behalf.*

Final Thoughts

This chapter is largely a work of reflection, and combines work in psychoanalysis with work in the environment of online learning (across different subjects and university faculties). In theory, the subject being taught/studied should not affect the central notion of what this chapter presents. Where the matter might differ, one would think, is where the learner's method of study is largely solitary. But not necessarily: if sufficient planning has gone into the course, the questions and challenges will be timed for impact in the programme, and of course there is scope for further 'clashes' when it is time for the educator to provide feedback. Overall, it is important for the learner to feel not only that he or she must contribute thoughts and opinions; he must also be in a position to justify the thoughts and opinions as well. Although it might seem that a necessary constituent of conflict is the construction of a group identity and dynamic, conflict within oneself is perfectly plausible. (Indeed, Freud (1921) built the industry of psychoanalysis that exists to this day on the premise that one is constantly at struggle with oneself, psychiatrically speaking.)

Perhaps the matter—the use of conflict and the acknowledgement of anxiety—comes down to something only a little more complicated than a war against boredom

in online learning. In education (as elsewhere) boredom is a turn-off, both for the learner and the educator; and if we propose that for many people the internet comes equipped with a 'soothing' factor, can we also extrapolate and suggest that for some learners the internet helps us to 'relax' into our studies, the Web acting like a soporific, an anaesthetic? Even if this is the case, the need for conflict is not abandoned. Indeed, the presence of conflict precedes the soothing, in a similar but less intense example of the post-trauma depression. The apposite inclusion of conflict might constitute one step towards avoiding the situation in which the learner simply 'goes through the motions' and reflects (perhaps truthfully, perhaps disingenuously, if he or she knows what the educator expects to read) in order to receive a respectable grade.

It is certainly easy to be lazy on the internet, if one is not guided properly by a competent distance learning facilitator. This facilitator might employ tactics which in most other settings would be perceived as bad manners or rudeness. For the sake of the exercise, he or she might seem not to listen; he might seem to read with a closed mind and not to want to countenance any opinions that are not shared with what he or she has already pronounced. Rather than using facts to support his opinions, he cherry-picks from his opinions and presents them *as* facts. He interrupts; or (on the contrary) shows the sort of hesitation that suggests that he does not know his material one iota. Alternatively, he reformulates his own opinions as he goes along. Worse still, he pretends never to have had his *earlier* opinion and doggedly insists that the learner has misread his previous contentions. He does not stay impartial: quite the opposite. He either hogs the limelight and posts too much or posts little but with messages that are cheeky or abrasive; routinely he laughs at his own jokes.

Chaperoned and helped by the right hands, the learner may find a rewarding, enriching educational experience that builds and consolidates, and which enables him/her to engage in social learning. We introduce conflict via techniques of the unexpected, by the pushing and redefining of barriers; but above all, we manage the conflict that we create. (For example, we might introduce a controversial topic and then seem to endorse it. We might ask our learners to adopt opposing viewpoints in a 'staged' debate.) Carefully managed conflict should ablate the existence of the perfectly natural human need for conflict that will arise in the absence of friction, or in an atmosphere of sterility. Individuals who join a group to meet their interpersonal needs require the same challenges and pedagogic perturbation as those who are actively motivated by task concerns. If we could think of conflict as a creative act, perhaps it would seem more attractive.

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Part IV
Restructuring Delivery, Formats and Modes

Chapter 14
What's an Instructor to Do?

Royce Ann Collins

Introduction

Higher education is changing. In "The Innovative University", Clayton Christensen and Henry Eyring not only give a comprehensive history of higher education in the United States, but they also discuss the new DNA for higher education, which involves year-round course offerings (386). While shortened summer semesters are just a part of the higher education culture, in the United States during the 1970s, proprietary and small liberal arts colleges began offering college credits and degree programs to working adults where courses did not meet on the traditional semester formats, but met year-round. The changing of the delivery of courses is not just limited to the United States. Gabrielle Baldwin and Craig McInnis (2002) in "The Organisation of the Academic Year: Trends, Implications, and Issues", also discuss the acceleration of courses into shorter timeframes for many Australian universities.

In the U.S., higher education was modeled after Harvard College. One of the reforms by John Kirkland, Harvard President, after the "Great Rebellion" in 1823 was the introduction of a long summer break (Christensen and Eyring 2011). Research conducted on school calendars in Ontario, Canada and the U.S. documented that school calendars were set by the community. For instance, in the Midwestern states, "township boards had complete control over the school calendar" (Weiss and Brown 2003). While Weiss and Brown's research focused on K-12 school calendars, the pattern of economics and the clocks of the local society driving the academic calendar were well established in the 1800s (1736). During the 1890s in the United States, the groundwork for standardizing high school curricula began. "Courses were to be calibrated in course units, which were based on contact-hour measures. Thus, learning was measured through time in class spent on the standard curriculum" (Shedd 2003). In 1909 when the credit hour was established to create

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retirement pensions for full-time faculty members by the Carnegie Foundation, it became the official unit of learning (Shedd 2003). Measurement of meeting the credit hour was based on scheduled time for class sessions, not on the time the class actually met. Many may believe that the educational calendar was created based on what was best for learning; however, the traditional higher education model was really created to accommodate the needs of the population, create a standard unit of measurement, and regulate the efficiency of the institution. The credit hour definition based on time has caused difficulty for many innovative universities as they try to base academic achievement on learning rather than time scheduled (Ehrlich 2003). While the credit hour is more standardized in the United States, European, Australian, and Japanese higher education systems adhere closely to this model as well: "In particular, these systems reflect the fundamental idea that it is a measure of academic effort that is measured in two ways: first, by time spent in academic activities, both in class and outside of class, and second, by successful performance or outcome—most often satisfactory performance on some type of examination" (Wolanin 2003).

Accelerated delivery formats were also created to accommodate the learning needs of a specific group: the working adult who needed and desired to complete a higher education degree. According to the Council for Accelerated Programs (CAP), an international membership organization of professionals who lead, teach and research accelerated programs in higher education, accelerated courses generally meet for less contact time with the instructor than a traditional semester (CAP 2012). CAP's Model for Good Practice in Accelerated Programs in Higher Education documents the quality standards for this type of delivery model. For instance, undergraduate courses may meet for 5–7 weeks for four consecutive hours of instruction time one night a week. After one course ends, a new course begins the very next week. This intense instructional format allows learners to take one course at a time. In addition, the model facilitates learners earning more credits in a year because courses are continuously offered throughout the year. While most colleges and universities who use this format offer these courses in the evening, they can also be scheduled at different times during the day or weekend. The hallmark of accelerated programs is less contact time with the instructor, but equivalent credit hours and learning outcomes achieved (Wlodkowski 2003).

The accelerated format discussed in this chapter is not time-compressed courses. Time-compressed courses still maintain the same number of contact hours. An example of time-compressed course format would be a college offering courses over an 8-week time frame, but the same number of contact hours as those offered in a traditional length semester (15 weeks) is maintained. These are not accelerated courses as discussed here. This chapter will focus on an accelerated course model where the instructor has less contact time with the students to achieve the equivalent learning outcomes of a traditional length semester credit course. For instance, a three credit semester course offered in a traditional semester format (15 weeks) would have 45 contact hours with the instructor. The same course taught in an accelerated format over 5 weeks would only have 20 h of contact time (4 h times one night a week for 5 weeks) with the instructor, but the semester credits and the learning outcomes would remain the same.

From the time summer schools were introduced to the higher education calendar, time-compressed courses (meeting in a shorter time frame than the traditional 15-week semester) have been studied, and scrutinized whether student learning in time-compressed courses is equivalent to their traditional counterparts (Kretovics et al. 2005; Martin and Culver 2009; Seamon 2004). In addition, research studies have compared the academic rigor between accelerated and traditional courses and found no significant difference (Jonas et al. 2001; Scott 2003; Scott and Conrad 1992). Some research based on student learning outcomes has proven accelerated and intensive courses equivalent or superior to the traditional semester format (Scott 2003; Wlodkowski and Westover 1999).

Instructional strategies and instructor characteristics have been emphasized as the means to develop students' comprehension and learning accomplishment (Collins 2005; Scott 2003; Wlodkowski and Ginsberg 2010). Accelerated and intensive courses are generally targeted at adult learners because they build on the hallmark of adults' vast experiences (CAP 2012). While some institutions may use this model with younger adults (18 to 19 year olds), the Council for Accelerated Programs maintains that the model is best suited for the learner with a rich resource of life experiences (CAP 2012). "Because adult accelerated degree programs are based on assumptions of learners' maturity and complex life experiences, the instructional and curricular program philosophy values adults who can contextualize their learning and can draw on the demands of their current work situation in relation to the classroom assignments" (Kasworm 2003). Learning is jumpstarted by springing off the adults' experiences to illustrate theory and practice. In addition to mastery of content area, the instructor of this population needs to have a firm understanding of adult learning attributes and active learning strategies.

Adult Learning Attributes

Adult learning has been studied from many facets (Knowles 1980). Malcolm Knowles' original studies on adult learning produced the andragogical assumptions about adult learners. While Knowles eventually came to six assumptions, he also stated that the application of the assumptions should be realistic to the situation. They were meant to be adapted and adopted as the educator thought appropriate (Knowles et al. 2012). Therefore, the application of Knowles' assumptions to the accelerated learning context will modify and not address all six.

First, adults bring a wealth of experience to the learning environment. They have a need for those experiences to be recognized and incorporated into the content. Adults need their opinions and perspectives appreciated (Wlodkowski and Ginsberg 2010). The Council for Accelerated Programs states:

> Accelerated courses are designed specifically for adults. The population must be adult learners with full time work experience—adults who have had at least two years of full-time work experience bring those experiences to the classroom and can enrich the learning process. Each institution may define adults in slightly different ways, but in general the definition tends to be 23(24, 25) plus 5(4, 3, 2) years of full-time work experience. (CAP 2012, p. 1).

Work and life experience are valuable resources for the learning environment. "If we elaborate our learning by thinking about its relationship to other things we know or by talking about it—explaining, summarizing, or questioning—we are more likely to remember it when we need to use it later" (Svinicki and McKeachie 2011).

Second, adults need to find the content relevant to their life or work situation. There must be some interaction between their experience and the content. Adults are more motivated to learn when the content adds value to their lives and solves real life problems (Knowles et al. 2012).

Third, the learning environment must be welcoming. This doesn't just include creature comforts such as temperature, comfortable chairs and tables, adequate light, good acoustics, and access to food and restrooms. The psychological aspects of the learning environment must also be addressed. Trust must be established between the learners and the instructor. Learners need to feel accepted, respected and safe. Adult learners also need a sense of order to the learning process, clearly defined goals, clear expectations, and honest and objective feedback (Knowles et al. 2012).

Fourth, adults come to a learning environment for a variety of reasons (Houle 1961). Some adult learners may seek higher education to advance in the workforce. Others will come because they are interested in learning something new and expanding their options. Some parents with young children have even admitted that they came to the learning situation to engage in adult conversation.

With a clear understanding of the adult learner, instructors of accelerated courses must approach the course environment differently (Scott 2003). While many college level courses might be more teacher-centered (Lammers and Murphy 2002), the accelerated courses in higher education must be more learner-centered.

The Instructor

The role of the instructor changes from the lecture and test model to facilitator and co-learner. While some take this to mean that the instructor is not a subject matter expert, this is not the intent. The intent is for the instructor to be in command of the subject and to guide the learning process, but not dictate it. To guide learning toward the learning outcomes for the course, the instructor must know how to ask the right questions at the right time for students to develop their own knowledge. Instructors must be open to learning from the students and incorporate their experience appropriately into the content.

When teaching accelerated courses, instructors should use the classroom time or instructional time wisely and effectively (Scott 2003). Because of the limited amount of contact time, instructors and students must make the most of all sessions. Instructors should assign reading assignments to be completed prior to the first night of the course. In this case, the first class session is not just a greet and review of the syllabus session, but a fully engaged learning period. This means instructors cannot cancel class sessions and students must attend all class sessions. The Council for Accelerated Programs notes in their Models for Good Practice in Accelerated Programs in Higher Education that institutions with accelerated programs should

have a strict attendance policy, which only allows students to miss only one or two class sessions per course (CAP 2012). It is extremely important for instructors and administrators to enforce this policy.

The instructor of accelerated programs must make sound pedagogical adjustments that enhance student learning. Kretovics et al. (2005) researched compressed courses over the summer semester and how instructors make adjustments (38). They reported that 47 % of the 151 respondents stated that they modified their teaching methods for compressed courses. The adjustments reported included extending group discussion and replacing large writing projects with multiple shorter, more intense, writing projects (48). Time should not be the only factor in making adjustments. Instructors must make sure they focus on the learning outcomes for the course. Many instructors have mentioned to the author that in converting traditional length courses to more intensive formats, they discovered the busywork and fluff that had crept into their courses.

The instructor of accelerated courses must be organized. "Because intensive courses progress so quickly, instructors need to be organized and present the material in an easy-to-follow manner" (Scott 2003). The author's own experience also supports the importance of an organized approach to teaching. Over the past 20 years, the author has collected many student evaluations and a theme that always appears under instructor effectiveness is organizational skills: "Dr. Collins is so organized and all her classes model the behavior she is teaching. She is a great example of what we should all strive to be like!" "I especially appreciate her organizational skills, her thorough preparation, and her obvious love of teaching. She is both credible and authentic and has a gift for expecting much from her students and maintaining high standards while being totally flexible and pragmatic to accommodate the adult student's busy schedule of life's responsibilities." "Dr. Collins was well organized and prepared for each class." When time with the instructor is shortened, it increases the need for organization of material and teaching approaches.

These attributes of adult learners and the role of the instructor are foundational for accelerated and intensive courses with adult learners. From this basis, instructors now can equip their art of teaching bag with techniques and instructional strategies. In their study of effective instructors, Berg and Lindseth (2004) reported that students rated teaching methods as second most important for effective teachers and rated the highest when students were ranking ineffective teachers (566). "Students urged instructors to demonstrate classroom creativity by incorporating a variety of teaching methods to maintain student motivation and interest" (Scott 2003).

Cooperative Learning

With these adult learner attributes in mind, the instructor now engages the learning context and teaching methods. In a qualitative research study of students in accelerated programs, several students noted the need for more discussion during the time with the instructor. One student stated, "I don't want to just sit there for 4 h…I want

to learn something, so I expect them [the instructors] to teach me things that I don't know or to provide more than just the text as far as going more in depth…something that sticks with you more than just a lecture" (Collins 2005). Accelerated and intensive courses rely heavily on collaborative and cooperative learning versus lecturing methods (Scott 2003). Collaborative learning connects to the trusting learning environment that is so important to adult learners and is highly recommended for accelerated programs (Scott 2003). Johnson and Johnson (1999) are premier researchers on cooperative learning. In 1999, Johnson and Johnson noted that,

> … structuring situations cooperatively results in students interacting in ways that promote each other's success, structuring situations competitively results in students interacting in ways that oppose each other's success and structuring situations individually results in no interaction among students (72).

According to Johnson and Johnson, "… working together to achieve a common goal produces higher achievement and greater productivity than does working alone. This is confirmed by so much research that it stands as one of the strongest principles of social and organizational psychology" (72). Therefore, based on this research, accelerated programs should liberally use collaborative techniques and cooperative learning.

Cooperative learning addresses many outcomes. It can be used to create content learning experience for a small group of students. It can be used as a support system to continue in the degree program. It can also be used to cognitively develop learners (Collins 2006).

To create cooperative learning experiences, instructors allow students to form groups with a common goal, such as to complete an assignment. The author has used wiki assignments where three or four students choose a topic to investigate and prepare an interactive wiki page so their classmates can engage and learn about the topic. A wiki is an excellent online forum for groups to work and collaborate on assignments. It is an interactive website where students add text, video, photos, slide shows, and a variety of activities to engage readers in the topic. In a study with 74 adult learners participating in intensive courses, Collins found that students perceived they retained more information from their involvement in wiki creation and discussion of cooperative teams wiki products. The survey prompt stated, "I will retain more material as a result of using the wiki." Sixty-two percent of the 74 students in the sample checked agree or strongly agree and the statement received an average rating of 3.59 out of 5.0. In response to the statement, "I learned more because of the information posted by other students in the wiki than I would have if the material had been covered in a 20 min, in-class, oral presentation," 72 % of the students responded they agreed or strongly agreed. The average rating for this statement was 4.03 (Collins 2011). Instructors should examine ways to incorporate appropriate technology with cooperative learning activities.

For cooperative assignments, instructors should give clear guidelines on the topic as well as what is expected with group behavior. The goal of a cooperative assignment is twofold: (1) the learning outcome based on the topic of study; and (2) the development of skills to work cooperatively with others. Working cooperatively is not instinctive in the highly competitive societal environment of the twenty-first

century. Developing the capacity to learn from peers only comes through developing more cognitive complexity (Collins 2006).

Besides cooperative learning experiences, accelerated coursework must include active learning strategies (Scott 2003). Sousa (2006) researched retention of learning after a 24 h period based on teaching method. His research documented that learners retain the most from teaching others or immediate engagement, practice by doing, and discussion groups (127). A theme from student comments of intensive courses focuses on a variety of teaching methods as represented by these examples: "You make the learning interesting with the varied approaches you use each week." "Enjoyed the variety of learning/teaching modalities." Adult learners need to be actively involved in the material. Since teaching in this model usually means teaching for long blocks of time, most face-to-face class sessions will be from 2 to 8 h in length. Instructors must be prepared with a variety of collaborative learning activities.

Collaborative Learning

While some authors seem to use the words collaborative learning and cooperative learning interchangeably, in this chapter a distinction is made. Collaborative learning might sound congruent with cooperative learning experiences. Cooperative learning experiences as stated above have students supporting and working in harmony on projects. Collaborative learning techniques in the physical/virtual classroom places students in *ad hoc* groups to share opinions and discuss material, which may in fact promote dissenting viewpoints. Central to collaborative techniques is the instructor's role in the learning environment referred to earlier as a guide in the learning situation. This makes the student an active learner rather than a passive one. These activities involve the student in the content, current research, and opinions.

There are several common collaborative learning techniques. Barkley et al. (2005) give a through overview of these techniques in their book: Collaborative Learning Techniques. They discuss face-to-face implementation as well as online modifications. Another hallmark book in this area is Angelo and Cross' (1993) book: Classroom Assessment Techniques. The ones highlighted (Think-Pair-Share, Buzz Groups, Jigsaw, and Critical Debates) here are simple to implement and have been used by the author over the past 20 years of teaching in accelerated courses. Many instructors have found them extremely useful in engaging students.

On the first night of a graduate level introduction course to adult education, students complete a questionnaire which asks: As a learner, I enjoy learning through (i.e. lecture, small group work, etc). Over 4 years and eight courses, this questionnaire was completed by a total of 220 students. Seventy percent of these students noted they preferred learning through some type of collaborative learning experience from small group discussion to hands on activities. Some of the comments included: "Small group work, discussion forums, group interaction;" "Mostly discussion and

small group work;" "Small group work. Lecture becomes dull and boring to me;" "Small group work and engaging discussions;" "Interacting with others/working in small groups and exchanging ideas."

Think-Pair-Share—After a short lecture, video, or reading, have students think about a question, write down their response, and then pair them to share and discuss their responses. This quick active learning technique makes sure all students are involved. It is paramount that instructors give students time to reflect on their answer and write it down. Without this step, students may opt out of participation and allow others to take the lead. In addition to the pair, students can be further grouped by adding two pairs together to discuss consensus or expose students to further discussion of the topic (Barkley et al. 2005).

Buzz Groups—At the beginning of class, place students in groups of four or five and have them discuss examples that illustrate the readings for that session. Buzz groups are just quick ways to focus students' attention and engage their minds in the topic. Topics can range from examples or illustrations of a theory or reading or discussion of the application of an idea to their lives. Instructors should prepare the questions they want the groups to discuss ahead of time and get students started, generating ideas as soon as the class begins. This strategy creates energy and moves students from whatever they were thinking about prior to class to the topic of discussion for that session (Barkley et al. 2005).

Jigsaw—This activity moves students into the teaching role. In small groups of four to six, students prepare to teach another group of students about a certain topic. Instructors can divide up reading assignments in the previous class session with instructions that the students will be responsible for teaching their classmates about that one topic. Students are first placed in the primary content groups to come to consensus on what to present and how to present it to others who have not read that material. The author has learned that giving students a time limit for their teaching session is important. After about 15 min in the same topic group, students are now placed in diverse topic groups where there is one student in each group representing each topic. Depending on the complexity of the topics, students are generally given anywhere from two to four minutes in the heterogeneous groups to teach their material. This truly engages students in learning from peers and teaching a topic is a very effective strategy for learning the material. It also gives the instructor an opportunity to debrief the exercise at the conclusion and have the group discuss the experience itself (Barkley et al. 2005).

Critical Debates—The key to a critical debate is to have students choose a position opposite from what they believe. This stretches students' cognitive development and challenges their assumptions. Students need time to investigate their positions and prepare for the debate. Students can be put in teams of four to five and then paired with opposing teams for the debate in class. Regulating time is very important for this technique. Students should be allowed only 5 min for their arguments and counter arguments. At the conclusion, the instructor should have a discussion with the entire class to discuss the outcomes and issues (Barkley et al. 2005).

Each of these activities breaks students up into small groups. Instructors should not use the same method of dividing students into small *ad hoc* groups every time. Variation here is just as important to make sure students engage with a variety of learners and hear a range of ideas. Dividing students into small groups can be as simple as numbering off around the room and then grouping the common numbers together. Another great technique is to use a deck of playing cards and have each student draw a card. The instructor creates the deck to make sure there is only the number of cards necessary for the groups' formation. For instance, if the desired formation is groups of four, then the total number of cards used should be the total number of students in the course. Make sure there is one of each suit in the groups to add another grouping. In a class of 32, there would need to be four—Aces, 2s, 3s, 4s, 5s, 6s, 7s, 8s in the deck from which students select a card. The students could them be regrouped into four groups of eight by having the students shuffle and form groups according to suits on the face cards (hearts, diamonds, spades, and clubs). If there is an odd number of students, for instance 29, place 28 cards in groups of four and add a joker card. The student who selects the joker may choose which group he/she joins. Using the deck of cards in this fashion makes the divisions for the Jigsaw activity simple.

Each of these collaborative learning strategies is a great way for students to link their experiences to the theory or content being reviewed. Experience of the learner and providing new experiences for learners are important to connect learning to real life. Students do not automatically make the connection between the content of a topic to life experience unless that is made explicit. Knowledge is developed through dialogue with others and self.

Reflection

Reflection journals are an excellent way to incorporate the conversation with self into the learning process (Stevens and Cooper 2009). Reflection connects learning, experience, and writing. Swenson (2003) stated that one of the best practices in accelerated programs was the incorporation of more reflection time into the curriculum (30). Reflection time is extremely important in an intensive course format. Students must learn to incorporate the learning into their workplace or other context; reflection is the tool that helps them make these connections. Several well-known authors, including John Dewey, David Kolb and Donald Schön have supported reflection. Reflection is active involvement in the learning process and helps adults deal with ill-structured problems in society and the workplace. Reflection occurs in the cycle of action, reflection, and action (Stevens and Cooper 2009).

Reflection aids learners in gaining a deeper understanding of the content. It helps students acknowledge and grapple with assumptions and bias. This excerpt is from a graduate student's reflection journal in a social foundations course: "As I read about accounts of PhD's work being lost (African American women's stories), individuals being mistreated by their own people because they were not "Black

enough or Indian enough" anymore due to their educational/professional livelihood, I came to realize that I might have some of these same behaviors or "micro-aggressions" without even realizing it." Adult learners in accelerated courses comment on the benefit of reflection: "This was one of the most thought provoking classes I have taken. I really enjoyed the variety of assignments and the opportunities for reflection."

While there are a variety of reflection journal techniques, journaling that promotes the connection between the content and experience enhances the possibility that students will retain more and transfer the learning to their personal or professional life. In most cases, adult learners need to be taught how to write a reflective journal. The reflective journal assignment should have students read about journaling first (establish the validity of the assignment), and outline some questions to focus learners on what should be addressed in the journal. Journals are not notes; they are active reflection with the material, lecture, presentation, or experience. Sample questions to use:

- What questions do I have about this topic?
- How does my experience connect with this topic or add to this topic?
- What previous information (from previous courses or content) connects with this topic?
- How did this topic make me feel? Why did I react this way? Is this the way I want to react in the future concerning this topic?

In addition to writing the reflection, an additional activity is the use of a metareflection. Metareflection is thinking about the reflection experience. Students review the reflection journals and write an analysis of their reflection experience. In the metareflection essay, students note any changes in their perspectives as they review the learning experience. One student noted in her metareflection paper: "As I review the different reflections submitted over the last eight weeks, I see where my views have grown, modified, or strengthened based on the material discussed in this class." Students find that this activity helps them realize and see their growth, reviews the material covered, and assists them in making connections between topics. Metareflections demonstrate how students incorporate the learning into their lives. However, reflection and metareflections only happen if the instructor makes it an integral part of the curriculum.

While some may not think reflection in intensive courses gives the student enough time to change, here are the words of a graduate student: "Eight weeks might not seem like a long time to make a change—especially when looking at a topic as deep as personal thoughts and ideas on racism. However, in looking at my journal entries over the past 2 months, it is clear that 8 weeks is enough time to come to a realization about the status of racial inequality in our society. In reviewing my writings, I can see a progression from an initial reaction of anger and sadness, to a realization of the importance of seeking out multicultural perspectives, and finally to an ability to think critically about the ideology of race in American culture today."

Instructors must give clear guidelines for the reflective journal and clear understanding of how the activity will be graded. Some use reflective journals for stu-

dents to scrutinize their bias and assumptions about the topic, while another use has the students examining their metacognitive skills (understanding how they learn). Students need to reflect honestly, give thoughtful responses that are linked to the student's own life and experiences, and connect their experiences to the chapter or course material. Instructors can also incorporate the timeliness or frequency of the journal entry. Journaling can easily be prepared electronically on a wiki or blog, where the instructor can review and guide students who need assistance developing their reflection skills in an efficient manner. Journals can even include concept maps of the course material (Stevens and Cooper 2009).

Concept Maps

Concept mapping is a learning process where students actively engage and create meaningful learning. It is a visual organizer strategy that allows learners to graphically represent their knowledge by linking topics and seeing connections quickly. Concept mapping can increase reading retention and transfer of knowledge (Hill 2005). Concept mapping has also been used to develop critical thinking skills (Stevens and Cooper 2009).

Concept maps begin with an overarching concept or idea, which is connected to more specific terms that flesh out the topic. Think of bubbles or squares with concepts that are linked to other ideas with lines and arrows as well as connecting words. The branching continues to more specific topics to the level desired. All the concepts are connected with directional arrows and labeled with linking words to define the relationship or meanings represented. General concepts can be cross-linked to show relationships. The number of cross-links and levels of hierarchy demonstrate the complexity of a learner's grasp of topic (Hill 2005). "Making a concept map helps learners become aware of and reflect on their own (mis)understandings; it helps students take charge of their own meaning-making" (van Boxtel et al. 2002).

Concept maps can be created for numerous activities. They can be used to illustrate the concepts in a chapter, the linkages between the readings for that week, a lecture, development of ideas for a research paper, or the concepts in a course (Stevens and Cooper 2009).

Concept mapping can be used by students in a course, but also by the instructor at the conclusion to evaluate how well students have comprehended the material in the course. At the conclusion of graduate level courses, students are put into small groups of four to five and told to create a concept map of the topics covered in the course. Students create these on whiteboards and then each group briefly explains their concept map to the class. The instructor can quickly see gaps where topics were missed or misinterpreted, and can quickly review the topic by asking questions of the overall group of learners or clarifying a concept that most groups did not grasp.

In the age of smartphones, students correct their maps and take pictures of them for future use in the degree program. Students comment on how much they have
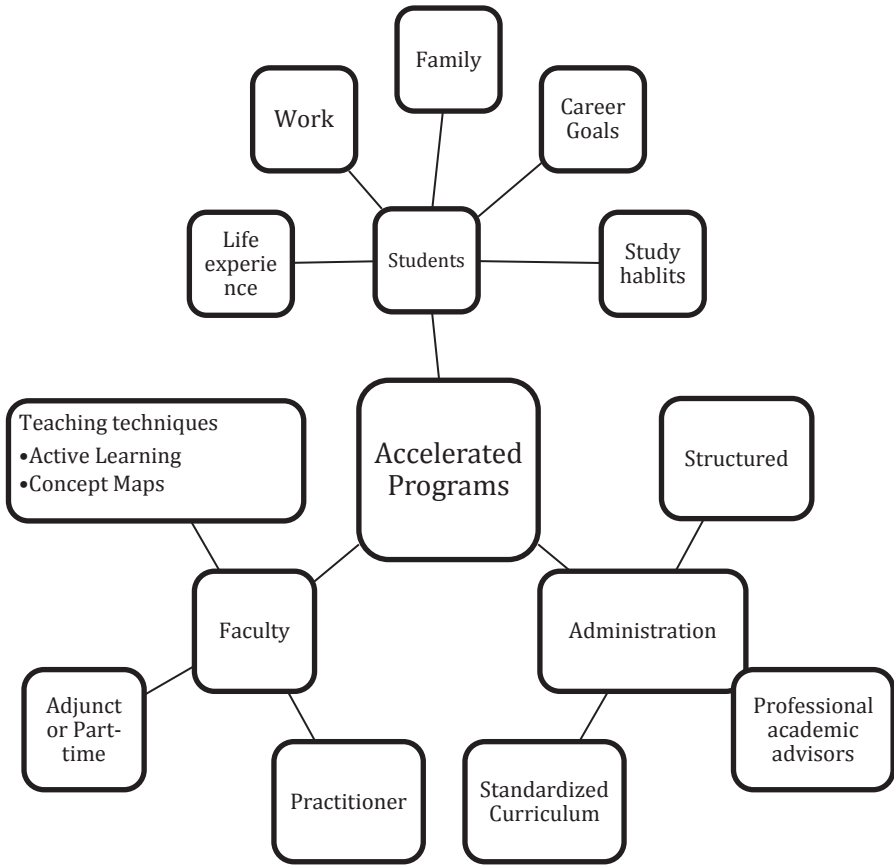
Fig. 14.1 Example of a concept map of accelerated programs

learned in the course from this experience and how much the concept map tool helped them make meaning of the course experience.

Questioning Techniques

If instructors incorporate more group discussion into intensive courses, then they must think about what they will ask instead of what they will tell or lecture. Questions are vitally important to creating an effective discussion and developing learners' critical thinking skills. Brookfield and Preskill (2005) discuss different types of questions to promote discussion: (1) evidence questions (How do you know that? What data supports your statement?); (2) clarification questions (What's a good example of what you are discussing? Would you give different illustration of your point?); (3) Open questions (How or Why type of questions); (4)

extension questions (How does that comment link to previous topics or the author's discussion?); (5) hypothetical questions (How might society be different if slavery had not been introduced in the U.S.?); (6) cause-and-effect questions (How might halving the class affect our discussion?); and (7) summary and synthesis questions (What are the more important points that emerged out of this discussion) .

Another way to structure questions is using Bloom's Revised Taxonomy (Krathwohl 2002). Instructors can use a scaffolding technique and begin their questions with the lower level and move up the Cognitive Dimension (1. Remember, 2. Understand, 3. Apply, 4. Analyze, 5. Evaluate, and 6. Create) to more complex levels of thinking. For instance, the assignment for the class session is to read certain chapters in a textbook and find some current article that illustrates or aligns with a topic in those chapters. Students bring the article to the class session. The instructor begins the discussion at the Remember and Understand levels by asking a volunteer to summarize the article found and articulate how it relates to the required readings for the course. Then the instructor asks how the information could be applied to the workplace. Next, the instructor moves to the next level by asking the students to analyze the material and actions in the current article discussed. Once issues have been broken apart, the Evaluate level is addressed by asking the students if they would recommend the action based on the readings and discussion in this course; if not, what action would they recommend and why? Students then debate the issues based on their evaluation of the subject. Finally, the instructor asks them to create a new way of handling the topic, thus moving students to the highest level of the Cognitive Dimension. This activity stretches students' minds. Collins (2006) reported this type of questioning activity helps students develop more complex ways of thinking.

Conclusion

Higher education is changing. Innovative approaches to delivering learning in higher education will continue to grow. Teaching in these different formats means instructors must also adjust to create optimal learning situations.

Teaching in accelerated or intensive formats requires more active and learner-centered approaches. Every minute of contact time must be used to its fullest. The intense time frames actually keep adult learners motivated and putting forth more effort in their learning. Instructors in this format must be organized and do more than lecture and test. Most instructors spend twice as much time preparing for an accelerated course than a traditional length course. They must plan ahead cooperative learning experiences and how and when collaborative instructional strategies will be incorporated into their courses. They must also incorporate reflection time for learners to actively engage in the topic and develop their own knowledge. Instead of creating lectures, instructors must think of discussion questions and ways to involve the learners in meaning making and developing their cognitive skills. Whether an instructor uses many teaching strategies or a few in accelerated or intensive courses,

instructors must stay focused on the learning outcomes and focus on the depth, not breadth of the course. Instructors must be innovative with their teaching strategies in this non-traditional format as the accelerated and intensive schedules are innovative to the higher education system.

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Chapter 15
Does Duration Matter? A Case Study

Peter Lake

The Context

This chapter reviews a pilot study undertaken at Sheffield Hallam University in the computing department in which the teaching period was foreshortened from a semester long delivery to a slightly extended week of intensive study. Just for clarity, the terms I will use here are those of the UK Higher Education. Most of our degrees are modular in nature and therefore we use the term **Module** to describe a discrete topic specific block of teaching and learning of a pre-defined amount of study which, when the assessment is successfully passed by a student, will provide credits towards an overall degree. The degree, in the UK, will be referred to as a **Course**. The module will be have a set of Learning Objectives which help to scope the content, and which will be the basis of the assessment.

The case study here is about the delivery of a module on a Computing MSc course. The module concerned is one of ten in the course. Each module is usually taught in the standard, institutionally defined semester period. In this case we are talking of 12 weeks, although at M-level in particular we often have assessments which are reflective in nature handed in after the semester officially ends. Also at M-level we tend not to assess by examination, and so the university defined examination period is not relevant.

Timetabling as an Inhibitor of Innovation in Course Building

As mentioned above, my institution's semester is 12 weeks long, and modules will typically last for either one or two semesters. In reading contributions to this book it soon became clear that even the "standard" length of a semester differs between

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educational cultures. In this book we have a range of semester definitions that include anything from 12 to 16 weeks!

Timetabling is notoriously difficult, especially in large intuitions with limited room availability, as is the case at Sheffield Hallam. This is particularly troublesome when using laboratories where specialist, sometime expensive equipment is used during teaching. This can often then result in timetabling driving the selection of delivery schedule for a module, rather than it being driven by pedagogic rationale. As efficiencies in administration are sought, the desire to use the timetabling system to simply "roll over" last year's timetable, thus replicating timetables year after year, seems to grow. This adds to the problem of imposed delivery structures which constrain any desire to deliver differently.

As Ramsden (2003) says: *it is common for courses to be structured around a series of lectures, seminars and tutorials purely because of tradition and administrative convenience*. As he goes on to say, this is a very teacher-centric approach. My experience is that this approach becomes enshrined in institutional culture through the rigid timetabling system since most colleagues will opt to deal with what resources they have been given, changing their curriculum where necessary to cope with any shortfalls in resourcing that the system my present them with.

The issue of the total time allocated to a module will, naturally, affect the volume of content delivered to students. According to our university's regulations modules like those involved here generally expect the student to have 150 h of study, with at least 35 of those including scheduled learning and teaching activities. The regulations make no explicit reference to the elapsed time to be spent on delivering a module.

In my experience of building module content I have never come across a situation where 12 weeks is too much time: it is usually the case that we have to decide what content to omit rather worry about empty weeks. In other words the timetable impacts upon what you decide to teach right at the outset of curriculum design. But then, perhaps what is omitted because of lack of time should really be included? Perhaps 13 weeks, or 15, or 20, would be the appropriate length for Module A, whereas perhaps 14 or 16 weeks would be ideal for Module B?

As well as assumptions about overall module length, timetabling is often built around "standard" delivery methods. In my department the default module is often to have a one hour lecture followed by either a 2 h seminar or lab each week of the semester. Even in institutions where innovation in teaching and learning is encouraged, this set of assumptions can restrict staff's ability to do something different. At the very least it can impose a kind of inertia based on the assumption that the normal pattern is the desired pattern of delivery.

Of course, the reality is that we have to work with some degree of standardisation of period in order to ensure that a student can graduate within the overall length of their course, but there may be occasions when it is appropriate to challenge the norm.

Institutional Change Theory

Before discussing the case study itself it may be useful to refer briefly to the domain of Institutional Theory, and more specifically about how change comes about in a stable, regulated organisation. As Greenwood et al. (2002) argue:

Organizations develop categorizations (or typifications) of their exchanges, which achieve the status of objectification and thus constitute social reality. Organizations, initially at least, behave in accordance with this socially constructed reality because to do so reduces ambiguity and uncertainty. Greenwood goes on to suggest five key elements in the processes of any institutional change that are of interest in the case study:

- Precipitating Jolt—events that destabilise the cultural accepted practice
- opposition to change—will come from the guardian of the institution's operating rules
- local entrepreneurs—People willing to challenge institutional norms in their own domains for their own benefit, or that or those around them
- theorization—problem definition and the justification for a solution
- diffusion—as the new concept is recognised as legitimate

The starting point in the case study is an institutionally constructed reality that modules should fit in to a semester structure. We will use the elements above to help structure our description of the case study.

The Case Study Outline

At Sheffield Hallam University, in the Faculty of Arts, Computing, Engineering and Sciences, we have successfully recruited to a number of M-level courses focused on professional computing, such as the Enterprise System Professional, Database Professional, IT Professional and Network Professional courses which all include some industry specific training. As part of the course students are provided with some industry focused training to allow them to take a certification exam. Successful students on the Database Professional course, for example, end up being both a Master of Science and an Oracle Certified Associate.

These courses, grouped together, are referred to as the Computing Professional programme, and they share eight modules with each other. The pedagogic rationale for this is that there is much common ground in the skills and knowledge needed to be a master of any specific computing discipline. As an example, the management skills of change management and system implementation are needed by professionals in all of the fields. The business logic for this is that sharing modules reduces delivery costs and can mean that courses that would otherwise be unviable because they recruited low numbers can still run. In reality this model is little different to that of having a single course, perhaps called MSc Computer Professional, with a number of options. However, the latter is harder to market and so we adopted the separate courses with shared modules model.

The Precipitating Jolt

The courses on the Computing Professional programme, after a slow start, began to recruit well, especially from overseas. In all cases our original course design had been thorough and identified modules that we knew industry needed students to have studied. After a couple of iterations we were satisfied that successful students were, indeed, masters of the technology concerned. The year-on-year increase in recruitment also seemed to indicate that we had a good product.

And then we started getting feedback from alumni, and from the companies they were going to work for, to the effect that, whilst technically very competent, some of the students lacked some essential management and interpersonal skills. On another course we had a module called Industrial Expertise which looked like an ideal solution to the problem. As the module was already validated the change to these course schedules was relatively minor. After consulting some of our industry contacts we decided that the new module was to be a part of a triad which ran in every course, which we described as the Professional Thread. This rationale is not the subject of this chapter, but is here to set the context.

The clearly thought through pedagogical rationale agreed by all of the course leaders concerned was that the these three modules (Study Skills for Professionals(SSP); Industrial Expertise (IE); Research Practice and Principals(RPP)) needed to be run in parallel with the more technology focused modules. They were about helping students recognise what was required to be a professional in their chosen discipline.

One of the reasons for creating SSP was that it should help people with no experience of the UK study ethos to gain an understanding of what would be required of them during their course, pointing to the differences between BSc and MSc in general as well as any differences in previous educational culture as a result of the diverse international nature of the cohort. We also use early formative assessments to help us identify students who would benefit from the extra free English help that the university offers its international students. For all these reasons it has always run at the beginning of the course, in Semester One.

Whilst it does a lot more than this, RPP is often described as preparation for the dissertation. Indeed, one of the assessment outcomes is a project proposal which is used to help identify appropriate dissertation supervisors. It has always, therefore, run in Semester two. After semester two the student concentrates on their dissertation.

During course reviews, as described above, we had identified the need for a third Professional Thread module which concentrated on the softer and more management focused elements of being an IT Professional. Luckily we could also easily identify a weaker module that we could drop to make room. One of the constraints of the strongly regulated quality process used in our institution is that it does not readily allow change. When a module has been validated as being part of a course there has to be a reasonably strong argument to remove it, and the process has to be managed sensitively since this may well be seen as having a negative impact upon that module team.

However, in this case, space was found without too much problem. The argument for the new module was unanimously accepted amongst Course Leaders who ran courses that would use the Professional Thread, and was seen as sensible by our external examiners. Even more importantly we found a Module Leader who was keen to inject these professional skills into M-level teaching. A written case for the change was put to a panel and the faculty agreed that the change could happen. But there was an outstanding question: If this module should happen after SSP and before RPP, where was it to go in the timetable?

And so we have identified the Jolt: the need to fit a module into the space between semesters.

The Local Entrepreneur(s)

As the person responsible for creating a schedule for each of the Computing Professional MScs I was faced with a problem of timing which looked impossible to solve using semesters. This wasn't so much a case of fitting a module into a semester, but rather, sequencing a new module so that it happened in the middle of a course.

I cannot for the life of me remember who first thought of asking the question; *can we run IE in a week?* I think the question was certainly generated as part of the process of creating a schedule, so it might have been me! However, as with many team-based projects, ownership of such ideas is not important. What was important was that there were several of us who didn't laugh and say "*you have to be joking*" when we first asked the question. Most importantly of all, the module leader didn't laugh.

Like quite a few of my computing colleagues I had come to academia from the IT industry. During that career I occasionally had to gain new skills by attending one week intensive courses, and even occasionally had to deliver such training. Eventually I became a company director and so my experience was both immediately useful as part of the IE delivery team, and allowed me to more readily challenge the notion that serious learning needs months not days to happen.

The module leader was also originally from outside of the university system. Similarly he had no prior experience that would lead him to veto the idea of a short sharp delivery pattern for his module. Work planners are important stakeholders in our organisation, and again, we had people in that role who did recognise that the question was at least worth asking, again because of their experiences elsewhere. In sum, we not only saw this as a solution to the simple module scheduling problem, but also an exciting opportunity to engage the students in a hectic yet highly focused new way which might, in its own right, help them improve their employability skills.

So a small team existed that did dare ask the *one week* question formed. The team knew there would be resistance from some colleagues who would feel genuine fear about attempting to teach an M-level module in such a short time. For a variety of sensible reasons in an environment where rooms are a stretched resource

the university insist on "finalizing" the timetable many months before the start of semester one. This meant that we had only a month or so to discuss this solution to the IE problem.

As so often dealing with the constraints set by reality became the driver for a novel approach. Semester One finished by Christmas and Semester Two did not start until the very end of January. Although some of the Semester One modules did have reflective pieces of assessment for the students to do over the holiday period, there was clearly a hole of about 2 weeks that could be appropriated for teaching purposes. Some of our overseas students like to go home in the Christmas holidays so they would probably prefer to delay the need to return to Sheffield for as late as possible in January.

Opposition to Change

In IT, the industry norm is for training courses about a specific technology to be delivered in one week intensive blocks. People working in or around IT will probably have been involved in several such courses. To start a 5 day course as an Oracle Database Administrator with little prior knowledge and come out of it with the skills and knowledge to pass the exam to gain certification is certainly no mean intellectual feat. But despite that, training is sometimes viewed as the poor cousin to education within Higher Education. It is often thought of as merely telling people how to do things, as opposed to giving them the skills to be able to work things out for themselves.

Even before I try and discuss any comparisons between training and education I can already hear some of my more traditionally routed colleagues warming up the "oh, buts":

- Oh but; training isn't the same as education
- Oh but; students need time to allow their brains to assimilate the learning
- Oh but; our students do not benefit from the pressure of intensive courses

Especially in the case of the UK universities that were once Polytechnics, one of the key sales propositions made is that successful students will improve their employability by attending these courses. The argument is also made that careers are made more financially rewarding by investing in one's human capital by attending a university course.

Blundell et al. (1999) suggest that: *In most empirical studies, training is distinguished from formal school and post-school qualifications (which are viewed as education) and is generally defined in terms of courses designed to help individuals develop skills that might be of use in their job.*

So there is a slight dichotomy here, especially for computing in the skills-focused new universities. If we are in the business of making our students employable and employers are looking for certain skills sets which are usually passed on through training, perhaps we need to bite the bullet and accept that training, and training methods, should be a part of our curricula?

This dichotomy is recognised by colleagues, some of whom actually provide the vendor-specific training the students receive. In the M-level courses being discussed here, for example, we wrap education around the training. At the start of an intensive 3 day session of Oracle Database Administration training I will usually start off by reminding the students that training is different; that we have material to get through and that we can't be distracted by following interesting asides during sessions. The students have always understood and agreed to the change of rules of engagement.

That said, it is important to say that the Industrial Expertise delivery team would not see this module as training. It is a validated M-level module with all the higher level outcomes you would expect. Again, just to add context, the Learning Outcomes in the formal validation document are:

1. develop and enhance understanding and knowledge of the IT Industry in terms of its structure, behaviour, and future development;
2. enhance their student's employability potential by developing their knowledge and use of Career Development frameworks and tools;
3. develop a theoretical and practical understanding of the implications of IT Professionalism in terms of values, ethics and working behaviour;
4. enhance their understanding and application of a range of tools and techniques used by IT professionals to analyse issues and create solutions to problems typical of those facing the IT industry.

And the indicative content includes workshops that will introduce practical exercises and theoretical material in creativity, problem solving, time-management and related matters. These workshops will introduce methods for doing this from across industry, academia and business. Topics covered in tutorials may include:

- Facilitating seminars
- Leadership
- Using audio-visual aids to present a message
- Mind-mapping, brainstorming etc.
- Building teams
- Presenting yourself and your ideas
- Managing complexity and different skill sets within a team
- The role of intuition in decision making
- Contrasting empiricism and quantitative techniques

One of the assessed outputs is typically the production of a feasible Personal Career Development document or artefact that demonstrates understanding of the basic CPD process.

The natural inclination of many colleagues, therefore, would be to discount teaching short delivery patterns. Some of those colleagues are decision makers and gate-keepers and, as such, would need to be persuaded of the need for such a change.

Of course the people whose view mattered most would be the students. The timing of the decision-making processes, however, meant that the actual students who might be the first to try a 1 week module would not start their course until well

after the timetabling was in place. This meant that the best we could do was ask the existing students what they thought of the idea. The team were all heavily involved in postgraduate dissertation supervision and so had plenty of opportunity to discuss the idea with existing students. In general the feedback was largely positive, with certain caveats about the pressures of this week not impacting other modules that they may be studying or writing assessments for at the time.

Emboldened, we set about bringing other key stakeholders on board. Our validation documentation does not require a definitive delivery pattern to be identified and so we did not have any particular worries with our Quality department. However, we thought it prudent to include the Head of Postgraduate Studies and Head of Department in on our debate. All parties gave a cautious approval for the idea to be explored in more detail.

Theorization

The IE team began to put together a schedule for a week, just to see if, and how, it would fit without losing any of the hours decreed by the system. Whilst the requirement for 35 h of staff contact was possible (7 h per day) the 150 h total study was impossible to fit into a 5 day week, or even a 7 day week. Several ideas were kicked around at this stage: 2 weeks instead of 1; using the weekend before and after (providing 9 days); giving up and just resigning ourselves to standard delivery. The kicking around stage eventually generated an extended week model—one in which the taught elements happened in an intensive week, but in which some preparatory reading and a complex post-week assessment were included.

We do use a problem based approach in many of our M-level modules, and we also use assessment as a key part of the learning process. Perhaps, therefore, we could build a case study for use throughout the week and for assessment and require that the documentation be read before the week? This extended week model was then discussed with relevant teaching staff, and with existing students. We have a relatively small group of colleagues involved in our M-level courses, so seeking buy-in and feedback was not too difficult. A lunch-time session with Course Leaders and the colleagues teaching the other Professional Thread modules was enough to get consensus that we should try a pilot for one year. With that consensus in place the other stakeholder agreed a pilot was sensible.

Planning for Evaluation

I have been a course planner for a number of years. In this role I have made many slight adjustments to delivery patterns and been involved with teaching teams trying creative new approaches. In all of those, I am almost ashamed to say, there has been no real place for formal post-change evaluation. We are dealing with M-level

students here and it is relatively easy to engage the students in a dialogue seeking their feedback on changes we make. In addition all of our modules have annual reviews which include student feedback.

Evaluation, in other words, happens, but often informally. It seems that this is not unusual in Higher Education. This is Williams et al. (2011) from a paper called **How do instructional designers evaluate?**

> ... many of the informal evaluation activities evident in our participants' practices were considered to be ordinary aspects of the profession. Our participants rarely used the word "evaluation" and rarely discussed explicit evaluation tasks they did or did not conduct, unless they were prompted by interviewers to do so.

They go on to say:

> Our analysis suggests that instructional designers are learners who are trying to help other learners (Senge 1990) while they collaboratively face complex ecologies and rapidly changing circumstances. These practitioners used many evaluation principles to identify problems and assess the implications of various courses of action.

However, this change seemed to call for a more formal, robust approach to evaluation. Firstly, of course, because we really didn't know if this new approach would work. And secondly, even if it did work, we would need to learn from the experience to improve it. Moreover, we would need the evidence to support the decision we made for the way we would deliver the next instance after the pilot. Naturally we hoped this would work, but we also knew we would need a number of iterations to get the best product possible.

As Mumford (2000) suggests:

> because new ideas are necessarily fuzzy and implementation procedures unclear, one cannot expect requirements and implementation strategies to be clearly defined. Thus, progressive, adaptive refinements will be required with implementation plans being formulated in such a way as to permit progressive refinement through testing and evaluation.

Our courses have two start-dates—January and September. This means, even if we wanted to, we could not keep the fact that the one week block was a new idea from the students, since students from previous cohorts were around and often talked about the course with the new cohort. Instead we chose to be entirely open and we explained right from the first session that this was a change and that we would be seeking feedback throughout the week, so we could make any minor changes needed on the fly, and in depth at the end so we could gauge the success of the pilot.

How It Went

From the off the students were very enthusiastic and all those stating a view said they liked the idea of being involved in the experiment. Although merely anecdotal, it is fair to say that all three staff teaching on the module felt a real "buzz" of the sort that was rarely noticeable at other times. Further evidence of the fact that we got off to a good start was the number of students who came in to join in sessions from

lunch-time on the first day. We do have occasional problems with non-attendance, so the fact that we didn't have everyone there at 9 am on the Monday did not unduly surprise us. When most of the missing ones turned up and made every effort to catch up we made a point of asking them what had happened. Several said they had been texted by their friends who were attending, telling them to get in quickly as they were missing a lot.

At the end of the 8 h first day the students went home apparently happy. Staff, though tired, were also pleased with the fact that we were getting so much engagement from the students. Some minor changes were made to the plan for the remaining days, but nothing changed our minds that this seemed to be working.

The week progressed in much the same vein. Students were clearly enjoying themselves and were willing to throw themselves in to the hectic workload. We included some more outlandish soft-skill focused material and we even had agreement from the students that we could have a piece of formative assessment half way through in which they had to present a project proposal by only using mime, singing or dancing. This engagement with what hard computer scientists naturally regard as suspiciously wacky practice had been almost impossible to generate when we had run this module in the traditional approach. There seemed to be something about the pace and all-encompassing nature of the delivery that helped make everyone more willing to take risks.

The highlight for staff must have been the round of applause we got during the final plenary session. This is the UK. Giving tutors a round of applause, like giving pilots a round of applause for landing in a crosswind, is not standard practice in the land of the stiff upper lip!

Many students demonstrated a mix of being highly competitive (against the other student groups) whilst being willing to try new things out. In a variety of ways we saw active participation in the delivery by the students themselves, all keen to learn more about teamworking and try out different approaches to management of projects.

Even as I write this I hear the bias in my voice! Yes I was part of it, yes I believed it would work, and yes I was really pleased it did. But I was not the only one. The results from the student feedback were very positive (see below), and all the staff were convinced that, whilst we could improve it, the one week approach was a good one.

Student Feedback

We set up a Survey Monkey questionnaire and asked students about their experience. We had 19 replies, which was, in itself an unusually high response rate since the silent majority of satisfied usually far outweigh the few positive or negative survey responses we often get at the end of a module.

There were a number of house-keeping questions, such as about the quality of the teaching, which have not been included in the outcomes below as they do not impact upon the length of time debate.

Question 1

Having now had experience of a one week block, and comparing it with your experience of 12 week semester based modules, how do you think Industrial Expertise should be delivered in future?

1 week block	*74%*
12 week semester	*11%*
3 day block with session over several subsequent weeks	*15%*

Supporting the anecdotal evidence that the cohort thought this to be an eminently suitable approach to teaching IE.

Question 2

You were deliberately put under severe pressure in the week. How well did this:

	Very well (%)	Well enough (%)	OK but some problems (%)	Badly (%)
Help your learning process	*74*	*21*	*5*	*0*
Help you improve team working	*90*	*10*	*0*	*0*
Point out your strengths and weaknesses	*69*	*26*	*5*	*0*

A small percentage of respondents noted some problems, but, reassuringly, none thought the experience was a bad one. Largely the response was favourable.

Questions 6 to 9

NOTE: In the following responses that needed some comments from students only 17 of the 19 responders replied. For the most part the responses speak for themselves so I have added no commentary to these.

Question 6

What would you say to other students about this module?

   Use the materials and reflect on what we learnt and refine yourself
   It was great!!
   regularly attend
   It is exciting!

Hard work, but good at the end
Well I learned a lot from this module and I think if everyone take part in this module seriously then they will learn something.
you must not miss this module
very very useful in our future and very excellent- terry teaching
I think you should be confident to come up with your own idea
Try it and you will learn some vital things about your strengths and weaknesses, personally and professionally.
it is good…very useful in real time work because for the working with group.
It was an excellent module. This week was a learning week with fun. Everyone must undertake this module.
This is Excellent module which brings out all stuff in you.
interesting and helpful
It's brilliant!!! you will find a new person in you after completing this module.
-ask them not to bunk the session

Question 7

What did you like most about the module?

The mode of teaching
Presentation
our teachers all are best Sue is realy great teacher I have ever seen it made industrial expertise memorable for all of us
seminar activities
The way how to present a task in a very exciting way which is the role play and debate
Consultacy based
team discussion, sharing ideas, individual work
working as a team to face the industrial problems
presentations in a different style
do the group work…the special presentation style-using advertisement to present every company's core value. I like it most, because this is the first time to make a advertisement with group member
The team spirit and the different approaches of presentation
about the teaching from lecturer…and combined with other courses people…it was funny enjoyed a lot
Lectures. Interesting Seminar sessions. Teaching styles of Tutors and their way of approach.
About how it went
Everything in this one week
team work and inspiration to explore ourselves.
-2nd session(after the lunch break)—(implementing what we learn in the morning session).

Question 8

What could we do better next time we run the module?

Probably bring a case study from industry and ask us to work it through from start to finish and provide a solution. Producing a blue print, project plan, project management techniques, final delivery, client dealings, Follow up actions and lesson learnt. So it would be good if we do a complete life cycle

Start lecture from 10.00 am

student must get time to reflect

no comments

The module should be started in the week where all of the other assignments has been submitted so that student could concentrate on this module

There may have been some inconsistency in what were taught in different seminar groups. This could be more consistent, so students do not lose out on when their work is marked by different tutors

It will be good if you give some more time for the presentation on "advertisement". Actually we didn't get time to think deeply on that "advertisement". I feel that if you give some more time than it won't be much stress on the brain that we had to produce it quickly.

Question 9

Should we consider using One Week Blocks in any other modules? If so which? Feel free to use the words like "most" or "all" or "none" if you don't want to specify module titles. If there is a particularly appropriate module, please let us know that too.

I would say SSP. But one week isn't adequate. So give the chunk in a week at the beginning of the semester before any other module starts. Then follow it up with lectures, tutorials and seminar for 3–4 weeks (not every day of the week)

None

SSP has to be 1 week

If the subject is more to the management and soft skills development, it will be appropriate to consider on using One Week Block, but if the module involves technical skills, I think 12 week module is the best

No

It would be better if you keep One Week Block for some of the modules.

no never should use this method on other modules

I think we don't need classes everyday, only 2 days is very efficient. 2 days with full classes for every week. 2 days are more than enough. people coming from Nottingham, Manchester for 1 h class everyday. so it would be better arrange all classes in 2 days per week. thank you

Diffusion

Everything points to students believing the experience was worthwhile. There are a few comments that allude to our greatest worry—making sure we give students time to think. That said, the high ratings given in the first two questions seem to indicate that we should continue with the stretched 1 week model, but examine ways we could ensure no other work would conflict with the delivery phase of this, and maybe provide a little more stretch as a way of providing time to reflect.

There was less certainty about the idea of using a 1 week block on other modules, but those who did suggest another module proposed SSP. As this is always the first module it also lends itself to a shortened delivery pattern. The SSP delivery team could see the buzz that IE had caused and were willing to try to be the next experiment.

The IE teaching team were on a high at the end of the week. Engagement was undoubtedly very high and whilst we would like to think that we are good teachers, we can all think of some modules we have taught on that had far less by way of student buy-in. We reflected on how much more enthusiasm this cohort displayed than ones who had taken the same module over a 12 week semester.

Naturally we recognise that there is no absolute proof that the week-block approach was the reason for this success. The cohorts themselves are always very different anyway. But what evidence there is led us to want to do the same again next time round, and begin discussions with colleagues on SSP.

We were all absolutely exhausted at the end of the week too! This focused and intense form of teaching really takes a lot of energy. I doubt that we would have been able to deliver a similar week block on the following week, for example! However, if you can make it through that intense period, the rest of your semester becomes less busy, so there are plus points too. To summarise, the team were asked these three questions and the replies below are from one of the team, but shared by all:

What Do I Like About The Block Approach? The intensity of the full week— really getting to know students and seeing how they develop over the week. Having to react quickly to take on board what the students are discussing—so being able to shape the teaching materials to their needs

It is tiring but very satisfying

And Dislike? Nothing…

Would You Do Anything Differently? I would love to have more materials to play with and to get more external people involved. That way the intensity of the experiences would increase and I think the students appreciate that.

What Happens Next?

It is clear that the extended block worked on a number of fronts, and yet it is also clear from staff and student feedback that we could improve this delivery model.

Many colleagues worried about the time we were giving students to reflect, and so the following iteration had a longer tail, allowing the students several weeks to finalise their assessments. We also felt that students would benefit from further support after the teaching week. A 1 h per week drop-in session was therefore created for the 4 weeks of the extended tail.

The "buzz" that the IE team had reported went on for weeks, with other colleagues reporting back on students discussing the excitement of the IE module. This meant that the next "obvious" candidate module for foreshortening, SSP, had a Course Leader who was already in favour of trying out the experiment themselves.

As SSP prepared students for their M-level study it actually makes a lot of sense to run the module before all the others, rather than in parallel as was currently the case. Unfortunately the authorities do not allow you to increase the number of weeks in a year! So turning SSP into, in effect, an extension to the induction became another scheduling problem. Moreover, the SSP team felt they needed more face to face time, because of the preparatory nature of some of their material, and so we decided that a 2 week block was sensible.

To make this work we needed to engage all module leaders in the debate since we felt the best approach would be to take the first 2 weeks from the semester and make them SSP specific and then reduce the semester to 10 weeks for the other modules. The first semester for the Database Professional MSc, for example, looked like this:

17/09/2012	Enrolment/Int Orientation				
24/09/2012	INDUCTION WEEK				
01/10/2012		SSP 12-7956-00N A			
08/10/2012					
15/10/2012		WADM	CMSI	DB & WEB	SSP follow up
22/10/2012	Standard	12-7829-00S-A	12-7501-00S A	12-7958-00S-A	(1hr p.w + drop in)
29/10/2012	Sem 1				
05/11/2012					
12/11/2012					
19/11/2012					
26/11/2012					
03/12/2012					
10/12/2012					
17/12/2012					
24/12/2012	XMAS HOLIDAY				

The issue here was that the module teams would need to change their teaching plans to fit the material into 10 weeks, rather than 12. This might have been a hard sell except we did have a nice carrot or two to provide:

- Students arriving after the start of the course from abroad were a problem as we allowed them to start up to 2 weeks after the course start date. In the 12 week

model this meant that all module leaders suffered from the problem of helping the late comers catch up. With the 10 week plan, they would not have any late comers.

- The students could be presented with assignments in the 10 week modules at any time since they had all the preparation they needed to become accustomed to UK M-level practice in SSP. When SSP ran in parallel the feedback the students needed could come too late, which meant the subject teams needed to include learning and teaching tips in their own sessions.

Summary

Reviewing the various forms of feedback we can categorise the successes and failures in this pilot as such:

Successes	Failures
Student Engagement	Student didn't do much pre-reading
Student enthusiasm for the tasks	Support for the assessment after the event was not adequately catered for. Luckily the team were willing to provide ad hoc informal support
Staff feeling rewarded	Staff feeling exhausted
All Learning Outcomes met	

What Is Missing From This Research? Well, as this module is very employability focused, it would have been good if we could have proved that this cohort were better able to get and cope with good careers, but that level of research would be hard, and would need time to pass.

There is a danger that we had such positive feedback because the students enjoyed the week, rather than because of any particular learning outcome. But many of us realise that enjoyment of the delivery is an important factor in the willingness of the student to engage, so that is no bad thing anyway. Future iterations, with their slightly extended support need to be assessed to see if this had a positive benefit.

All of this needs to be taken with a modicum of salt since there are clear differences in personal learning styles that, when seen cumulatively, mean that feedback from another cohort might be significantly different.

But what we think we can say is that it is OK to challenge accepted delivery patterns and that doing so might pleasantly surprise and provide opportunities for new learning experiences for our cohorts. Well worth trying!

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Chapter 16
Active Student Engagement: The Heart of Effective Learning

Rebecca Strachan and Lalith Liyanage

Introduction

The focal argument of this chapter is that the format, duration and delivery of a course is most effective when the underlying philosophy is to actively engage students in their learning. This should be at the heart of the design, development and delivery of a higher education course, including non-traditional formats and is illustrated by the following student comment: "To be engaged with my studies is to … understand it and enjoy it and feel a connection between myself and what I am studying, rather than just learning" (Student Engagement at UBC Okanagan 2013).

The chapter begins by exploring the notion of active learning, which aligns with a learner centred constructivist approach and lends itself to more authentic learning. This idea of active learning is developed further by providing evidence and examples to illustrate that a variety of formats and delivery approaches are possible, but the crucial element is to ensure that students are active not passive learners. This section draws on the authors' own considerable experiences of higher education in both the UK and Sri Lanka and across full-time, part time, distance learning and work-based learning combined with examples from a number of different disciplines, supported by literature from leading experts in the field. Active learning is not without its critics and this chapter also addresses these concerns by building on earlier work such as that by Prince (2004, pp. 223–231) and Michael (2006, pp. 159–167).

The final section of the chapter focuses on how this approach may require staff to adopt new methods of learning, teaching and assessment and how staff development can play a crucial role. This also includes the challenges staff face in adopting

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technology to provide an active learning student experience. Examples are provided to illustrate this, again drawing on the authors' own experiences in two different countries as well as the wider literature.

A Definition of Active and Passive Learning

The philosophy underlying active learning can be seen in this quote attributed to Confucius, Chinese Philosopher and reformer (551BC–479BC) "I hear and I forget. I see and I remember. I do and I understand". Active Learning is "generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing" (qtd in Prince 2004, p. 223). Within the last decade, there has been a wealth of academic publications on the subject of active learning with strong evidence to support the view that active learning can be beneficial and lead to higher level learning (Prince 2004, pp. 223–231; Felder and Brent 2009, pp. 122–127; Strachan et al. 2010 Technical Authoring 11.1–11.11; Shieh et al. 2011, pp. 1082–1099).

Active learning is the antithesis of passive learning. In a passive learning experience, students do not actively engage in the learning process, but they may absorb some of the information being presented. Examples of passive learning include attending a lecture, reading a paper, or watching a video. All of these activities can become a more active experience for the student but they can also be very passive activities requiring little interaction from the student. This inertia can be a barrier to deep learning and can also make it difficult for the lecturer to determine the level of learning and understanding that is taking place.

It is important that students do more than just listen and are active participants in their learning. Previous research (Charlton et al. 2010; Dori et al. 2003, pp. 44–49) has shown that greater learning is achieved when students are exposed to active learning methods, where students are actively engaged in obtaining, sharing, creating and applying knowledge and information, and when students use higher order thinking such as analysis, synthesis, reflection and evaluation.

It is often the student who decides their level of learning activity. Mayer (2004) emphasises that "learning may be best supported by methods of instruction that involve cognitive activity rather than behavioural activity" (15). The key to active learning is that learning activity is taking place within the student's brain. This may be difficult to observe and thus noting that students are active in their behaviour may not be a true representation of whether they are 'actively' learning.

As an example, a traditional lecture format may look to the external observer that it is a passive form of learning. However, students may be active in their listening and note taking and thus be engaged in active learning. A lecture can also be transformed into a more interactive session by breaking it into smaller segments and introducing opportunities for students to actively participate and/or give feedback.

Steve Draper (2005) identifies three separate pedagogic benefits that can be obtained by using interactive techniques in a lecture. These are:

I. "Directly for the learners e.g. by eliciting (re)processing of the content, which deepens understanding and lengthens retention; and by getting feedback that shows them what they do and do not understand to guide study later.

II. Directly for the teacher: getting feedback that allows them to improve what they do. This may be explicit ("Do you want me to go more slowly?") or implicit by asking content questions, and inferring from the answers what needs more attention.

III. True interaction … the defining difference is that the teacher doesn't just get information from the learners' actions, but changes her own actions because of it; and then learners change theirs and so on".

This third area where students and lecturers are truly interacting offers benefits to both parties. It provides the opportunity for lecturers to receive feedback from students and thus adapt their teaching to that particular set of students. For the students, it can make them feel valued as they can see that their participation and actions are making a real difference. Where students have valuable and relevant work experience and other expertise, the lecturer can draw on this to facilitate the exchange of a much wider set of relevant experiences amongst the group.

It is also useful to explore the relationship between active learning and student engagement. Kuh et al. define student engagement as "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (qtd in Trowler 2010, p. 7). This definition aligns closely with the definition of active learning and the two are inextricably linked. Active learning can be viewed as an essential element of student engagement. Both the National Survey of Student Engagement (NSSE), an annual survey conducted among public and private higher education institutions in the US and Canada, and the Australasian Survey of Student Engagement (AUSSE) include active learning as one of the key facets for student engagement in their learning (Coates 2007 "A Model for Online" 122 and Coates "Engaging Students" 2009).

The four remaining facets of student engagement in the NSSE are participation in challenging academic activities; formative communication with academic staff; involvement in enriching educational experiences; and feeling legitimated and supported by university learning communities, each of which are also closely aligned to active learning. The AUSSE adds a further facet not present in the NSSE: work-integrated learning (integration of employment-focused work experience into study).

Additionally, mention should be made of the link between active learning and constructivism. Constructivism is a paradigm that suggests learning is an active, constructive process and thus people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. Stemming from early work by Jean Piaget and John Dewey, with new perspectives by Lev Vygotsky and Jerome Bruner constructivism means that when people encounter something new, they have to reconcile it with their previous experience and ideas and this may lead them to change what they believe and/or discard some information as irrelevant. In essence people are active creators of their own knowledge and thus need to ask questions, explore and assess what they know (thirteen ed online).

A common misunderstanding about constructivism is that staff should always allow students to construct knowledge for themselves and not tell them anything directly. This though is not accurate and is mixing a theory of knowing with a theory of learning. Constructivism assumes that all knowledge is constructed from the learner's previous knowledge, regardless of how one is taught. Thus, even listening to a lecture can involve active attempts to construct new knowledge (LearningTheories.com 2013)

Active learning can thus be seen as an approach to learning and teaching that aligns with constructivism by providing an environment in which learners can interact, participate, ask questions, explore, experience, innovate, be curious and reflect on all of this. Thus, it can support, encourage and help these learners to be active creators of their own knowledge.

Active learning may or may not be assisted by technology and can be used in a variety of settings from the lecture theatre to the virtual campus and out in the workplace. When designed to meet the required learning outcomes, it can reap real benefits for both the students and the academic staff.

Good Practice in Active Learning

Active learning can be designed into a course irrespective of the mode of delivery. However, it may require a more innovative and creative approach compared to more conventional and passive forms of education. The following outlines examples of successful active learning approaches that have been adopted to support non-traditional formats of learning both on and off campus.

On Campus

The traditional format of learning and teaching delivery on campus comprises a lecture supported by one or more seminars, tutorials, studio workshops and laboratories. However, even the conventional lecture can be transformed. In recent years, the introduction of 'clickers' to the lecture environment has been well documented (Hoekstra 2008, pp. 329–341). More recently, the idea of the flipped or inverted classroom has developed momentum, particularly in the Science, Technology, Engineering and Mathematics (STEM) area with recent examples from Bates and Galloway (2012) at the University of Edinburgh and the work of Eric Mazur over a number of years at Harvard University. In the 'flipped' classroom, the typical lecture and post homework elements are reversed. Short video lectures and other pre-'class' activities are completed by students before the class session, allowing the in-class time to be used for exercises, projects and/or discussions. Students can find this approach difficult at first but over time, they become positive about the benefits of it as illustrated by these two quotes:

> The style took some time to grow on me, but I now prefer it

And

> Really like that you need to prepare for lectures as the lectures themselves were much more interesting. Have decided I am really not a fan of the traditional "take notes from a slide-show" lecture-not much thinking ends up being done and it makes it far too tempting to skip the lecture altogether and just pick the notes up online. (Bates and Galloway 2012, p. 5)

This idea has been taken further by initiatives such as the Technology Enabled Active Learning (TEAL) project at the Massachusetts Institute of Technology (MIT). This uses a teaching format that merges lectures, simulations and hands-on desktop experiments to create a rich collaborative learning experience. It was introduced to address a number of concerns with the first year physics programme at MIT including low attendance rates (40–50 % average attendance at lectures), failure rates of 10 % or more, pedagogic research showing active learning can lead to higher learning gains and improved pass rates and the lack of any laboratory experience in the current first year programme. TEAL classes feature the following:

 I. Collaborative learning—students working during class in small groups with shared laptop computers
 II. Desktop experiments with data acquisition links to laptops
III. Media-rich visualizations and simulations delivered via laptops and the Internet
IV. Personal response systems that stimulate interaction between students and lecturers

The TEAL project supports social constructivism and active learning by fostering individual and group thinking, supported by educational technology, and small and large group discussions for knowledge building. Dori and Belcher (2005, p. 274) established that the TEAL approach had a significant and strong positive effect on the students. They found that the failure rate of students decreased substantially while the learning gains, measured by standard assessment instruments, had almost doubled.

TEAL is one example of using technology to support learning and teaching. Information and digital technology has evolved rapidly over the last 20 years and now permeates everyday life. Devices are so small and light that they can be carried everywhere. Wireless networks allow devices to be connected 24/7 and cloud computing offers a range of services, resources and information. This 'digital' age has also influenced learning and teaching in higher education. In England, HEFCE's report 'Enhancing learning and teaching through the use of technology' highlights three different levels of benefits from technology:

 I. Efficiency (existing processes carried out in a more cost-effective, time-effective, sustainable or scalable manner) e.g. e-assessment
 II. Enhancement (improving existing processes and the outcomes) e.g. lecture capture
III. Transformation (radical, positive change in existing processes or introducing new processes) (2).

Currently, technology is used within the higher education sector to help with the first two benefits but to date there has been less evidence of transformation. This situation may change over the next decade as more experience is gained with the use of technology enabled learning.

One example of using technology to transform the learning experience is the use of Massively Multiplayer Online Role Playing Games (MMORPGs) to support language learning. Sara Lightfoot comments that

> Learning is at its best when it is deadly serious and very playful at the same time. (qtd in Kafai 1995, p. 310)

MMORPGs offer these two elements for second language learning by providing a virtual environment in which students can 'play' and 'practise' their language skills with native speakers. In a three-year project, Kongmee et al. (2012) explored the use of MMORPGs to support second language learning among Thai students in Thailand. These online games offer an informal, fun, safe and community-based learning environment that mirrors a number of elements from the real world. Students gain confidence in using their second language through a variety of communication mechanisms and can also explore cultural aspects. These skills are transferable between the virtual and real world and from game to game. In addition, students find this method of learning enjoyable and this motivates them to engage with their language learning, leading to visible improvements in their language proficiency. As one of the students explained:

> "playing MMORPGs were difficult but it is also the place where I can practice my English language with native speakers. I think the game challenges me to learn new things."

> Another student commented, "I thought of playing an international server MMORPGs but I was too afraid of using English. Now reading is not that hard anymore I can do many quests. Players are nicer than I thought". (Kongmee et al. 2012, p. 14)

Gaming is yet to become a mainstream part of higher education, yet its benefits are tangible. Serious gaming and simulation are on the increase but these tend to require substantial investment of time and resources. However, as the above example illustrates, widely and freely available social games can also be used to good effect in higher education.

Off Campus

The original 'off campus' learning programmes were provided by distance learning through 'correspondence study'. Today, there are very few purely 'correspondence study' programmes, and the concept of the 'distance learning study pack' is being relegated to the archive shelves as technology, open access and work-based learning influence the new generation of 'off campus' provision.

In Europe, the US and Australia, programmes delivered at a distance or in the workplace are well understood and valued by employers and employees alike. However in other parts of the world, including parts of Asia, Africa and the Middle

East, the value of off campus provision is less well understood. As one head of a Sri Lankan institution remarked:

> The level of acceptance and people's reluctance to accept this new methodology is the major bottleneck in popularizing the online concept in Sri Lanka. Overall as a nation, it requires policies and procedures recognizing online learning credentials as being equivalent to credentials earned in traditional ways. (Liyanage et al. 2013, p. 6)

As Moore et al. (2011) found in their study, distance learning, online learning and e-learning are difficult to define precisely, but together with work-based learning, all have their role in 'off-campus' learning provision (129–135). Here the emphasis is looking at how to achieve student engagement and active learning when the students and academic staff are not in physical face-to-face contact. The danger when physical face-to-face contact is absent is that it is easy to adopt a more passive learning approach. This is clearly demonstrated through Hiltz et al.'s (2000) study which reported that when "simply receiving posted material and sending back individual work, results are poorer than in traditional classrooms". Hrastinki (2009) provides compelling evidence that "*if we want to enhance online learning, we need to enhance online learner participation*" (120).

Liyanage (2013) found that both in the UK and Sri Lanka, the students' main criticism of online content is 'its boring flatness,' but when it is converted into 'interactive activity-rich learning material', these criticisms dissipate rapidly (185). He further found that "… the real interactivity is how one manages to confront ideas and get the learners to interact and synthesize ideas at a higher level. The question is how much thought has gone into creating this type of interactivity" (Liyanage et al. 2013, p. 6). Thus, it is essential that if technology is used in off-campus provision, the pedagogical arguments say that it must be used in an engaging manner and that passive items such as online lectures, videos, photos, podcasts should be supplemented or incorporated into a more active resource that encourages learners to interact, question, apply, discuss, reflect on and evaluate the subject.

For example Edirisingha and Salmon (2009, pp. 153–160) outline four approaches to using podcasting with undergraduate students both on campus and at a distance. Their article clearly demonstrates that it is critical to have a clear pedagogical rationale at the outset to inform how podcasts should be used within the learning process, and this applies to other forms of technology. It is essential to consider the pedagogy and use this to drive the use of technology rather than the other way round.

Looking at the development of Massively Online Open Courses (MOOCs), these started out as mainly content based but are increasingly moving to a more collaborative and connected online learning environment providing greater opportunities for non-traditional forms of teaching approaches and learner-centred pedagogy where students learn from one another. "Online communities 'crowd-source' answers to problems, creating networks that distribute learning in ways that seldom occur in traditional classrooms in universities" (Yuan and Powell 2013, p. 11). Higher education institutions such as MIT and Edinburgh University are using MOOCs as an experimental platform to engage in emerging pedagogical models, exploit peer

support and use peer assessment techniques. MOOCs have traditionally had very low retention and progression rates but this move to using a more interactive, engaging and collaborative experience may change this situation.

Active Learning and Assessment

Assessment is a key element of higher education programmes. There have been a number of initiatives in recent years to improve assessment and feedback, particularly in the UK in light of the lower scores in the Assessment and Feedback elements of the National Student Survey. However a notable approach to assessment is the Re-engineering Assessment Practice in Higher Education (REAP) project in Scotland which has devised a set of principles for good feedback practice based on a self-regulation model.

> Research in higher education shows that learning is deeper, more sustainable and satisfying when students become responsible partners in their learning. The most powerful way to achieve this is to involve students actively in assessment processes, that is, by giving them regular opportunities to make assessment judgements about their own work and the work of others. This will develop their ability to monitor, evaluate and manage their own learning without relying on the expertise of the teacher. Over time, students will become independent and self-regulated learners with the confidence, self-reliance and collaborative skills necessary for life beyond graduation. (REAP)

Peer Evaluation in Education Review (PEER) is a follow-on project which has investigated which models of student peer evaluation and feedback work best. Strachan used peer assessment at the formative stage in a distance learning programme. Students were asked to provide feedback on a draft of their final assignment. The aim was to engage students with their assessment criteria, provide effective formative feedback for each other and also improve students' self analysis of their work and through this process, improve the standards of their assessed work. This was achieved by introducing a student peer review element to a module. Students reviewed each other's drafts online in small groups with each student providing individual written peer feedback to others in their group. Following this work, the academic staff also provided feedback. As one student commented:

> "Reading others' draft… helped me get the final structure right. Being forced to give feedback to my peers helped me polish my critical analysis & evaluation skills. It provided the needed interaction". Another student observed "it was nice to compare my draft with others. I picked up a few tips… about addressing the assignment requirements". (Strachan et al. 2013 Transforming Students 6)

This approach also ensured students engaged with their learning and assessment process from an early point in their programme of study.

According to Mueller (2013), authentic assessment is "a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills". Wiggins describes it as "…*Engaging and worthy problems or questions of importance, in which students must use knowledge to fashion performances effectively and creatively. The tasks are either*

replicas of or analogous to the kinds of problems faced by adult citizens and consumers or professionals in the field" (qtd in Mueller 2013).

The justification for providing authentic assessment opportunities is supported by the considerable body of research on learning and teaching that has demonstrated that learners need to be able to construct their own meaning of the world, using information they have gathered and been taught, and their own experiences with the world (Mueller 2013). This also supports an active learning approach.

Strachan et al. (2010) implemented an active learning and authentic assessment approach in a technical authoring module delivered to computing students (Bringing Technical Authoring). Firstly, the weekly lecture/seminar session was altered to use a more inquiry-based approach where presentation of new ideas and information by the academic tutor took up less than 50 % of the time, and even then the presentation included opportunities for student involvement and engagement. The remaining time in seminars was geared towards student-led activities, some requiring preparation outside the class as in previous years, others using a more problem-based approach to engage students in their learning and enabling them to take responsibility for their learning. Changes were also made to the module assessment and a conference was set up aimed at external employers from business, industry and the public sector. This conference provided a vehicle for students to present their final assessments from the module, providing a much more authentic assessment opportunity than in previous years. The team found that this approach helped with student motivation and engagement and provided a realism and professionalism that would not have been possible through a more conventional assessment strategy. Other benefits included a greater sense of community within the student body, and individually students gained in confidence both through the conference presentation and also by attending the conference itself. Student feedback was positive and constructive.

This section has outlined a number of examples and approaches to incorporating a more active learning approach within programme design, delivery and assessment. This has demonstrated that it is possible to incorporate active learning in both traditional and non-traditional approaches and there are clear benefits resulting from doing this practice. The next section looks at some of the criticisms of taking an active learning approach.

Does Active Learning Work?

While there is anecdotal evidence suggesting that active learning is effective (Knypstra 2009, pp. 1–8; Bates Prins 2009) and that students' exam scores improve when an active learning approach is adopted compared to a more traditional approach (e.g., Christopher and Marek 2009, pp. 130–133; Steinhorst and Keeler qtd in Carlson and Winquist 2011, p. 3; Ryan 2006, pp. 180–183; Yoder and Hochevar 2005, pp. 91–95), others have found it to have no effect (Pfaff and Weinberg 2009) or even to have a detrimental effect on student performance (Weltman and Whiteside 2010).

One of the reasons for the inconsistent results in the active learning literature is the enormous diversity of approaches that are referred to as 'active learning'. The only unifying characteristic seems to be that students are asked to "do something" (Page qtd in Carlson and Winquist 2011, p. 3), but it is difficult to compare findings as each instance of active learning is contextualised within the specific discipline.

Carlson and Winquist's (2011) work (1–23), together with others, have accumulated a large body of research showing positive results from an active learning approach. There are some barriers though to active learning. These broadly fall into three areas:

1. Student attitudes and perception
2. Staff attitudes and perception
3. Staff time and effort

Each of these will be explored in turn. Students' attitudes and perception may not be conducive to active learning. This has been reported in a number of studies, for example Zepke (2013, pp. 97–107). In Liyanage (2013), this is illustrated by the following comment from a distance learning student "*Although all your learning materials are around you online, it gives you an extra burden that you have to totally organise your learning yourself which is not my preferred style*". This leads to expectations that their programmes will be instructor-led rather than learner centred. To address this issue, academic staff may need to spend some time explaining what an active learning approach is with students before expecting them to engage with the process. One of the authors experienced this in her own institution. Using an active learning approach with a certain cohort, it was clear that students were not engaging in the process and although attendance was very good, they were turning up to class expecting to receive an instructor-led session and not prepared to participate actively either in or outside the classroom environment. To alter this situation, the author spent the first 30 min of the next session exploring learning styles and methods of learning and teaching with the students, including explaining the benefits of being an active learner. This activity resulted in a much improved attitude from students, greater participation in the programme sessions and ultimately a stronger final set of student assessments. Ensuring that students understand how they learn and that learning requires their participation is key to a successful learning experience, but it is often one that is overlooked by both students and academics.

Michael (2007, pp. 42–47) explored some of the barriers to active learning and noted that two of the key concerns for staff are the ability to deliver enough content and the loss of control in the classroom situation. It is true that the use of in-class active learning strategies will reduce the available time for the traditional lecture, but it has also been shown by Rowe (1980, pp. 27–34) that student learning during a fifty-minute class can be enhanced simply by pausing for around three minutes, at three different times during the class. Thus although the quantity of information may be less, the quality of learning is enhanced. Furthermore active learning often provides more opportunities for students to explore and learn outside the classroom; thus there is less need to 'fill' the classroom time with content.

The second concern from staff is the loss of control within the classroom environment. Active learning can result in less structure, but there are real benefits. Carol Hurney (2013) has adopted an active learning and student-centred approach. She reflects on this style of teaching: "*And so I made the dive and it was a spectacular experience. The best pedagogical shift I had ever made. The experience was so powerful, I felt like running to the top of a cliff and diving off again, and again. Now each semester I reflect on past experiences, explore the literature, and walk into the classroom fully prepared to design learning WITH my students, not for them.*"

She further reflects:

> I continue to shift the balance of power and the role of the instructor for both of these courses toward the learner-centred end of the pedagogical spectrum. Now for each course, I talk less, they talk more, and they participate more meaningfully in their learning. Swimming in the learner-centred waters is still a challenge for me. It is hard to resist the urge to answer student questions during the course of the lab that they could answer for themselves by reviewing the lab manual. It is also hard to watch the students struggle with a complex, application-based assignment without trying to help them. But if I am patient and resist the urge to "tell" them or "help" them, I begin to see my students swimming alongside me in the learner-centred ocean and although it is a struggle, we celebrate the experience and seek out new waters and future dives. Working with my students to make my courses learner-centred still sustains me.

A final concern from staff is the time and effort taken to engage in active learning. Some academic staff say that active learning would be great 'if they had the time,' but it should be remembered that delivering content to students in an instructional manner does not mean that students have 'learnt' that content. By delivering less content, more time can be spent on activities that engage students and encourage deeper learning.

Tips of the Trade

This chapter has outlined some of the benefits of taking an active learning approach and provided examples of it in practice across both traditional and non-traditional delivery formats. This section outlines some of the main tools and techniques that support this approach.

Race's Ripples of Learning

A model of learning and teaching that lies at the heart of active learning is the Ripples of Learning by Phil Race (2013). This theory contends that there are seven factors that underpin successful learning, and these work together like ripples on a pond, occurring more or less simultaneously, and interacting with each other just like when a stone is thrown into a pond. Race (2013) argues that the energy to start learning can arise from needing to learn and/or from wanting to learn and this

desire forms the inner two ripples, providing the raison d'être for learning. Once this stance is established, the third ripple occurs based on answers to the question: 'How do most people become good at things?' Most answers relate to 'doing' of one kind or another, for example practice, learning through getting it wrong at first, experimenting, trial and error, repetition, experience, and having a go and so 'learning by doing' forms the third ripple or factor. The next ripple is 'making sense' and means getting students to make sense of what they have done by getting them to compare with each other, argue, discuss and debate and thus deepen their learning by 'making sense of it'. This is followed by learning through feedback, required to help people see how they are making progress with their learning. The last two factors or ripples are coaching/mentoring/teaching and assessment, which helps to deepen students' learning by getting students to coach others and explain things to them and by assessing their own and other's learning, thus making 'informed judgements'.

These factors can form the basis for designing and delivering a successful learning experience. Providing the conditions in which these seven factors can be successfully completed by students should facilitate an effective active learning experience. Table 16.1 demonstrates each can be addressed in a non-traditional delivery format by the academic staff.

A useful guide of active learning techniques which can be used to supplement rather than replace lectures is provided by Paulson and Faust (2013).

Salmon's E-tivities and E-moderation

Technology is increasingly being used to support learning, teaching and assessment practice and can be particularly useful for non-traditional formats. However, care needs to be taken to ensure it is used to support active learning and is not just used to provide a substitute for face- to-face learning in a passive and non-engaging manner. Lecture capture, particularly when presented in its original format as a single video file, can provide a very passive learning experience. But when incorporated into a learning resource, either in smaller chunks or indexed to allow the opportunity to move around it more intuitively, and linked to quizzes, questions and supporting activities, it can become a much more engaging learning resource.

Online learning environments are now commonplace, but ensuring students engage with them is a more difficult challenge. Gilly Salmon (2013) has provided help on this aspect with her work on e-tivities and e-learning. She provides a five-stage model that is designed to encourage learner participation in online learning and the role of the e-moderator or online facilitator. The five stages are:

I. **Access & Motivation**. Exploring the technology and motivation building are key issues. The e-moderator helps meet and greet students and ensure they have access to and can use the learning environment.
II. **Socialisation**. This second stage builds on the first by focussing on social processes and 'community building'. The moderator's role is to help build the community of learners.

Table 16.1 How race's ripples of learning can be applied to non-traditional formats

Factors for successful learning	Implementation in a non traditional format
I. Need to learn	Reflect on the students' rationale for studying the programme. This may often include external factors such as the need to gain an academic qualification to gain professional accreditation, achieve a specific level of expertise for their work, and demonstrate successful higher level learning for career progression
II. Want to learn	This can be established by asking the students 'what's in it for me'. One example is providing students with information on how successful learning takes place so they want to engage with it. Another is demonstrating to them what can occur as a result of this learning e.g. what will they be able to accomplish. Being passionate about a subject, providing external stimuli such as employer input and making it fun and enjoyable can also enthuse students
III. Learn by doing	This is at the heart of active learning and thus means designing the learning and teaching activities to ensure students have to 'do things' and are not passive participants in the learning process. Problem-based learning, practical sessions, experimentation, trial and error are all examples of 'learning by doing'. For an online learning environment, providing simulations, quizzes, games, virtual teamwork, and the opportunity to share and discuss answers to questions/problems can all support the 'learning by doing' ethos
IV. Making sense	Students can be helped by being supportive when they have not yet 'seen the light' and providing examples of how others have also 'made' sense of things in the past. This may require active moderation of discussion forums in an online environment and providing opportunities for students to share their worries, concerns, issues and 'breakthroughs' in a safe and supportive way
V. Learn through feedback	Here it is important to provide feedback quickly, so it can inform their learning and also ensure it is accessible and constructive. Providing opportunities for peer feedback can be particularly useful and provide good learning opportunities to both the giver and the receiver of the feedback. More care needs to be taken in an online environment to ensure feedback is clear. Audio feedback can be a useful tool and provide a more personalised feedback experience. Generic feedback to the group can help individuals position their own feedback in a wider context
VI. Teach/coach others	Providing opportunities for students to lead on some aspect of the curriculum and related activities and to coach and/or mentor others in small groups on specific topics are all examples. For online learning, discussion forums, podcasting, screen capture and social media can all provide useful mechanisms to facilitate this
VII. Assess their/others learning	Peer review and feedback can be built into most programmes particularly for formative assessment, but also for summative and other learning opportunities. This can be supported through an online learning environment so it can occur at a distance. Clear guidelines and rules of engagement should be established from the outset to ensure this is a safe and supporting learning experience for all

III. **Information Exchange**. In this stage, exchange of information and co-opera-
tive tasks are undertaken. The e-moderator assists students in their exploration
and exchange of information and content with other students.

IV. **Knowledge Construction**. Here knowledge development and discussion ac-
tivities become important. Participants recognise the importance of interaction
with the other students and use this to construct knowledge for themselves and
with others.

V. **Development**. In this final stage, participants become responsible for their own
learning and that of their group. Ideas are applied to individual contexts. This
stage is characterised by reflection and assessment.

Although this model was developed a number of years ago, the basic principles are
still applicable to using technology in non-traditional formats, and can be adopted
to ensure that students can be active learners by first ensuring they can access the
technology/learning environment itself and feel part of a wider learning community.
Providing online icebreakers, introductions and following up non-participants in the
early stages of the programme can all help. These principles can also apply to face-
to-face teaching. For example, in the classroom, students can often stay in 'friend-
ship groups'. Moving students around to sit with students outside their 'friendship
group' can build a wider and stronger learning community.

Online socialisation can be encouraged by providing online team-building ac-
tivities and group discussions, plus encouraging students to respond and comment
on each other's posts. This provides the basis to then move into the final three stages
where students start to learn, and build their own understanding and knowledge.
Again the role of the academic staff is to support, facilitate and encourage students
to make these steps and ensure that they stay on track and fully engaged. This is
the role of the e-moderator and the staff members/personnel themselves need to
be active and engaged in the learning process. Often online and distance learning
provision is associated with the staff designing, developing and providing a com-
prehensive set of learning materials and distributing this to students at the start of
the programme to work through on their own. Salmon's (2013) model encourages
ongoing participation and interaction between the staff and the students and argues
that this leads to deeper learning. Certainly it can help the feelings of isolation often
expressed by online and distance learning students (Liyanage 2013, pp. 106–108)
and helps staff monitor students' progress through their learning. Salmon's (2013)
model also illustrates a fundamental principle: that pedagogy should underpin the
use of technology, rather than using technology for its own sake, a view reinforced in
the work by Strachan et al. (2011) As one tutor stated, "technology should not drive
pedagogy but pedagogy should drive technology" (Strachan et al. 2011, p. 142).

REAP Approach to Assessment and Feedback

Assessment and feedback are important parts of the learning process in higher edu-
cation, yet regularly still receive relatively low scores from students in the UK's

National Student Survey. One project that has successfully tackled this issue and provides a good basis for effective assessment and feedback practice is the Re-engineering Assessment Practices (REAP) project. This project was the first successful attempt at re-engineering assessment and feedback using a self-regulation model. Drawing on work by Gibbs and Simpson (2004, pp. 3–31) and Nicol and Macfarlane-Dick (2006, pp. 199–218), the REAP project identified eleven principles for good assessment design based around two themes 'engage' and 'empower'.

The 'engage' principles are mainly about using assessment tasks to encourage learner engagement. Nicol (REAP) also calls this "Encourage time and effort on challenging learning tasks". The engage principles are:

I. Capture sufficient study time and effort in and out of class
II. Distribute students' effort evenly across topics and weeks
III. Engage students in deep not just shallow learning activity
IV. Communicate clear and high expectations to students.

The 'empower' principles are centred on feedback and developing learner independence and self-regulation. They are:

I. Clarify what good performance is (goals, criteria, standards)
II. Facilitate the development of reflection and self-assessment in learning
III. Deliver high quality feedback to students: that enables them to self-correct
IV. Encourage dialogue around learning (peer and tutor-student)
V. Encourage positive motivational beliefs and self-esteem
VI. Provide opportunities to act on feedback
VII. Provide information that teachers can use to help shape their teaching

The REAP project demonstrated the application of these principles across four different undergraduate programmes. Strachan et al. (2010) applied them to a technical authoring module illustrating how they can be used to inform the design and implementation of feedback process (Bringing Technical Authoring). The Peer Evaluation in Education Review (PEER) project has also drawn on them in their work. REAP produced a set of principles and associated key questions for academic staff (see Table 16.2) which form a useful basis on which to consider the design of assessment and feedback within a programme whether delivering in traditional or non-traditional formats.

Implications for Staff and Their Institution

So what are the implications for staff of adopting an active learning approach? It is interesting to note that it is only in recent years that higher education institutions in the UK have committed to training new academic staff in learning and teaching. Previously it has been assumed that academic staff would be able to teach with no specific training or help. This is in sharp contrast to the way academic staff approach their own subject research. In this latter case, academic staff use the literature and

Table 16.2 REAP principles and questions for academic staff

Assessment principle	Key question for academic staff
Help clarify what good performance is	To what extent do students in your course have opportunities to engage actively with goals, criteria and standards, before, during and after an assessment task?
Encourage 'time and effort' on challenging learning tasks	To what extent do your assessment tasks encourage regular study in and out of class and deep rather than surface learning?
Deliver high quality feedback information that helps learners self-correct	What kind of teacher feedback do you provide—in what ways does it help students self-assess and self-correct?
Provide opportunities to act on feedback	To what extent is feedback attended to and acted upon by students in your course, and if so, in what ways? (To close any gap between current and desired performance)
Ensure that summative assessment has a positive impact on learning?	To what extent are your summative and formative assessments aligned and support the development of valued qualities, skills and understanding
Encourage interaction and dialogue around learning	What opportunities are there for feedback dialogue (peer and/or tutor-student) around assessment tasks?
Facilitate the development of self-assessment and reflection in learning	To what extent are there formal opportunities for reflection, self-assessment or peer assessment in your course?
Give choice in the topic, method, criteria, weighting or timing of assessments	To what extent do students have choice in the topics, methods, criteria, weighting and/or timing of learning and assessment tasks in your course?
Involve students in decision-making about assessment policy and practice	To what extent are your students in your course kept informed or engaged in consultations regarding assessment decisions?
Support the development of learning communities	To what extent do your assessments and feedback processes help support the development of learning communities?
Encourage positive motivational beliefs and self-esteem.	To what extent do your assessments and feedback processes activate your students' motivation to learn and be successful?
Provide information to teachers that can be used to help shape the teaching	To what extent do your assessments and feedback processes inform and shape your teaching?

previous studies to inform their practice and find techniques and approaches that are appropriate and effective. Although there is literature on how to teach effectively and on how people learn (Handelsman et al. 2004, pp. 521–522; Race 2013), there is still a reluctance for academic staff to engage in this process. As Wood (2004) comments, "medical people are now encouraged to carry out 'evidence-based medicine', so why do we not carry out 'evidence-based teaching'?" (1).

There have been developments over recent years. In the UK this has primarily been led by national organisations such as the Higher Education Academy (HEA) and Staff Educational Development Association (SEDA) with higher education institutions implementing their principles and guidance within their own staff development programmes. However, with advances in technology, is staff development keeping pace? Both HEFCE's strategy and JISC's publication on Effective Practice in a Digital Age emphasised new priorities for the sector, most notably in engaging academics in the use of technologies, highlighting the need for investment in staff development and pedagogic skills to maximise the benefits of technology enhanced learning tools and their incorporation into learning and teaching. These findings are also supported by the study of work based learning by Liyanage (2013) which also highlights the need for investment in technology itself and in specialist technical support staff to improve the use of technology in learning, teaching and assessment practice.

There have also been claims that young people today have poorer concentration skills but observe a young person playing an online game and they can concentrate for long periods of time. Thus it is essential to look at how that interest and engagement can be replicated within their academic programmes. This means transforming from traditional formats to take advantage of current and emerging technologies and how we can communicate, interact and engage in the modern world. This should also inform the design of learning spaces. The traditional lecture theatre and rooms with rows of desks still dominate higher education campuses, yet are these appropriate learning spaces? The Student-Centred Active Learning Environment for Undergraduate Programs (SCALE-UP) Project has examples of more innovative learning spaces in higher education that have adopted new technology and also explored how to use these in a classroom setting in a more informed and effective pedagogical manner. Libraries and some schools have also adopted these more flexible, creative and innovative learning space designs. Other universities should now follow suit.

Thus there are two key requirements for staff development, one around pedagogy and the other around technology. Ideally these should be viewed as an integrated whole and not as two separate areas of development. Then pedagogy can be used to underpin technology rather than using technology for its own sake. Alongside these, there should be the development of appropriate learning spaces and suitably qualified technical support staff to help academic staff in their take up of current and emerging technologies to support innovative and engaging learning and teaching practice.

Final Remarks and Conclusions

This chapter has explored active learning and illustrated how it can be applied even in non-traditional formats. An active learning approach can present challenges to both students and staff, but the long term benefits of such an approach to students

and their learning means that these challenges should be tackled. As Richard Branson once remarked "You don't learn to walk by following rules. You learn by doing, and by falling over."

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Chapter 17
Learning in Three Dimensions: Using Lego Serious Play for Creative and Critical Reflection Across Time and Space

Alison James

What do We Mean by "Traditional"?

As I write this first sentence I realise how problematic it is to try and chart the territory of traditional versus non-traditional learning, as this seemingly simple differentiation provokes rich and complex questions. At first thought, "traditional" may evoke thoughts of contained classrooms, with seats and desks in neat rows, structured around examinations and characterised by rote learning, note-taking, reading and writing. Conversely, "non-traditional" may suggest anything which happens outside compulsory and well recognised structures. In addition, for those of us who believe that learning is socially and culturally situated, questions as to "Whose traditions?" "Where?" "When?" "Why?" need addressing.

Extensive literature exists investigating how learning has changed in the last century, which includes consideration of traditional versus non-traditional models, which I will not repeat here (e.g.Boud et al. 1993; Brookfield 1995; Claxton 1999; Illeris 2009; Wedemeyer 1981). What I will do, however, is offer a three-part discussion of practice, first situating the non-traditional within the field of the creative arts, and sketching out how this field in the UK has undergone a period of significant change in the last 60 years. In so doing, I will combine the interests of this collection (non-traditional formats interpreted as alternative modes of course structure, length, location, delivery and so on) with my own in non-traditional pedagogies and techniques. This scene setting will be illustrated with examples from fine art—a discipline which embodies characteristics of other creative arts disciplines as well as its own distinctive features. In choosing fine art, I do not suggest that it represents every creative discipline exactly, although I concur with Sims (2) that the boundaries between such disciplines can be blurry. However, each of them has its own personality, history, pedagogy and traditions which frame and inform learning in a particular way and underline the importance of context. This disciplinary context,

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infusing the physical, psychological and emotional spaces we inhabit when learning, helps constitute the environments which will be explored in this chapter.

Having described the creative arts landscape, in my second part I will briefly indicate what creative arts learning looks like, how it permeates learning in other disciplines and how new developments in the design of physical spaces affect the delivery of such learning. All of this will provide the foundations for the third part, my case study on how *Lego Serious Play* (hereafter *LSP*) has been used effectively to engage students in reflective practice in a specialist fashion college in London. Through its creation of symbolic sites (in the shape of Lego models) to express learning key insights have emerged about student engagement, energy, motivation and participation in learning and the impact of physical and virtual spaces. Running through these themes and bound up in their consideration are key questions around identity; of the institution, the discipline, the teacher and the learner—the latter both as student and future practitioner.

What is Non-traditional Learning?

Wedemeyer, in his Preface, (xix) notes a variety of non-traditional modes as well as the need for learners to be proactive in how they select, and engage with, such modes, and assume primary, as well as shared, responsibility for their advancement. For him, a non-traditional conception equates to learning across the lifespan, rather than to the confines of the compulsory sector of childhood. He also sees non-traditional modes as going far back in time, beyond the traditional (xx), which we may interpret as including folklore, custom and practice and handed-down truths. He also talks of the relative newness of our traditional modes; the school system in England, for example, was set up to meet the economic and social imperatives of new Industrial Age, the model for which has largely been perpetuated (with some variations) as an indicator of academic performance, perhaps through longevity as much as any other reason.

> He argues that

> The true differences are to be found in the capacity of non-traditional learning to tolerate and exploit physical distance between teacher and learner; in the invention or rediscovery of learning models that transcend the traditional; in a new understanding of the learning environment, so that a learner does not have to be in a specific place at a specific time to enjoy opportunity and access for learning; in a new perception of time with respect to the stages of learning; in the consistent effort to place the learner in the centre of the teaching-learning process, with more active and responsible roles. (Wedemeyer 1981, p. xxii)

This description contains the seeds of many of the themes that interest us here; how distance and space affect contemporary modes of learning, where and how learning takes place, the kinds of learning models we are using (in our case primarily *LSP*, however we touch on the addition of digital media to craft tools and other materials originally used), learner engagement and conceptions of time. The features he outlines of non-traditional learning are all ones that the traditional camp is increasingly

trying to accommodate or develop. Higher education is becoming increasingly explicit about the importance of studentship to enable a diverse body of students to grasp what studying at university in the twenty-first century entails. Furthermore, there are increasing numbers of teachers involving students (formally and informally) in the construction of their learning experiences. This idea of equal partnership in learning and of community is central to the democratic philosophy of *LSP* in which knowledge is jointly constructed within a shared experience. The centrality of the learner is particularly important for the *LSP* process and for the creative arts context of this case study. In creative practice, perhaps more than any other field (although I am happy to debate this with other disciplinarians!) the identity of the practitioner is inextricably bound up in the work. It may not be immediately apparent from the reading of the artefact or product but it is there nonetheless. This is the same with the modelling processes used in *LSP* to embody a student's learning journey.

However, I am getting ahead of myself, and before exploring these issues further I want to conjure a sense of creative arts education in UK, while painfully conscious that I am reducing 130 years of its history to three illustrations and an enumeration of its key features.

Creative Arts Education: The Traditional Within the Non-traditional

At the start of this chapter I noted the difficulty with which we define what is traditional, compared to what is not. It may be obvious to suggest that creative arts and design subjects transcend the traditional, but to do so we need to compare them to something else. Most usually, this comparison is against the norms of 'academic' study, or subjects taught in 'traditional' academic vein, favouring essays, exams, reading, note taking, and highly text based traditions. Proponents of arts and design pedagogy argue strongly that modes of learning in the creative arts are no less academic for being practical and that what is being evidenced is a different kind of learning and intelligence. Vocational learning, as we have already stated, tends to focus on technical capability, manual dexterity and experiential learning, in studios and spaces for making, rather than learning from textbooks, in lecture theatres and seminar rooms. While a differentiation between academic and vocational may be loosely or partially accurate, this polarity between classroom and studio learning is too extreme to be entirely true, due to the ways creative and cultural learning have expanded over the last century. How future cosmetic scientists, graphic designers, shoe makers, painters, ceramicists, architects and museum curators engage in learning is governed by the needs of their disciplinary practices, infused by distinct philosophies, beliefs and traditions. Delivery methods and pedagogies are likely to be hybrid, blending lectures and seminars with learning-by-doing and fieldwork or work experience. We can see clear differences in modes of experiential learning in the following examples: a visual merchandiser may spend time on the shop floor or in a simulated setting, while a retail manager may be immersed in spreadsheets and

statistics, as well as human resource and supply chain policies. A fashion designer may be working conceptually via computer-aided design or cutting and pinning in a studio. A cosmetic scientist may be working out formulae for the safe creation of products, while a painter is in a studio and a film-maker in an editing suite. The disciplines in which they study are each organised around their own set of protocols, rules, philosophies, practices and outcomes, as well as the local tacit way-we-do-things-round-here learning that is part of learning within a community of practice (Wenger 1998). In addition, the wider context for learning beyond disciplinary boundaries means that such delivery is influenced by socio-historical influences and the dominant preferences of the period. All of these factors influence the shaping of the learner's personal and professional identity.

Forging identity through experiential learning, is, as I have already suggested, a by-product of becoming a creative practitioner. To understand how this identity may be challenged or supported by changes in the way we organise learning we will now consider the nature of creative arts education and how it has developed in the last century. To do so, let us take the case of 'art school' in the UK, as this has always been considered non-traditional, in modes of delivery, engagement, artefacts and outcomes produced, and population. The term 'art school', though a popular referent, must also be used with caution as the art school of 100 years ago is inevitably somewhat different to its counterpart today, not least in the variety of subjects it offers, as indicated above.

As early as the late nineteenth century, students and artists in Newlyn, Cornwall, were setting up studios in fishermen's lofts, or studying genre and the principles of plein air painting in the art school set up in 1899 by the artist Stanhope Forbes (James 2004, p. 22). Students and tutors were absorbed by how to depict the variations and quality of light found in that part of the British Isles, often painting outdoors (heralding our discussion of sensitivity to, and the effect of, the learning environment). The atelier system of tuition was the norm, a systematic and progressive mode of instruction whereby tutors trained students, often of mixed abilities, in their skills—sometimes working jointly on pieces. It resided in England in a hierarchy dominated by the Royal Academy at its pinnacle, and was infused by the principles of classical art training (James 2004, p. 22). The latter, as taught at the Forbes School, instilled a devotion to copying the style of the Masters. The Forbes School of Painting, in keeping with others, offered structure in terms of subject and curriculum but also espoused an emulatory style of teaching, variations of which would persist into the twentieth century and even to the present day.

Newlyn's curriculum structure and preference foreshadow Houghton's (2013) argument in his unpublished paper *Six Curricula* that there have been six distinctive curricula in post compulsory fine art teaching, both consecutive and overlapping, with the greatest curriculum change occurring in the last 60 years. These he names Apprentice, Academic, Formalist, Expressive, Conceptual and Professional. The Apprentice phrase aligns itself with the model of learning colloquially known as "sitting with Nellie", or emulating the experts, not by any systematic instruction but purely by observing how they worked. Over the last 100 years Nellie has been very much present in fine art instruction, while the Professional era would appear to be very much at the forefront of present-day student occupations.

   In 1963, The Robbins Review of Higher Education in the UK advocated the expansion of post compulsory learning; since its publication, systematic moves have been made to standardise art and design education and bring it into the fold of university faculty structures, as opposed to being in independent institutions, or adjuncts to the university. This incorporation has been driven partly by a quest for parity, structure, guidance and support for students of creative subjects and to ensure they graduated on a level footing with students of other degrees. It has also been driven by a desire to dispel the myth that bright students did 'proper subjects' (Mathematics, English, History, the sciences) and the less able did things like art and music. A perception has long existed that art school, or a place for creative subjects, is where you go if you don't quite fit in, or meet the academic 'norms' set out by compulsory education. The desire to operate outside the established mold of learning may have been a choice, however it is one that has resulted (even today) in the despair of many parents and schools who find that their glowingly "academic" pupil has decided to give up science or law and study graphics or fashion. While not new, and in whatever guise it manifests itself, the notion of difference has an impact on the identity of both the individual and the institution.

   The freedoms of 1970s arts education, with the opportunities and pitfalls these could lead to, were recalled in conversations with the author by the artists Professor Paul Coldwell (2013) and Professor Charlotte Hodes (2013). Paul recollected the disappointment expressed by his own school when, instead of applying to Oxford or Cambridge University, he opted to study a Fine Art degree—to the extent that his name was not included on the roll of success when results were announced. His memory of his university days is of a time of immense liberty, with the simple expectation that if you went to art school the institution gave you a space to work in and assessed you yearly and/or when you left. Assessment is remembered as a mysterious process to which students were not privy, with an accompanying dearth of academic monitoring or written feedback. There were, however, prolific opportunities for tutorials which made up for a lack of formal teaching, such as lectures or seminars. What teaching you got, you provoked yourself, with the attendant fall out of considerable numbers of students who were not able to be sufficiently self-determining.

   Charlotte echoes these memories; both she and Paul first took a Foundation course prior to their degrees, which they remember as being highly structured and demanding, while in comparison their undergraduate study was seemingly formless and unregulated. Studios were divided into themed areas—abstract/figurative/experimental/life rooms and there were rigid divisions between artistic traditions; however, Charlotte managed to move in and out of studios. Both she and Paul felt that for the talented or confident, the system (or lack of one) offered wonderful freedoms, and access to the major artists and figures of the day who came to speak to them. However, in the general order of things, tutors came and went and wisdoms were imparted by osmosis. The assessment structure was infinitely less constraining: one of her exams (which she loved doing) involved going to the National Gallery to talk about paintings, with Charlotte observing "a*s long as you had read Gombrich's history of art and were visually intelligent you were alright*."

As a student, you were viewed as a practitioner and allowed to 'get on with it': the professionalization, which is now such an integral part of creative arts education (pitching, exhibiting, presenting, creating a CV and network of opportunities, marketing your work and skills) was almost entirely lacking. Both she and Paul were firmly told as they entered undergraduate study that there was no likelihood of them making any money from being artists, and, indeed, to have been seen to be financially motivated would have meant you were not fully committed to your art. This has shifted considerably in the present day with an explicit focus on employability within and around the curriculum and a highly instrumental attitude on the part of many students (and their parents) centred on how the degree they are studying is going to fit them for a decent career (and hopefully salary) afterwards. Charlotte's memory of her art school education taking place in a highly non materialistic time period equates to the traditional—perhaps now lost—ethos that a university education was enough in itself as a means of expanding the mind.

By the time Paul and Charlotte had gone to Art School, it had long established its reputation as a liberal environment, feared by some as a hotbed of deviancy fuelled by copious cocktails of sex, drugs, rock n roll and politics, and admired by others, probably for the same reasons, as edgy, alternative, and cool. Since the 1980s, however, while creative arts institutions are still marked out as different to other kinds of universities, the significant changes made in higher education as a whole changed them too. While in the 1960s student groups were likely to be small, taught in fixed settings, and with greater or lesser amounts of face to face support while you "did your own thing", today student numbers have soared, group sizes mean that massified delivery strategies are employed, assessment has become more visibly accountable and the curriculum explicitly structured. In terms of what it means to be a creative practitioner for student and tutor this has resulted sometimes in a tension between the desired freedoms of artistic creativity and a need for benchmarking and standards.

What's the Point of Art School?

The purpose of art school, and indeed the purpose of university, has shifted over time from one kind of dominant view to another and has been the subject of much debate over the last six decades of higher education in the UK. Following the Robbins Report (1963), many arts schools which had been small, autonomous, liberal arts and crafts communities had become incorporated into new polytechnics (Carrington 2013), meaning a whole new identity and way of working. Most pointedly, a conference held at Central St. Martins (CSM), London, in May 2013 invited participants to video their responses to the question "What's the point of art school?", not least because government policy in the UK stands accused of increasingly devaluing creative and cultural subjects, only measuring their worth in terms of economic output along the lines of business and science. Respondents to the CSM question voiced a plethora of answers, many of them listing values and practices which

perhaps also underline the 'non-traditional' nature of this kind of education. These included exploring creativity, nurturing new territory, feeding the soul, creating self-reflexive human beings, promoting diversity, making you more human, offering alternative ways of thinking and allowing unconventional intelligence (What's the Point of Art School? 2013). While the economic imperative cannot exclude the arts (the CBI (2013) cites creative and cultural industries as contributing 6 % of UK GDP), these responses manifest the ways in which what it means to be human is ingrained within a creative arts and design education. Students of these subjects are not just becoming professionals, learning the tools of a trade, a body of knowledge, or skills to earn a living; they are acquiring capabilities which help people work out what their place is in the world, as well as what is wrong with the way this world is organised and operating. Their roles and responsibilities in this will be shaped to a certain extent according to their own choices, values, and beliefs, but as they develop their learning capacities, so too are they developing their identity. Central to this identity is their status as a practitioner, created through learning three-dimensionally and kinaesthetically.

What is the Nature and Influence of Creative Arts Learning?

Elkins (2007) and Robinson (2011) are two among those who note how strange it is that we continue to organise formal education in the post compulsory sector around the written word as opposed to the visual text. As Stephen Brookfield and I note elsewhere, this is not a new observation: "In the 1950s and 1960s, Rudolph Arnheim (2004) noted that visual ways of learning have traditionally been viewed as inferior intellectual capacities to the logico-rational, text based models of our traditional academic structures" (James and Brookfield 2014, p 75).

Creative arts learning is predominantly visual and kinaesthetic, evolving from the nineteenth century preoccupation with developing creative, craft and industrial skills within a specific tradition to the interdisciplinary interests of today. Creative practitioners also often have 'portfolio careers', which allow them to perform several roles at different times, including that of practitioner-educator. Learning is problem and project based, constructionist, constructivist, social and about situated cognition and (as we have already stated) rooted in communities of practice (Wenger 1998). It is also often about divergent outcomes and thinking, not finding the one right answer. All of these aspects can be related to learning with *Lego Serious Play*.

Sims (2008) discusses similarities and differences in creative arts and design teaching and learning in the report *Teaching Landscapes in Creative Arts Subjects*. She and others list the defining characteristics of such learning contexts as being studio based, practical, assessed through formal and informal critique, often involving acquisition of practical as well as theoretical skills, about making and conceptual design, involving industry collaboration, projects and work experience/

simulation. Problem-based learning (PBL) is the natural mode of enquiry as it is all about innovation and solution finding; students are presented with a situation—perhaps a scenario, industry brief, or project proposal and required to work out what the issues and challenges might be, including any additional research or information required. PBL is often a group activity, so there are metacognitive and teamworking aspects to be considered in responding to the task, and often divergent answers to be produced, rather than one single correct one. In tandem with PBL, guest lecturers, group work, internships, events, exhibitions and consultancy are all features of the arts and design curriculum.

Art and design practitioner-educators often note with pride that another discipline has recently discovered as new a way of learning that they have been engaged in for some time. Davis (1999) refers to the concept of Design-based education and "the success that teachers have in using the methods of architects, industrial designs, landscape architects, planners and graphic designers, as well as the pedagogy of design educators in teaching subjects other than design". (Design-based learning is defined by the Office of Innovation and Technology in the Graduate School of Education at Stanford as integrating "hands-on work, problem solving, collaborative team work, and innovative creative designs".) Lester (1998) writes of "what general managers can learn from design", while Papert (1991) cites the example of the fifth grader at an academy in San Jose, CA, who had used LogoWriter to create screen graphics, and who realised he was uniting art and maths to produce his outcome. Hjelde (2008, p. 145) talks of how the art academy is being held up as a model for other kinds of activities, like exhibitions and biennales, and art schools considered in terms of their value to education in general and "as a platform for cultural actualisation and self-organisation within society" (ibid). Such evidence of the transferability of art and design concepts and pedagogies to other fields is welcome to members of creative disciplines whose study and professional practice feels under siege from governmental policy favouring STEM (Science, Technology, Engineering, Maths) subjects over their own. In the face of such preferential treatment, STEM subjects may feel traditional (i.e. accepted) while the arts are non-traditional (agreeable but not essential).

Changes in Creative Arts Learning Environments

In the last century, a great deal of site-specific art and design has come to prominence, some of this fixed, some temporary: Banksy's graffiti, pop up events, shops and exhibitions, performances and installations. Art and design are also being created and communicated through, and at the end of, social media and virtual spaces. Just as art takes place in portable and temporary places, so new loci for learning are being created, real and virtual. Students may be studying for degrees online or participating in new, free Massive Open Online Communities (MOOCs) for a different kind of self-development. The reconfiguration of learning spaces means that participants have to find different ways of making contact with each other, and of constituting and belonging to, if they so choose, learning communities.

While arts and design students have always been used to studying in multiple and varied locations as a natural part of garnering inspiration, they are increasingly looking for new opportunities and spaces to house their work outside normal study spaces or venues. Sims notes that many teacher practitioners believe "that the space or type of learning environment" can affect "the content and activities of the curriculum and can reinforce or challenge the traditions of the discipline" (2). The shift from working in a dedicated studio or space, to sharing bookable spaces, available to diverse users, and no longer owned by one specific group, has not happened universally, but where it has, has been the subject of much debate with regard to the impact on individual learners as well as the community as a whole. While this has yielded positive outcomes in relation to interdisciplinary working, new encounters and collaborations, the loss of the fixed base has been lamented as a loss, too, of character and of belonging. As a result, students have tried to find a different way of finding their place within the learning environment as well as another kind of thinking and creative space, perhaps more portable than before.

Designing multi-purpose, multi-user spaces can both inspire and challenge, as it is difficult to create a sufficiently flexible environment which can be all things to all people. Changes in today's learning environments are the subject of much investigation (Oblinger 2006; Jamieson 2003; Temple 2007) and go hand in hand with the adoption of specific pedagogies and technologies, as well as the social mood and feel of the space. Latterly, such changes have been very much allied to developments with technology, as we are no longer obliged to have fixed equipment (e.g. the board or screen in a certain position on the wall) and are moving to using untethered media (tablets, smartphones) in less formal spaces with moveable and/or differently shaped furniture. How learners behave in those new environments can tell you a great deal about their feelings, attitudes and motivation at any given time. The following examples of changes made to learning environments both illustrate these shifts and foreshadow my discussion of the physical use of space and materials with *LSP*.

James Rutherford, former Learning Environment Manager at the London College of Fashion, completed an MA in Advanced Academic Practice on his work redesigning learning environments in line with the new flexible zeitgeist; his dissertation on identifying fundamental distinctions in staff and student understandings of collaborative learning spaces and how these impact on the design and development of these. Key aims of the redesign of learning spaces were to encourage peer and collaborative learning, as well as foster informality in a comfortable setting in which students had freedom to move, rather than feeling crammed in. In many institutions these last two, if not the first, are often challenging when space is at a premium and the estates budget strained.

A revamp of the classroom used for *LSP* at one of the College's London sites introduced big tables with high chairs, as well as lower ones, the differing table heights and tiered space offering greater visibility for teachers, while the arrangement of tables widthways means that the distance between the screen and student is less. Not everyone is on the same eye level, so there is less distraction and improved concentration. Students report feeling that the high chairs and ergonomic

tables offer kinetic values—the physical feeling of being elevated, legs swinging, being able to put their elbows on tables and own the space all making it much more convivial to be there. Varieties of table height allow students to choose whether to stand or sit—standing releasing more energy and resulting in less inertia. The varied ergonomics of the learning space were found to suit learning styles and allow for interpretation of the space by users due to the sometimes informal and/or comfortable layout. As we noted above, changes lead to unexpected insights into behaviours, with one tutor observing that the less confident and shy students preferred to be on tables nearer the tutor, while the more confident liked being at the higher desks at the back of room. In general, however, students reported that new, less formal, configurations of space made them feel more relaxed and more motivated to come to class. In addition, they felt their concentration improved due to increased comfort; it was easier and quicker to learn, they performed better and felt like asking more questions.

Using LSP as a Non-traditional Mode of Reflection

These ingredients of informality, freedom, ownership and physical engagement with the learning space are all present in *LSP*, which has been used to help students reflect on their learning, progress and aspirations. While reflecting is something that many creative practitioners feel is an inescapable part of making, in the course of the last 30 years reflection has become an established component of curricula at all levels of education. Traditionally, this has taken written form, either in journals, logs, diaries or annotated sketchbooks, and latterly through wikis, blogging and tweeting, and more visually through social networking and video diaries. The shift in focus for creative arts learners has been in the move to make the implicit (reflecting on learning) explicit and to focus specifically on the metacognitive processes involved in the development of learning capabilities instead of on subject knowledge per se. The case study which I will now describe uses a process which has much in common with traditional creative arts learning; it is rooted in hands-on practice, is a form of facilitated, not transmitted, learning, allows divergent thinking, is visual and 3D in format. Where it is less traditional is in the way it can be seen as generating a liminal space between art learning and professional practice, while simultaneously constructing a site through which learning is expressed (the model) and being used within a site for the creation of that learning.

LSP was originally developed in 1996 by Kjeld Kirk Kristiensen, the owner of Lego, and Bart Victor and Johan Roos (1998), professors at the Swiss business School IMD, designed as an innovative and effective way of exploring complex issues without obvious answers. Initially for the corporate/business sectors, its purpose was to generate "more engagement, imagination and playfulness in staff meetings "(Roos and Victor 1998; in Nolan 2010, p. 365). Since then it has been adopted by numerous high profile organizations (Google, eBay, The International Red Cross, Roche and NASA are some examples). Full accounts of the use of *LSP*

in a variety of learning contexts can be found in Gauntlett (2008), Nolan (2010), James and Brookfield (2014), as well as in open source *LSP* guidance and many online fora. These accounts describe *LSP* workshop activities in detail, while here a more synthesised outline will be provided.

LSP uses a systematic process combining metaphorical modelling, building and peer discussion, using Lego bricks. Its techniques are rooted in the widely discussed fields of narrative and metaphor and incorporate key tenets of these in a series of construction and discussion activities. *The Science of Lego Serious Play* (2002) leaflet (online) draws on Schön's view (1971) that metaphors are a means of "creating radically new ways of understanding things", citing his illustration of this when "product development researchers, trying to make an artificial paintbrush, had a breakthrough when one member of the group observed "a paintbrush is a kind of pump". An aeroplane is therefore not just (or even) a plane; a builder might use it to indicate concepts, values, or embody clichés ('high flier' 'sky's the limit' ' I grew wings'). A green plant is not just something for the window ledge, it may signify growth, inspiration, abundance, or it may not even be a plant at all, but hair or energy. A red rectangular piece, the archetypal brick of the early Lego packs, is not a plastic geometric shape, rather it may be heat, passion, a shoe, a person. The ethos is playful, exploratory and creative, with freedom to experiment and test out ideas without fear of failure or being wrong. Activities start with individual models and can move to shared constructions, and are highly respectful of ownership and opinion. If I invest a meaning in a brick or a model, then that is what it stands for; it is not for others to superimpose their meaning on mine, although they are welcome to make observations or offer comments.

LSP taps into the learning philosophy of the creative arts and design through its affiliation with constructivism (Piaget's theory of building knowledge structures), as well as Papert's constructionist pedagogy, which demands "that everything be understood by being constructed" (1991), as opposed to the "instructionist" models of school teaching. As a student of Piaget, Papert (1999) sought to apply the former's work to his own learning theory, arguing that students learn best when constructing something and that two kinds of learning happen during this; one, an output is created and two, new knowledge and meaning (*The Science of Lego Serious Play*, 9). (James Rutherford, when interviewing staff and students for his research on learning environments, also noted that his interviews went much better if the interviewee was occupied with busy hands.) In his book *Creative Explorations* (131) Gauntlett (2007) shares Papert's account of how he formulated constructionism through observing students making soap sculptures, noting their heightened level of engagement and creativity. The hands are central to constructionist learning, based on neuroscientific data showing that nerve receptors in our fingers send electrical codes to the brain via our central nervous system. There, in the cerebral cortex, these messages are interpreted, thus we can envisage thinking as starting with our hands, as opposed to the popular assumption that the brain 'thinks' first and tells the hands to act. The *Lego Serious Play* training manual of 2002 further asserts that physically handling objects and constructing things "activates deeper learning passageways to the brain."

PPD in 3D: The Use of Lego Serious Play for Personal and Professional Development

LSP was introduced as a creative and novel approach to Personal and Professional Development study, as part of the International Preparation for Fashion course (IPF) where students plan, review, monitor and evaluate their progress and ambitions. IPF has run since 2011/2012, lasts a year, has an entirely international cohort, and prepares students (to date 360 of them) for degree study. Reflection is seen as an integral part of development of practitioner, identity and process of creation (James 2004, 2007a; Shreeve et al. 2008) and an important part of 'learning how to learn'. However, coming from diverse educational cultures, some students have encountered it before, some have not. Often recorded in written form, it does not always capture students' imaginations, nor are they always convinced of the point of it. *LSP* was chosen as a means of bridging diverse learning cultures and as a way to (re-) energize engagement in PPD and reflection.

There are important learning modalities at work in *LSP*—including its democratic protocols (everyone builds, everyone shares, everyone speaks)—which stimulate involvement and override issues of lecture lurkers (the guy asleep at the back, the girl who is passively present but too shy to speak, or the Over-confident Dominating contributor). My use of *LSP* has been in place of traditional lectures and seminars, alongside studio practice and for communicating work and ideas across physical distance—including writing a book with a colleague in the States! In these PPD workshops group size was kept at a (luxurious) 12 maximum, however LSP can be used in small or large group teaching, with Gauntlett's work in big lecture theatres showing that it can be effective with much higher numbers of students.

The Lego workshops last 3 hours and take place towards the end of the academic year (at present, although plans to bring them in earlier as well are under discussion) as part of a three- stage approach to reflection. First, students participate in a workshop with me, in which they develop a metaphorical, three dimensional language through building models with Lego: with these they share and discuss their representations of their learning development, achievement and challenges, since starting at LCF the previous September. While there is a clear structure to the workshop in terms of techniques and activities employed, how and where they build within the room is a matter of choice for them, although a big table is the most convenient place for sharing. (Our first workshops took place at the high tables described in the previous section on learning environments, and the height of the tables and chairs were instrumental in keeping people in place and building.) While every student has a starter bag of Lego, they can add more to this as activities unfold and are encouraged to move around, bend down, peer around each others models to get a sense of height, proportion, scale and angle. Afterwards, they record a reflective video in The Pod (an inflatable space with Mac and Photo booth for recording), using the five questions of Brookfield's Critical Incident Questionnaire to review their learning experience. These ask participants when they felt most involved, when most distanced, if (when) anyone did or said anything helpful, and if anything puzzled or

surprised them (see Brookfield 1995 for a more in depth explanation of the CIQ). Both experiences then inform their summative written self-assessments at the end of the unit. This reflection comes at an important time of transition for the learners, the majority of whom are staying on at the university to study for a creative arts degree, and their reviews of the year need to be meaningful.

By the time they encounter the Lego, students have been used to a wide range of subjects and approaches and have chosen a specialist pathway to follow. In tandem with their hands-on practice, they have also received intensive English Language tuition. Pioneering *LSP*, I had two main concerns: that building metaphorically might be difficult for students communicating in a second language and that using Lego might be misunderstood as infantilizing or trivializing learning. Also, although novel approaches are often expected in developing creativity, the adoption of a play ethic and the use of toys (bricks) for educational purposes may nonetheless be viewed at first with suspicion. I was expecting ambivalence or resistance and one or two admitted afterwards the extent of their uncertainty (even if reassured) as seen here in a verbatim reproduction of one response:

> If I am completely honest and frank, I was more than skeptical about benefitting from a session where we were supposedly going to be playing with legos the entire time.[…] when I first got to the session I was not very open to the idea.[…] As the session went on I started to understand that it was not as heavily focused on the Lego element but it was much more about personal reflection and personal perception. One of the main things I noticed was how differently and complexly all of us think and perceive. It was almost euphoric when I was pointed out and had to talk. That is exactly what made it so insightful, the fact that no person was left out, everyone had to take part and everyone had to present his or her thoughts and ideas. There was no presence of a usual classroom environment where there are a few dominant students. Overall, the session was very soothing in a way that it made me analyze myself in a way that I would not have on my own. (Lego workshop participant)

Positive Feedback and Impact on Students

Despite initial concerns, the workshops proved extremely successful, with 100 % positive feedback from student video diaries and written summative reflections (360 sampled over 2 years) and clear evidence of impact. While many comments noted how much they had been surprised by, and enjoyed, learning in a way that was radically different, the *LSP* approach was also seen as highly inclusive and a powerful way of expressing their own views, experiences and cultural capital. Students also included important and surprising revelations as to how this learning had been shaped, including the fun factor and escape from pressure as seen in the following quotes from their written reflections: (original spelling retained, or adjusted for clarity with permission):

> You can do and say so much with just a handful of bricks

> The Lego Play workshop did not only give us [one] and a half hours of fun and stress relief, but it has also subtly taught us valuable techniques and skills that can be applied into our projects, work and even our daily lives

> After months of working with a very specific development style, being asked to create and brainstorm with a media as unusual, flexible and immediate as Legos was a welcome change

The emphasis on building as opposed to writing was extremely helpful for students with dyslexia and extraordinarily effective for a student with ADHD who had major concentration and engagement issues in classroom setting, and yet who was completely absorbed and on task during the workshop. As Stephen Brookfield and I note elsewhere,

> When Alison mentioned how attentive she had been, the student replied, "It's because of what we were doing. When I can think with my fingers, I'm golden". She went on to say that any kind of traditional lecture with power point and handouts left her crawling up the walls, whereas anything that involved activity completely held her attention. (James and Brookfield 2014, forthcoming)

More broadly, a number commented that they felt their English language had improved, even though this had not been a goal of the sessions. Many found the confidence to borrow metaphors from their own language which they reconstructed in English, and to which all participants could relate, enabling both group bonding and improved attention to others:

> It was very helpful to look at everyone else's interpretations of themselves and how they think they can improve

> This session taught me how to approach the project from multiple different perspectives and helped to reignite my passion for my theme. Not only did it build a new sense of perspective, but it also helped me to build a closer bond with my classmates and so it helped me feel as if I was [not?] the only one [to?] struggle with the project

In addition, students said they felt more able to contribute to group work and class discussions as a result of using *LSP*, as people's attention was on the models, not individuals, which boosted their confidence in speaking. Suzanne Rankin Dia, English tutor to IPF and workshop observer, felt *LSP* paralleled Thornbury's (2000) analogy of promoting *real* language acquisition with the Dogme95 approach to prioritizing story over techniques in film making: as students had control over the topics they were discussing they had a high level of engagement. The process, combined with engagement, had a clear impact on creative thinking as well:

> The Lego workshop was indeed very interesting. The activities helped me to "loosen up" my mind and somehow it felt like I was being less restricted when coming up with ideas and even words to describe my learning journey at the end of the workshop as compared to the start. By getting us to build anything out of random blocks to illustrate our learning journey, it felt like it really exercised and challenged my creativity

> I found it was very helpful in terms of creativity, critical thinking, as well as receiv[ing] peer comments and evaluations. As a reflection of the unit, I fe[lt] involved at all time, especially the discussion after every individual task. I enjoy thinking ideas while experiment[ing] with Lego bricks. The ideology of 'do not hide behind from pre-conceived assumptions' is also applied in Lego project. I was truly inspired by the shape/form that [I] created without [a] plan—the exploration of unexpected shape surprised me and leads to something new.

> I really enjoyed it because it helped us think and it helped us see how we were developing as well as how well we can comprehend what is around us, who we are, where we are and what we are doing, as well as where we are going

The final quote comes from David Garner, former IPF Course Leader who noted how LSP affected views of a traditional component of learning (reflection) as well as the effect of the technique on the quality of student outputs:

> Alison James' Lego Serious Play (2002) sessions have been exceptionally effective in changing perceptions about what reflection is and can be. In our first year, the External Examiner came to visit the IPF and observe our teaching in process. He was clearly struck by the Lego workshop and took photographs. I have no doubt that students' reflective writing improved as a consequence of these innovative workshops.

LSP offers a non-traditional approach to learning in terms of physical delivery on two levels; on the first, it is highly flexible in terms of location and can take place anywhere, although tables for shared building and chairs for comfort are handy. My workshops in this case study have taken place in painting studios amid easels as well as in classrooms, but outside the course in question they have been held in gardens, offices and kitchens—anywhere there is room to spread out the bricks and build with ease. *LSP* is a highly portable methodology—as Per Kristiansen (2013), master trainer and facilitator of *LSP,* told me in February 2013, as long as you have a few bits of Lego on you, you can use *LSP* anywhere—even, as he has done, in airport lounges. Its portability extends to the photographs and videos students take

of their models which quickly become meaningful to them as personal representations of their own learning. These reappear in their written reflections and on their social media sites as memorabilia and become reference points in discussion. On a second level, through *LSP* students both react within, and to, their workshop space (and the strangeness or otherwise of having room to build somewhere) and create a further symbolic environment which embodies their progress, capabilities, skills, perceptions, habits, emotions, relationships and dreams. This is constituted by the configuration of bricks in which they invest meaning and which helps them understand things that they may not have grasped through a two dimensional or more traditional read/write process of learning. Even drawing may not have contributed the insights that constructing something did for them, due to the fact that their construction is in three dimensions, not two, and offers additional sensory information:

> I have understood within my model that my weaknesses lay in my tendencies to do things safely, repeat what I've done before because I know I can do it, but it is not risky nor innovative, therefore that work cannot be excellent

> We used this notion in mind [metaphor] to construct a Lego structure that represents our current journey in life and the IPF course. I made a structure with two tiers; the bottom is a zigzag path that represents the path of my life, which is not straightforward and a future that is unpredictable. Constructed with curved pieces jointed together, the top represents the winding journey of getting through the obstacles in my life. The metaphor for my structure is that my road towards success is narrow, complicated and unexpected. The height between the two tiers symbolises the fact that failure is a long way down and the struggle to keep staying up is the essence

In addition to the benefits of this kind of non- traditional mode of learning articulated above there are many more which can be identified:

- LSP sessions combine both freedom and regulation with the student needing nothing except their bricks, so the temptation to text or get distracted with emails/doodle on a notepad is reduced. This combination results in more intense concentration over longer periods of time.
- Time for building is kept short (anything from 3 to 15 min) and is always followed by discussion; such variation keeps momentum and focus up.
- The physical involvement of using the bricks to make and share meaning boosts the memorability of the learning encounter and keeps students on task longer.
- When learning takes place at a big shared table this increases participation and collaboration.
- Students often colonise parts of the room other than the table (including the floor) and use spatial distribution as a means of expressing the scale and intensity of their meaning (including models under chairs, hanging off things, positioned close together or at a visible distance); such ownership of the space is highly absorbing.
- While students are building face to face, they are sharing and communicating their models after the event through social media and incorporating references to their learning in other fora/documents. Digital tools give the potential to annotate and discuss on and off line.

- Through the *LSP* techniques, students pay better attention to each other and improve their listening skills, as they need to understand other people's stories and opinions in order to make shared or extended models.
- In being both visually and verbally represented, *LSP* mirrors creative arts and design learning, in particular encounters such as the 'crit', in which students discuss their work and receive feedback from peers and tutors; it counters the 'crit' in that the model's constructor owns its meaning and value, which cannot be overridden by others.
- Longer workshops result in the rapid-fire creation of community in an intense learning situation compared to the anonymity of big classes. The importance of listening, and acting on that listening, is reinforced through *LSP* protocols and the intensity of this attention builds connections between people.
- *LSP* reinforces key aspects of good reflective practice, in that questioning and exploring aspects of people's models helps learners deepen their analysis and drill into specifics; such dialogue is collaborative and less critical than in a 'crit' situation.
- *LSP* offers a metacognitive challenge to students in terms of visualising their learning, as opposed to visualising project work (mood boards, prototypes, toiles, mock ups, models) constructing models of themselves and their learning rather than products and design outcomes. It allows them to embody subject or topic knowledge three dimensionally e.g. what does sustainability mean to me?
- In classes where students have mixed levels of English, *LSP* was helpful for bonding, inclusion and communication as students reported the focus was on the model, not on themselves.

For all the positive feedback generated by using *LSP* in this way inevitably there are also challenges which can occur in other, non-traditional modes of learning: these may relate to newness, difference, preconceptions ("toys are for kids") and the unexpected. Just as learning in informal spaces can either distract or encourage motivation, so learning through different modes may excite learners, or make them feel uneasy: sometimes too much freedom can scare off learners just as much as too little can stifle them. Furthermore, to understand the stories behind the constructions it is essential to be in the session or have the model narrated somehow: being metaphorical and/or abstract it may need interpretation, just as some art and design works may need explaining to the uninitiated or plain baffled. We can see this in the case of the student who built two models of their experience on their course side by side; one had familiar metaphors of ladders for progress and bridges between elements to signify change and movement in the course of learning, while the other, entirely black, evoked their ongoing challenges with bipolar disorder, something which lives alongside their learning. While this example demonstrates a very personal kind of disclosure, it should be stressed that learners are only ever invited to include in their models that which they feel comfortable sharing: no tutor or peer should force any other kind of revelation or content. The vast majority of issues that might present themselves, however, can be dealt with through sensitive and careful facilitation and a real feel for the group—the kinds of skills that any good teacher uses.

Conclusion

In this chapter I have considered what traditional and non-traditional formats and pedagogies look like within the context of creative arts education and how they are affected by, and shape, the identity of students, practitioners, and institutions at a time of great change and debate. In so doing I have explored how characteristics of learning that are both traditional and non-traditional may combine and reside together in multiple forms in arts and design learning and practice. In discussing how and why environments and delivery structures have been redesigned I have focussed on *LSP* as a pedagogy which allies itself with the desire for increased informality, comfort and ownership in engaging student learning. Using *LSP* underscores that creative arts students benefit from non-traditional modes of engagement, especially when trying to accomplish traditional tasks such as written reflection. With significant changes to learning environments taking place through spatial redesign and technological advances, students need to broker new ways of communicating and belonging alongside the digital. *LSP* can help them do this: by creating symbolic sites and environments they strengthen ownership and control of their learning and are more energized and motivated. As *LSP* is a highly portable methodology it has helped students transfer meanings and models into different locations and through its three dimensional and sensory nature has made learning more memorable.

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Chapter 18
'Flipping' the Postgraduate Classroom: Supporting the Student Experience

Sara Smith, Donna Brown, Emma Purnell and Jan Martin

Introduction

Post-graduate science awards within the UK attract students from a wide range of undergraduate studies as well as from a wide range of countries of study. Among the more specialised MSc courses, the students enrolled may have undertaken generic undergraduate studies and often find themselves in a position where they are required to learn the basic principles within the topic area before being able to tackle the more complex concepts of the course. In addition, for international students whose first language is not English, proficiency in English can play a crucial role both in their understanding of new concepts and success within their studies (Sherry et al. 2010). The challenge for those delivering such courses is to ensure that the diverse needs of such cohorts of students are addressed, allowing them to graduate with the knowledge and professional skills required at this level of study.

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Background to Study

The study reported within this chapter was originally initiated by two of the authors who teach on an MSc module—Diagnostic Cellular Pathology—and based upon the question:

> How can we improve the delivery of this module and ensure that all students are able to fully engage in activities–independent of their prior studies?

Although each year the number of students registered on the module has remained relatively constant, the prior experience of students studying on the module varies greatly. At one end of the spectrum, we are teaching students who have not covered cellular pathology within their undergraduate studies, and at the other are students working within this field in regional clinical laboratories. In addition, the course also attracts international students whose first language is often not English. This mix of students results in a challenge to tutor delivery of the module content. Ensuring that all students within a group are engaged and challenged appropriately by their studies is of utmost importance. With such a diverse cohort of students, it is essential that they all engage at the start, and that individuals do not feel isolated or alienated.

The University calendar and rooming dictates the timing and length of our teaching sessions and the criteria and requirements for the accreditation and re-accreditation of MSc degrees in Biomedical Science provided by the Institute of Biomedical Science (IBMS 2010) governs the indicative subject areas and body of content to be delivered within the module as the Institute requires the module syllabus to reflect areas of study that relate to their professional qualifications in cellular pathology. With a reconfiguration of the University timetable for academic year 2012/2013 we moved from a 12-week teaching block of 3 h per week to a 9 week teaching block of 4 consecutive hours per week With these new timetabling constraints, we need to ensure meaningful learning, problem solving, and critical thinking are achieved by all students within the diverse cohort studying on our module.

Course Design and Delivery

Most conventional university teaching approaches fall into the teacher-led category (Biggs 2007, p. 147) with the timetable being organised around lectures as the primary method to make sure that material is covered. However, there is clear evidence that active participation is a prerequisite for students' construction of meaningful knowledge (Prince 2004). Much research into how students learn or approach learning is underpinned by the "constructivist principle that we construct meanings of phenomena from an array of social and personal influences" (Cousin 2009, p. 184). Students' learning approaches are not intrinsic characteristics of the student, but rather they are dynamic and are likely to change depending on how students' perceive the learning task (Ramsden 2003, p. 45). Studies have identified that instruction that emphasises interaction between tutors and peers, involving a

cycle of activity and feedback, allowing students to apply their learning within the classroom supports a shift from teaching to learning (Armbruster et al. 2009). Such an environment supports learning strategies within students that promote independent learning and critical thinking (Biggs 1996a)—all features defined as required within 'M' level study (QAA 2008).

> The core elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor. (Prince 2004)

With such a mixed cohort of students on our module, however, the lecture was seen as an essential tool to ensure that all students were provided with information on a specific topic. The lecture method, although allowing the delivery of information, may not be the most effective way to ensure students understand a topic. Our previous approach to supporting student learning within the module was based around alternating 'teaching sessions' and 'student led' or 'active-learning' sessions each week, allowing both the delivery of content alongside assessment of student understanding. By using a variety of teaching styles, we hoped to engage and encourage student performance and be inclusive and embrace diversity. This approach received very positive feedback from students on end of module evaluation questionnaires:

> The strategy of workshops was the best. It helped me to understand more than just the lecture.

> I really enjoyed the module—it was very interactive and provided questions in between the teaching that made me think.

The change to delivery of the module over 9 weeks of 4 hour sessions, as opposed to 12 weeks of 3 hour sessions necessitated a re-think of our current approach to delivery of the curriculum. Maintaining the same format of 'teaching session' followed by 'student led' session would require delivery of both sessions on the same day to ensure that the curriculum was covered over the 9 week period. We could introduce the topic via a lecture session and then in the second half have the active learning session. However, this would no longer allow time for those students with no prior knowledge of cellular pathology to assimilate and construct their understanding of lecture content before participation in active-learning to formatively assess their understanding. Feedback from previous cohorts highlighted how having time between lectures and workshops enabled students to undertake research and preparation for the student led sessions. They found that this format supported a much 'deeper' approach to learning when 'new' topic areas had been introduced, and helped them to develop a greater confidence which enabled them to take a more active part within the active learning sessions. Alternatively, we could cover two topics per week; the lecture covering topics to be addressed in the workshop the following week and the workshop in the second half of the session relating to the lecture from the previous week. So, the dilemma that we faced was how to include active learning elements without sacrificing course content and also how to support, without 'overloading' those students who have not yet studied the basic core concepts, within the tight restrictions of timetabling?

"Flipped classroom"

The classroom 'flip' or the 'inverted classroom' is a concept credited to two teachers who, after years of frustration with students not being able to translate content from their lectures into useful information to support their homework, decided to pre-record all their lectures and provide these as homework. They then used the class time to help students with concepts that they didn't understand:

> The time when students actually need me physically present is when they get stuck and need my individual help. They don't need me there in the room with them to yak at them and give them content; they can receive content on their own. (Bergmann and Sams 2012, p. 4)

There is an abundance of literature discussing the use of 'flipping' with a range of approaches being applied (Bates and Galloway 2012; Lage et al. 2000; Prober and Heath 2012). However, they all follow a basic format of students accessing 'virtual lectures' outside of class time, providing time for students to engage in activities during contact time without sacrificing time to cover course content. Musallam (2010) found that students who had studied material outside of class found it to be easier to learn new material in class. Supported by results from other studies (Ayers 2006; Mayer 2008) it has been suggested that pre-training may be an effective means of managing intrinsic cognitive load, thus facilitating learning. Such an approach to course delivery appeared to be the answer to our problem and so an enquiry was undertaken to evaluate whether the concept of 'flipping the classroom' to support the delivery of these more specialised modules could be utilised at postgraduate level study. We decided to look at the potential role of the 'flipped lecture' to support the following:

- development of core or key knowledge within the module
- provision of information in an easily accessible format allowing students to review and revisit material
- active learning 'in-class' to foster engagement and deeper approach to learning by students

Methodology

As practitioner-researchers, the aim of our inquiry was to improve the learning experience of students on our module and enable them to fully engage within activities. A participatory action research approach informed the inquiry, situated within the constructivist paradigm and focusing upon participants' as co-creators of understandings within the area being investigated (Reason 1999). Such a methodological approach focuses upon research carried out with people as opposed to on people (Heron and Reason 2001, p. 179–188) with participants having a shared role within the inquiry. In developing an understanding of the students' experiences and

Table 18.1 Module format

Week one	Introduction to module, tutor and peers, assessment guidelines and general overview—tutor one	Traditional format
Week two	Tutor one—topic one	Traditional format
Week three	Tutor two–topic two	Flipped delivery
Week four	Tutor one—topic three	Flipped delivery
Week five	Tutor two—topic four	Traditional format
Week six	Visiting tutors—topic five and six	Traditional format + Flipped delivery
Week seven	Visiting tutors—topic seven and eight	Traditional format
Week eight	Case studies and Mock Exam	Action learning
Week nine	Revision quiz	Action learning

evaluations of the use of 'flipped lectures' to support MSc teaching the aim was to produce a shared understanding of the benefits and limitations of this approach leading to improvement in practice. The transformative nature of action research comes from working with such shared understandings to negotiate possible solutions (Cousin 2009, p. 154)

Context

Our aims were discussed with the students at the start of the module and each student enthusiastically agreed to participate within and support the study. The concept of the flipped lecture was new to both the students and us as tutors, so it was decided that a mix of both traditional module delivery and flipped lecture would be used to deliver the module content. This would enable us to compare the two approaches and also allow remedial action to be taken within the given timeframe if any major problems were identified with the student learning experience as a result of the inquiry. The delivery format is outlined in Table 18.1:

Students studying at the University have access to a web-based virtual learning environment (Wolverhampton On-line Learning Facility-WOLF) that can be accessed both on and off campus. It provides a range of tools and facilities by which tutors can deliver enhanced learning material in support of classroom-based teaching and tutorial contact, and engage students actively in the learning process. WOLF allows tutors to make available any reference material, notes, media and documents related to a subject or module of study. This, therefore, allowed us to upload the 'flipped lecture' sessions, recorded using a Lecture Capture System, onto WOLF enabling students to access and watch them in their own time and undertake the preparatory work for the in-class workshops.

During the academic year 2012/2013, the University piloted the Mediasite Lecture Capture system. Lecture Capture is a process in which face-to-face sessions are recorded at the time of delivery and then made available to students to play back on demand after the session has ended. The on demand recordings are available on any Windows or Apple computers or devices, including iPads, iPhones, laptops

and PCs. The Lecture Capture system allows two multimedia inputs. It will record a feed directly from a video camera and a second feed will capture the output from a PC or laptop. This traditionally is the projector output that students will see. The video playback a student will see consists of two video windows that can be configured for size and positioning, personal to the viewer. A particular strength of the system is the analytics that are available for all recordings. The system can report on a range of viewing parameters. Some of which include: number of times a recording has been viewed, if the views are authenticated, details of the authentication method and identifiers, including IP addresses can be outlined, time, date and number of times viewed and platform and device used for viewing are also available.

The flipped lectures were recorded using the lecture capture system and uploaded onto WOLF. Links to additional exercises and resources such as YouTube videos were embedded into the lecture where appropriate and students were provided with additional reading and formative exercises to prepare them for the in-class workshops. The final PowerPoint slide of the lecture detailed the activities that they would be undertaking within the in-class workshop.

For the traditional lectures, the PowerPoint presentation, additional reading and formative exercises were also uploaded to WOLF prior to the lecture session. One of the visiting lecturers was unable to deliver her lecture session on the day that the module ran so we decided to record this using lecture capture and provide formative exercises to allow students to assess their understanding of the topic.

A mixed-methods approach was used to evaluate the outcome of the inquiry-questionnaires, focus groups and interviews. Questionnaires were circulated at the end of both the traditional and flipped sessions. These were based upon the Student Course Evaluation Questionnaire and focused upon four main areas. Firstly, overall quality of the pre-material provided: secondly, student engagement with the pre-material: thirdly, their in-class experience of being able to ask questions and make comments, general motivation and being challenged to think and fourthly, student perceptions of their own learning in terms of understanding of the topic and meeting the learning outcomes. The aim of the questionnaire was to gather perceptions at a particular point in time; at the end of each session. Therefore, a closed and structured questionnaire was used to enable patterns to be observed and comparisons made and a Likert scale used for comparison of responses. Students were provided with the opportunity to add comments to support their response and the same questions were posed for both the traditional and flipped lectures. Analysis of the responses was compared with the evaluations of the focus group discussions and students were asked to comment upon findings. The aim was to determine whether students' initial impression of the teaching mode changed with time or upon student reflection upon their overall learning experience.

Focus groups are a unique kind of interview that allows the collection of data from a number of people. They are widely used for exploration and confirmation and allow data to be collected about attitudes, perceptions and opinions (Kanuka 2010, p. 101). Focus groups were used to gain a more in-depth understanding of the experiences of students within both the traditional and flipped lectures. The focus groups were conducted by a demonstrator (member of staff undertaking a Ph.D.

and with a role of supporting students in practical classes and tutorials) who had not been involved within delivery of the module but who has experience within the subject area. It was felt that students would be more likely to discuss openly their experiences of the different approaches and the delivery of teaching with a tutor who had not been involved in this process, thus negating issues of group dynamics and trying to please specific tutors. Reflective dialogue was used to enable shared understandings to emerge. The focus group discussions were recorded and transcribed. A grounded theory approach was used to evaluate the transcript to allow the identification and depiction of patterns. Within such an approach the researcher should set aside his or her own preconceived ideas of outcome and try to work out what the data is "telling him or her". Such an inductive stance developing "theoretical agnosticism" allows you to focus upon what the 'data is saying' (Charmaz 2011, p. 166). Since we were unsure how the students would respond to having to undertake preparatory work, watching lectures and then taking a more active part in their lessons, such an evaluative approach supported the inquiry.

Interviews were undertaken between the demonstrator and ourselves as tutors who delivered the flipped lectures and in-class workshops to ascertain how we perceived this mode of delivery for supporting our teaching, delivering subject material and ease of delivery. These interviews were recorded and transcribed.

The final stage of the evaluation was a focus group where the data evaluation was presented to the students and they were asked to comment upon whether they felt that it was a fair, accurate and true representation of their perceptions of the study.

Findings

The 2012/2013 Diagnostic Cellular Pathology student cohort was made up of nine students as outlined in Table 18.2:

As can been seen, there was quite a range of prior undergraduate studies with only four of the students having previously studied Biomedical Science, and three of whom had studied at the University of Wolverhampton.

Table 18.2 Pseudonyms used to protect student identity

Student	BSc	Place of study
Cruz	Biomedical science	University of Wolverhampton
Siana	Biomedical science	University of Wolverhampton
Lucy	Biomedical science	University of Wolverhampton
Amy	Biomedical science	Other UK University
Alima	Human biology	Other UK University
Hayley	Biological science	Other UK University
Sanjit	Biotechnology	Indian University
Orisa	Biochemistry	Nigerian University
Kalu	Biochemistry	Nigerian University

Questionnaires

Flipped and non-flipped sessions were evaluated using a five point Likert scale questionnaire that students were requested to complete at the end of each of the face-to-face sessions. Responses are shown in Table 18.3 and their analysis was carried out by ascertaining if there was a difference in the two scores for both flipped sessions when compared to the two scores for both non-flipped sessions. Both of the flipped sessions received a higher score for overall quality of the pre-material provided, the level of information, plus relevance and usefulness of material. There was no discernible difference between flipped and non-flipped lectures with respect to availability of pre-material, clear expression of learning outcomes, in-class motivation and ability to ask questions. However, the preparatory material for flipped delivery motivated students to engage with the topic more than for the non-flipped sessions so that students subsequently felt more prepared for flipped classes and were more challenged to think within the flipped face-to-face sessions. It is interesting to note that this did not lead to a difference in student perceptions regarding the success of their own learning ascertained by their perceived understanding of the topic or meeting the learning outcomes for the session.

Focus Groups

All students stated that they preferred the use of the flipped lecture sessions rather than the traditional lecture sessions. Several major themes started to emerge from the discussions as to why there was this preference. One of the main advantages highlighted was around how flipping supported both their learning experience and their understanding of the topic:

> When in class, when there is something you don't understand, you might feel intimidated, but when you are watching it on your own at home, if you don't understand anything you can go to the links which are given to help you understand the information. Sanjit

> …….you have the time to let the information sink in. Siana ………In the comfort of your own home as well. Cruz

In addition, those students who had not previously studied Biomedical Science and had completed their UG studies at other universities found that flipping improved their learning experience and reduced the feeling of alienation:

> Some lecturers will say 'we did this at BSc so you should already know this', and we don't know it, whereas the flipped lectures help with the background knowledge, because its provided, so at least we can catch up with people who have already studied [biomedical science] previously. Hayley

A very interesting theme, one which we had not anticipated, was that a preference for the flipped sessions was based upon being more challenged and being required to take a more participatory role in the sessions rather than being passive learners:

Table 18.3 Evaluation of student attitudes to flipped and non-flipped sessions

Question	Mean score (five point Likert scale) for each of the four sessions (weeks 2, 3, 4 and 5 in order)	
How did you find the level of information provided by the lecturers?	Non-flipped	4.3
	Flipped	*4.6*
	Flipped	*4.7*
	Non-flipped	4.0
What did you think of the relevance of the material delivered	Non-flipped	4.4
	Flipped	*4.9*
	Flipped	*4.7*
	Non-flipped	4.4
The reading materials provided were useful	Non-flipped	4.3
	Flipped	*4.8*
	Flipped	*4.8*
	Non-flipped	4.4
I felt prepared for the class/topic area	Non-flipped	3.5
	Flipped	*4.6*
	Flipped	*4.0*
	Non-flipped	3.9
The preparatory material provided motivated me to engage with this topic	Non-flipped	4.3
	Flipped	*4.6*
	Flipped	*4.5*
	Non-flipped	3.4
I was challenged to think during the session	Non-flipped	4.4
	Flipped	*4.8*
	Flipped	*4.8*
	Non-flipped	4.0
The necessary material for the session was readily available	Non-flipped	4.8
	Flipped	4.8
	Flipped	4.8
	Non-flipped	4.1
The learning outcomes for the session were clearly expressed	Non-flipped	4.6
	Flipped	4.6
	Flipped	4.8
	Non-flipped	4.1
I prepared for the session by doing the reading etc provided	Non-flipped	3.0
	Flipped	3.0
	Flipped	3.0
	Non-flipped	2.3
I was able to ask questions or make comments during the session	Non-flipped	3.8
	Flipped	4.9
	Flipped	4.3
	Non-flipped	4.3

Table 18.3 (continued)

Question	Mean score (five point Likert scale) for each of the four sessions (weeks 2, 3, 4 and 5 in order)	
I felt motivated during the session	Non-flipped	4.5
	Flipped	4
	Flipped	4.5
	Non-flipped	3.9
How confident are you that you understood the topic(s)	Non-flipped	4.0
	Flipped	4.5
	Flipped	4.0
	Non-flipped	4.3
I have met the learning outcomes for the session	Non-flipped	4
	Flipped	4.3
	Flipped	4
	Non-flipped	4

> You are more socially interacting with the lecturers so you feel challenged. Your thinking is more challenged and you can debate with other students as well, I think that's what University should be about, it shouldn't be about sitting down in a lecture and somebody talking to you for 4 hours ……… you should be asking questions and having a debate, like 'hold on a minute maybe this hypothesis is better than that hypothesis' and I think this [approach] is influenced through the use of the flipped lectures and the extra reading that we do. Siana

The chance to construct their knowledge through interaction with their classmates and tutor was highlighted as important by many of the students:

> There are different teaching styles, the way people learn, and I'm more of an interactive person. I have to talk and move around. Its good during the group work, especially in lectures where you have to go round and speak to other people and compare ideas you get the feel of their opinions as well. Alima

> We contributed. It was interactive. We really did well, everything was fine, rather than sitting down for 4 hours even after 2 hours you sleep. The traditional lectures are tiresome. Amy

These comments highlighted the positive aspect of having more time in class to interact with the lecturer and to cover each topic in more depth. Although they did recognize that there is a role for the traditional lecture:

> Overall I think the flipped is probably better …….. Sometimes you can't help that the traditional method is also good as well. It has to be weighed out depending on the topic or subject areas. Cruz

Students discussed how if the topic is difficult a traditional lecture may be more useful since you could ask the tutor questions. However, there was some discussion since a few thought that using a flipped approach would allow you more chance to identify the areas that you didn't understand and then have time within class to discuss these with the tutor:

> I disagree…if I don't understand…..it is brilliant cause I can see them in the 4 hours [lecture session] to discuss it…I don't have to book an appointment and only have a short time slot. Siana

Most of the students commented on how they find it quite difficult to read papers or other provided material in preparation for class, whereas the lecture capture sessions were easy to watch and so ensured that they were more likely to engage with the preparatory work and understood the topic area. This also resulted in them having more confidence and more likely to take part within the class:

> The previous knowledge I got from the video [lecture capture] helped me to discuss-but in the traditional lecture…… I would not be able to discuss because I haven't had time to think …I think I would just sit and observe the rest of the class. Kalu

The feeling that the flipped sessions provided a more comfortable environment leading to greater confidence to participate was highlighted by each of the international students. Having time to construct their knowledge within a new topic before the lecture session appeared to lead to greater student engagement in sessions.

Many of the students suggested that they were not so likely to read papers or critique articles if given these as homework. However, in the flipped sessions there was plenty of time to go through the articles, ask about specific problem areas and discuss concepts with peers:

> In class when you're reading an article and you have an issue with it then you can actually raise that up with the lecturer, and they will be 'well actually that actually means this' and define the words in more detail. Whilst if you are at home, like before when they did lectures, they would be like go home, read the articles, and you would be confused with the wording. So I think that it is definitely better having the articles here, you are reading them, you can ask classmates if they know and if not you can ask the lecturer. So in a sense it just helps you to reinforce your education, allows you to understand articles. Siana

So the flipped approach appears to support development of the approaches and skills that are seen as essential requirements of 'M' level study.

The group all found that the flipped sessions had allowed them to get to know each other better and this helped them to interact and feel more confident to ask questions and to deliver presentations within the sessions. The importance of the social aspects of learning were emphasized as students felt

> much more comfortable in the group because you get to know your peers better. It's a friendly environment. Cruz

which in turn led to more active participation with the in-class activities as those students who would normally have been nervous commented

> now we have got to know our peers, it's a lot easier, because we have made a relationship with them through interactive learning. Siana

As students worked in groups during the face-to-face flipped sessions, the peer pressure that was exerted by the group to complete the pre-work was evident

> you have to do your research, we work in groups. Alima

along with the unacceptability of failing to do the pre-work

> …..would you really want to be sitting in lectures for how many hours, not knowing what is going on? It will actually force them to then go home and do the work. Cruz

and it was interesting to note this, which is exactly what had happened to one of the students who commented on how his approach had changed from the first to the second flipped lecture:

> The first video lecture, I didn't prepare, the second one I was prepared……..I realised I needed to prepare for classes, so I had to make the effort to watch them. Sanjit

Several students identified that the flipped sessions also supported the development of other skills which are essential competencies for all students:

> You can learn other skills, poster skills, presentation skills….. it can help towards job opportunities in the future. Siana and Cruz

In contrast to traditional *'tiresome'* lectures where

> information is chucked at you and I'm not going to lie, but you fall asleep halfway through. Lucy

students also perceived the flipped lectures as being more entertaining

> [lecture capture]……its like a movie, so I'm more engaged. Kalu

which could be viewed while doing other things

> I remember I was trying on different make-up whilst I was listening, it was all sinking in. Hayley

The important point worth noting is the emphasis that students have placed on both their enhanced involvement and knowledge retention.

Finally, within the focus group students also identified areas for further development. Most of these related to the technical aspects of watching the lecture capture videos:

> They were very good. Although, there was a time delay between the lecturer and the PowerPoint slides, when the lecturer is explaining the diagrams-that was the only difficulty I had. Sanjit

> I think before we have the flipped session, maybe if we have half an hour where the flipped software is explained, so we can be guided through it….. you don't want to go home and read a guide, it is best if the lecturer just walks it through with you. Siana

The session captured by the visiting lecturer was a two-hour session. Students commented that this was too long and suggested that 60 min was ideal, especially since there was a range of activities and additional reading embedded within the sessions. An important message given was that there was a fine balance between providing just enough material, that was supportive and encouraged engagement, and too much material, that would just hinder engagement.

These main themes identified from the transcript were presented to the students. They agreed with the evaluation of the transcript and felt that the themes highlighted were a true representation of discussions within the focus group and their perceptions of the flipped and traditional lecture sessions.

Analytics

The Lecture Capture system facilitated detailed analysis of each student's pattern of viewing as shown in Table 18.4. With only one exception, the data supported all of the student's comments about how much or how little of each flipped session they had watched. The only discrepancy was one student's perception of how much of the flipped lectures he had accessed

> The first one ………I only watched it for 10–15 mins (he actually watched it for 2 min 28 s)…….the second one …….I watched it all (he actually watched only 34 %). Sanjit

Although half of the students watched more of the second flipped session than the first flipped session, it is interesting to note that the mean for all three categories (% of each flipped session watched, total views for each session and the number of days between the first and last watching for each flipped session) decreased for each successive flipped session. Upon initially accessing the flipped lecture, students can see how long the flipped lecture is going to last and this may have been a negative factor which affected their initial motivation to watch the session as one student commented on his initial adverse reaction to an hour-long flipped session

> For the first lecture, the day before coming to class, I just thought let me check what is happening on WOLF. I saw the video was 58 min and I was discouraged but I said to myself, 'OK let me try' and then I tried the first 5 min and I was encouraged and I said to myself 'let me continue'. I was engaged throughout and I didn't realise when I finished it. When I had finished it, I felt that at least I had done something. Kalu

Most students viewed the flipped sessions several times with the average time watched for flipped sessions 1, 2 and 3 being 9 min 25 s, 11 min 16 s and 12 min 57 s, respectively.

Tutor Perceptions

Interviews with tutors focussed on their perceptions of the advantages and disadvantages of lecture capture use, how they felt that students had engaged within class activities and thoughts on whether we had achieved improved delivery of the module:

> **Jan**—I feel that Lecture Capture has dramatically improved delivery of the module as not only has it facilitated inclusion of much interactive background pre-material but it has also freed up precious face-to-face time for more participation with in class activities. The one disadvantage was the huge initial input in terms of time. Lecture preparation was much more time consuming than traditional lecture preparation as time needed to be spent locating and checking the many different extra links for the recorded lectures such as YouTube videos, websites and appropriate online podcasts etc. which were needed to facilitate an interactive Lecture Capture experience. Time was also required to deliver a lecture to a student-free lecture theatre (a first time experience) and with pausing the recording every few minutes to include guidance to the required website etc. the recorded delivery took much longer than delivery of a traditional lecture. However this investment of time was very well worth the extra effort as face-to-face time was spent engaging in activities such

Table 18.4 Students' patterns of viewing for Flipped Lectures

Student	% Watched Flipped session 1 (%)	% Watched Flipped session 2 (%)	% Watched Flipped session 3 (%)	Total views Flipped session 1	Total views Flipped session 2	Total views Flipped session 3	Number of days between first and last watching of Flipped session 1	Number of days between first and last watching of Flipped session 2	Number of days between first and last watching of Flipped session 3
Cruz	80	78	13	4	3	1	32	31	0
Siana	89	100	3	2	2	2	1	1	7
Lucy	75	100	27	6	6	2	1	11	2
Amy	0	0	9	0	0	1	0	0	0
Alima	100	0	22	1	0	2	0	0	7
Hayley	83	100	51	10	11	5	23	26	7
Sanjit	4	34	20	2	3	4	15	1	0
Orisa[a]	0	0	0	0	0	0	0	0	0
Kalu	87	69	26	6	2	1	22	8	0
Mean	58	53	19	3.4	3.0	2.0	10.4	8.7	2.6

[a] It was noted at the focus group that Orisa was unable to log into WOLF and was accessing print outs of PowerPoint lectures via another student

as a student mini poster conference, seminar presentations and question/answer sessions. Face-to-face sessions were a pleasure to facilitate as the level of student engagement with in-class activities was excellent with all students contributing to the discussion sessions, poster and oral presentations thus ensuring their success.

Sara—The major difference in delivering a 'flipped' session is the amount of preparatory work that needs to be undertaken compared to the traditional lecture sessions. The aim of the lecture capture sessions was to prepare all students, independent of their previous UG studies, to take part in class, to build upon their current knowledge and to achieve a much deeper understanding of the subject area. Trying to make the video interactive, engaging and informative was a real challenge-I don't think I quite managed to achieve the balance but with the supportive feedback from the students my flipped lectures will hopefully evolve and the approach will become an invaluable component of my teaching. I really enjoyed the collaborative nature that resulted from delivery of the flipped class-rather than me doing all the talking and trying to involve students through questions and mini-activities, the students led the sessions with me as facilitator. It was **me** answering **their** questions, with students presenting their findings and understanding of the topic to each other. They questioned each other but in a very supportive way-providing answers or suggestions if their peers were unsure. They also debated authors' findings in the papers they were reading in class, supporting a critical approach to their reading-something that would not happen if the papers had been set as homework! I did feel that students were more likely to prepare for the flipped sessions compared to the more passive lecture sessions, perhaps since they didn't want to be the ones who couldn't participate in the group activities. I am actually looking forward to developing and introducing this approach into more of my teaching; although this will mean a great deal of preparatory work initially, I think the benefits to student learning and the additional skills that students develop as a result of this approach totally outweighs this initial input.

Discussion

Did We Achieve Our Aim?

The initial aim of the study was to improve the learning experience for students on our module; ensuring that all students, independent of their previous UG studies or place of study, were able to fully engage within the module. The results of the quantitative analysis, undertaken directly after the in-class sessions, suggested that the flipped lecture approach results in higher levels of student engagement. The student perception was that they were better prepared for the topic and more challenged to think within class; supporting the findings of previous studies (Musallam 2010; Prober and Heath 2012). However, initial evaluation of their responses would suggest that they felt that there was no improvement in their learning outcomes or motivation within the topic.

The focus group occurred after delivery of all sessions. Students had been able to reflect upon the module and were also beginning to prepare for their end-of-semester assessments. The themes emerging from the transcript analysis supported the questionnaire outcomes; feelings of being better prepared and supporting

participation. In addition, students highlighted how they felt that the flipped sessions had resulted in a greater depth of their understanding of the topic area and development of additional skills. This is not reflected within the questionnaire. The discrepancy in responses is likely to be due to the structure of the closed-questions used within the questionnaire; students were asked whether they believed they had achieved the learning outcomes for the session-we did not ask if they felt they had learnt more about the topic or had a greater understanding as a result of how the topic was delivered. The focus group was held after students had experienced each of the teaching sessions and had time to reflect upon and analyse their experiences and understanding of each topic area.

Learning Communities

An important outcome of the flipped session, one that most of the students highlighted in some way within the focus group sessions, was the development of a learning community. Developing relationships with their peers along with the collaborative nature of the sessions led to greater engagement and involvement by students within class. Learning communities support a constructivist approach to knowledge, where knowledge is not simply "discovered" but is socially constructed (Zhao and Kuh 2004). Studies suggest that collaborative learning supports greater understanding within students and a deeper approach to learning (Prince 2004). Learning is more personally relevant, and becomes a part of who the student is, not just something the student has. Using the 'flipped' lecture as the initial starting point supported the sharing and connection of ideas and understandings: this then allowed students to further develop their voice as well as to integrate their learning into the workshops and problem based learning undertaken in class. Since the format allowed students time to reflect upon the 'flipped' lecture content before the class sessions, they appeared to have more confidence in their own ability to engage; this enabled them to become part of the classroom community. In the non-flipped sessions, students who had not covered the topic area before tended to hold back within the active-learning sessions, letting other students take over.

Confidence Building

Analysis of student perceptions and behaviour on the module suggest that flipping the lecture supports the student experience. As highlighted in previous studies (Bergmann and Sams 2012), it provided the students with a greater confidence to take part in class, since they had been able to watch the lecture, reflect on the content and prepare for the class sessions. In class, there was more time for students to chat to each other and their tutors, enabling them to develop a greater understanding of the topics. Being provided with time to read journal articles in class and being able to quiz the tutor about areas they didn't understand meant the students engaged more with this activity; the easier activity of watching a lecture being done at home

alone and the more difficult aspects such as critiquing papers and problem solving being done as part of a community with tutor and peer support. When time is limited-do the 'difficult stuff' in class since students are more likely to do the 'easier stuff' at home on their own. When this was pointed out by a student it just seemed so obvious that this is a more appropriate way of supporting learning and using time effectively!

Can All Teaching be Flipped?

One of the advantages that both tutors and students highlighted was the greater opportunity for tutor-student and student-student interaction. Although we only delivered the flipped teaching to a small cohort of MSc students (through necessity more than design initially) we do believe that this advantage would still be seen in much larger class sizes and at all levels, if interactions are managed appropriately by the tutor. Previous studies have suggested that the benefits of flipping are not so dramatic within larger groups-though improvements may be seen as tutors develop experience and confidence within this approach (Stone 2012).

The importance of design and delivery were highlighted within the study by the realisation that just because you provide a lecture, it doesn't mean students will watch it. Master's level students, in our own experience, can be just as reluctant as undergraduate students to undertake preparatory work set for teaching sessions: we do not feel, therefore, that the level of study influenced the students' perceptions of the 'flipped' delivery. If the 'flipped' lecture is not engaging or easy to follow, or if it is too long, students will just switch it off (Zappe et al. 2009). Just as with provision of preparatory research and reading for class sessions, we still need the flipped lecture to engage students for 'flipping' to work! It is much harder to capture tutor enthusiasm for a topic in a lecture capture situation than within the 'live classroom' setting where there is the chance for interaction with the audience and instant debate on material being introduced. We both found it quite strange to deliver a lecture to an empty classroom during the initial recordings. However, by taking a reflexive stance, reflecting upon student feedback, we feel that this issue can be overcome and novel and innovative ways of delivering such lectures developed: an area for further research.

The 'flipped' lecture was not intended to be the primary source of information delivery within the module. As outlined, the aim was to ensure that students from a range of different educational backgrounds had the required basic knowledge within a topic area to support engagement within classroom sessions. Analysis of student engagement with the 'flipped' lectures did highlight that not all students watched all of each lecture or watched it more than once. One student did not access the flipped lecture session and another watched only 9 % of the last lecture-this could cause problems if 'flipped' lectures are being used solely to delivery important course content. However, 'flipping' worked within our study since we used it to cover basic topics and to reinforce or support revision of material students had already covered in their previous modules. We did not rely upon it to deliver the

more complex areas of the module. As pointed out by one of the students during the focus session—"sometimes you can't help but think the traditional method is good as well. It depends on the topic, or the subject area." A lecture is most suited to presenting basic facts and principles, but not really suited to helping students to develop high-order cognitive skills such as analysis, evaluation or problem-solving, or communication and interpersonal skills (Race 2006, p. 96). It is essential to focus upon the learning outcomes required and to match the delivery of teaching, and methods used, to best suit these requirements (Biggs 1996b).

We would suggest that 'flipped' lectures are not an alternative to the delivery of module content-but that they are just one approach/tool in a wider framework of instructional methods available to tutors to support student engagement and learning. Similar conclusions have been articulated by other studies (Zappe et al. 2009). Engagement and the development of learning communities are especially important where the class of students is from diverse educational backgrounds or where previous background knowledge is weak. We would suggest that the potential of the 'flipped' learning approach is not just within the videos but in how allowing delivery of direct instruction outside of the classroom opens up time and space inside the classroom to engage in more influential instructional practices and to individualise learning. The approach maximises the opportunity for students to become active learners, empowering them to take charge of their own learning. Widening participation and changes in student demographics over the past decade require a shift in emphasis from the teacher to the student to ensure that the diversity of student needs can be appreciated and accommodated (Biggs 2007, p. 133) The 'flipped' approach encourages tutors to re-evaluate their teaching and address the specific needs of each cohort.

Key points

- Keep the video sessions short-students are less willing to watch a video that is an hour long. Several short video lectures of 20–40 min may be more appropriate
- Make the sessions interactive. Ensure that students know they will be asked questions on the 'flipped' lecture content; provide questions throughout or mini activities so that watching the lecture is not a totally passive event. Students watched the lectures in small 'chunks' with very few watching the entire lecture at one sitting. By delivering the lecture in 'bite-size' sections students are more likely to return to the lecture and watch the next bit.
- Consider the aim of the session-'flipped' lectures are not appropriate for all situations. Critics of the approach suggest that those students who do not engage with traditional teaching will not engage with flipped approaches either-be selective.
- Ensure that all students are confident with the technology. We assumed that providing a guide to support the lecture capture would be sufficient. However, students tended to ignore the guide and then if they couldn't get the technology to work 'gave-up.'

Will We Continue To 'Flip'?

The students really enjoyed being part of the inquiry and are keen for us to embed the approach into other areas of the curriculum. Although initially quite time-consuming to prepare for the sessions, both tutors found they enjoyed the flipped workshops more, got to know the students better, developing a good rapport allowing students to feel more able to question and ask for help. We, therefore, feel that we achieved our aim of ensuring that all students were able to fully engage in activities, independent of their prior studies and will continue to develop and embed this approach into each of our modules to support an active-learning approach.

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Chapter 19
Contemplation & Mindfulness in Higher Education

Iddo Oberski, Sue Murray, Joe Goldblatt and Chris DePlacido

Contemplative practices (CPs) provide a non-traditional format for learning and teaching. They involve enhancing awareness of the 'here' and 'now' and are characterised by the foregrounding of 'being' and 'living', rather than 'doing' or 'knowing' and these practices are complimentary to the critical scientific frame of mind generally foregrounded in HE. This chapter presents observations of a pilot project that introduced CPs into teaching and life at Queen Margaret University, Edinburgh. This was a practice-focused project rather than an experiment. The focus of the evaluation was therefore on participant perceptions rather than on measurable impact. The initiative was funded as part of a University-wide project to enhance retention and widen participation; it was however not possible to establish causal links with CPs. The purpose was to enhance the student experience through the affective domain, and to facilitate learning, teaching and general well-being. Short meditations were offered at the start of Year 1 and 2 lectures across two modules; there were two introductory presentations and weekly drop-in sessions each semester. An eight-week mindfulness foundation course was offered to students and staff in semester 2. Students and staff perceived benefits that applied to learning and teaching specifically as well as to broader dimensions of their personal life. Some

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responses suggested that the project also made a contribution to retention. Some staff were unsure about the application of contemplative practices in their teaching and some students perceived them as waste of lecture time. However, overall students and staff agreed that the University should continue and expand current provision of CPs.

Introduction

> Mindfulness meditation is humanizing the higher education environment by teaching to the whole student rather than just concentrating on the cognitive. (Eric McCollum quoted in (Anonymous 2013))

The last 10 years have seen a marked increase in interest in the application and integration of contemplative practices (CPs) in HE as a non-traditional format to enhance learning and teaching (Hart 2004; Bright and Pakorny 2012; Langer 1997; Palmer and Zajonc 2010; Ramsburg and Youmans 2013; Rose 2013; Altobello 2007). Figure 19.1 provides one perspective of the potential range of contemplative practices and highlights the diversity in possible approaches to contemplation in Higher Education. The point of the 'tree of contemplative practices' is not to map all existing practices, but to indicate the possibilities for such practices and make us aware that these can involve both active and passive elements, inner and outer dimensions, creative and interpretative deeds. Indeed, as the foundation of CPs is 'awareness' or 'mindfulness' (de Mello 1990; Kabat-Zin 2009), any activity that consciously engages participants in such awareness, may be called a contemplative practice. While it might seem useful to attempt a more or less accurate definition or description of CPs here, in order to come to an actual understanding of what they entail one must experience them. It is impossible to know what contemplation, mindfulness and meditation are by just reading about them. It is therefore in a sense also an anachronism to write an intellectual, analytical account of people's experiences of CPs (as the rest of this chapter attempts), as no quantity or quality of other people's positive or negative experiences should possibly have any bearing on your individual CPs. In other words, you may be convinced to give it a try, or you may be put off and never give it a try, or you may remain unsure whether your own already existing experiences with CPs could or should translate into integrating them into your teaching. But only by actually living with CPs will you be able to discover this. CPs are not then 'techniques' or 'tips and tricks' to improve learning and teaching, unlike other pedagogical approaches, such as group work, or reflective journals, where the teacher can effectively apply these approaches without him/herself engaging with them. Instead, the effective integration of CPs in our work with students must be underpinned by a living experience of the practices and their influence on one's own life and work.

The initial fostering of such pure awareness generally starts with learning to be still, the idea being that by doing nothing we are afforded a moment in time and a place in space to observe what actually goes on in the world, both within ourselves and around us, when we don't participate in it in the busy way we normally do.
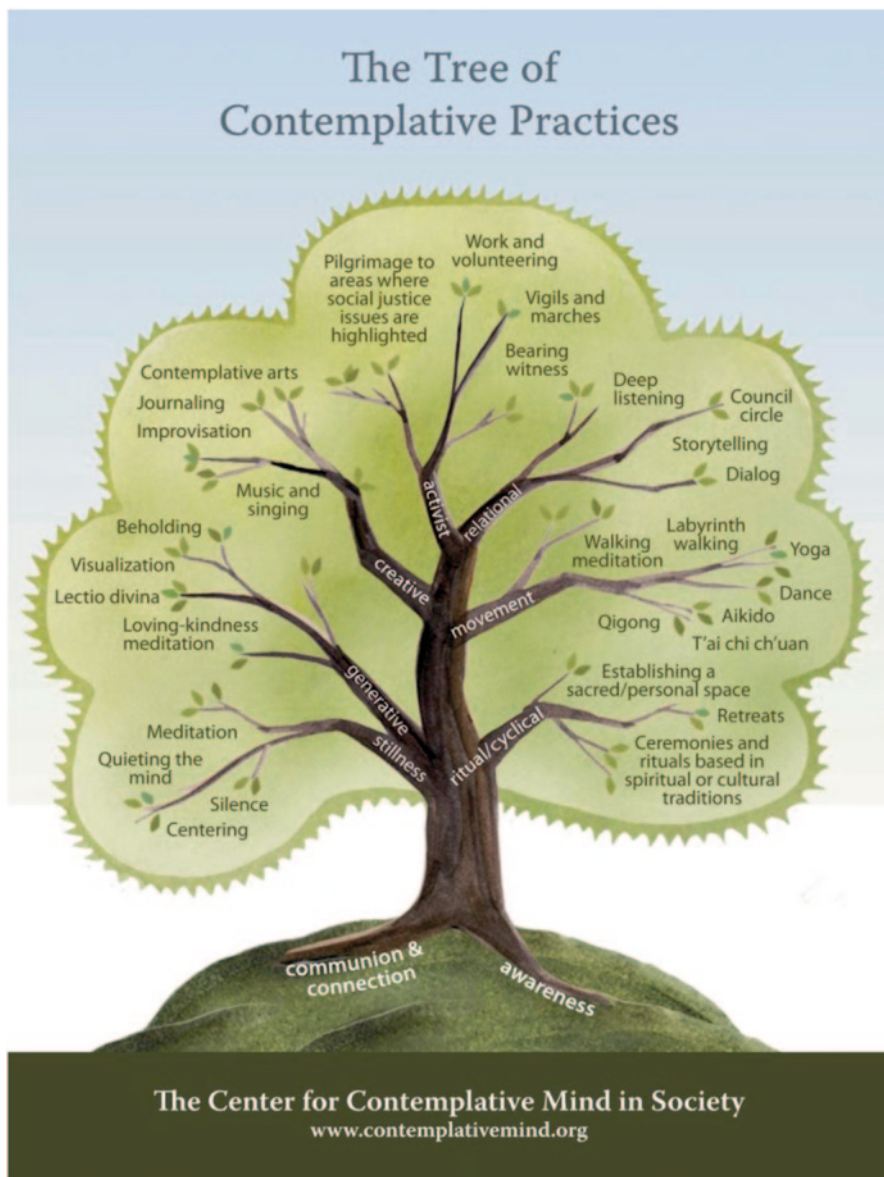
Fig. 19.1 Tree of contemplative practices, courtesy of the Center for Contemplative Mind in Society

Subsequently we may guide our attention to the breathing that goes on, irrespective of our conscious awareness, to an object, or to an idea and allow these to simply be, without the usual analytical and critical faculties taking over the flow of thoughts and feelings. Thus, the philosophy underpinning this project was 'engagement in contemplative practices' and the project funding (see below) was primarily employed to create opportunities and resources to enable students and staff to engage

with some commonly used practices. As experience was at all times prioritised while abstract intellectualisation without experience avoided, I would now also like to invite you, the reader, to spend 10 min listening to and engaging with the short meditation at http://www.meditation-for-beginners.net/media-files/beginnersmeditation.mp3, especially if you are unfamiliar with CPs or in any way uncomfortable with words such as 'contemplation', 'mindfulness' and 'meditation'. Please just momentarily suspend your judgement and try it, before you proceed to read the rest of the chapter.

If you did just go through the above short meditation, then it is quite likely that you now feel calmer, more focused and less rushed and have some idea of what is involved. In our science-dominated contemporary society, which includes Higher Education, the terms 'contemplation' or 'meditation' tend to be associated with religious or other spiritual practices. In Universities especially, these terms tend to be shunned from dialogue and from academic life, on the implicit understanding that such subjective, apparently non-empirical approaches to knowledge and understanding do not belong within the realm of the Academy, except perhaps as an object of study. Nevertheless, it could be argued that the very existence of our Universities is based on the ability of its academics and students to contemplate, to think deeply, to ponder in order to produce new knowledge and understandings (see for example Altobello 2007). After all, new understandings and knowledge tend to be the result of creative, rather than purely logical deductive mental processes (Claxton 2006; Craft 2006; Brady 2007; Rose 2013; Altobello 2007). In the university context the term 'reflection' is ubiquitous, but this concept has become so seriously eroded that its meaning often just refers to 'thinking' in general. It is exactly in trying to reclaim reflection as 'slow thinking in solitude' that Rose (2013) argues for the need to put the contemplative dimension back into it (Oberski 2012).

Partly as a result of the rapidly expanding interest in one particular approach to contemplation, namely mindfulness meditation, it is now becoming more acceptable to discuss contemplation and introduce mindfulness and other contemplative practices into university life, for both students and staff. The evidence base for the potential benefits of mindfulness and also of other approaches to meditation, is growing almost exponentially (Chaskelston 2013) and mindfulness meditation has been implemented with great success in a variety of contexts (see for example London Transport (Halliwell 2009) and case study in Anonymous 2012). The following examples employ primarily secular contemplative practices without any specific religious affiliation or ritual, with the exception perhaps of the use of a meditation bell to mark the start and end of a session (derived from Buddhist practices). Regular engagement with CPs enhances attention, information processing and academic achievement (Shapiro et al. 2011). CPs seem to address specific cognitive dimensions as well as a general sense of well-being, thus to address both the affective and cognitive dimensions of the student experience. Additionally, CPs have (mental) health benefits (e.g. stress-reduction, pain management (Kabat-Zin 2009; Williams et al. 2007; Paul et al. 2007; Sillito 2012). A recent meta-analysis of the psychological effects of meditation confirmed that meditation practices are more

effective in enhancing a range of psychological variables than relaxation exercises by themselves (Sedlmeier et al. 2012) and Ramsburg & Youmans (2013) showed that a short meditation before a lecture improved test scores, especially in first-year students.

None of this should come as a surprise. Anyone engaged with technology, email, social media and the online environment will know that the challenge is no longer to accumulate knowledge, but to make sense of the unmanageable amounts of it (Rose 2013). Our universities are still modelled on the idea that textbooks are expensive and out of date by the time they appear in print and that therefore a student needs to go to where knowledge is created in order to learn the latest findings in a field. Nothing could be further from the truth in the twenty-first century. I estimate that roughly 99 % of the knowledge students need to succeed in their studies is available online. But 100 % of the thinking required to succeed in their studies needs to be done inside their heads. So, unless I am a most inspiring lecturer, or I only lecture on my latest yet unpublished research, my time with students is much better spent in deepening their understanding than in adding to their knowledge. This means that as an educator I perhaps need to rethink how I work with my students when I see them face to face or interact with them at a distance. All this is already subsumed under Biggs' notion of constructive alignment (Biggs and Tang 2011, p. 389) which builds on the constructivist understanding of learning that students learn by being actively engaged with subject matter, so that the role of the educator is no longer to supply knowledge, but to design learning so as to activate the students within the realm of the subject's learning outcomes. However, I would argue that we now need something more than this. We need to give students more guidance on how to think deeply, on what to do with knowledge, on how to synthesize all this material (Altobello 2007; Wang et al. 2013). And these processes are not just about learning to think logically, although in can be argued that even in logical thinking one first needs to have a feeling for what logic actually is. This means we need to help students to reflect deeply, slowly and often in solitude (Rose 2013) on the concepts and ideas that they read about. This allows them to temporarily leave aside the quantities of information, concepts and ideas and instead to reconnect with their own being through which, after all, they engage with the world around them. Without such deep affective connections, subject material for many students remains at the level of information that needs to be instrumentally applied to problems in order to pass exams, rather than a body of living knowledge through which they can and wish to create a better world. We therefore need to create spaces, both physical and in time, in which they can do this. Even allowing for short periods of silence during a lecture, in which students are asked to contemplate a concept, or simply to allow what they have heard to sink in, by stilling the mind of distracting and irrelevant thoughts (Zaretsky 2013) is an example of introducing contemplation in the classroom. This example also suggests that while we academics use contemplation as a matter of course in our research and teaching, we may mistakenly have assumed that our students know when, why and how to contemplate and that they actually do this naturally as part of their learning (Altobello 2007).

This chapter describes some of the initial observations emerging from the evaluation of a small, one-year project that provided a range of opportunities for students and staff to engage with CPs, mostly using mindfulness-based approaches, at Queen Margaret University, Edinburgh, Scotland. The project was funded through the University's "WISeR" (WIdening participation and Student Retention) initiative with the purpose to pilot an innovative, holistic approach to enhancing the experience of both students and staff and thereby indirectly improve retention. It was accepted from the outset that a causal link between CPs and retention could not be established through this project, but that it was reasonable to assume such a link, given what we know about CPs (see discussion above) and retention: Recent research on widening participation and retention (Thomas 2012) has indicated that up to 42 % of students consider withdrawing from their course and that "interventions and approaches to improve student retention and success should as far as possible be embedded into the mainstream provision to ensure all students participate and benefit from them." (p. 9). The underlying factors influencing students' decisions to continue or withdraw are complex, but students' social and academic integration are both known to be important (e.g. Tinto 1993, in Aldossary 2008). Moreover, in Thomas' (2012) recent summary of 22 studies examining retention in HE in the UK, she emphasised how affective dimensions of the student experience were found to be of key significance across most projects. In other words, students' feelings about their study and about their experiences of HE are at least as important as their experiences of the cognitive dimensions of their courses. It is the affective domain that provided the rationale for piloting CPs at QMU as a creative and innovative approach likely to enhance student retention.

Methodology

Mindfulness Opportunities

The hard measure of student retention at QMU (i.e. %-age of students who have not withdrawn by the end of the year) are unlikely to be affected in the short term by any intervention, unless such an intervention is focused specifically on persuading students who have withdrawn or are indicating their intention to do so, to continue their studies. The CPs project however aimed simply to engage as many students and staff as possible, without targeting specific groups. Moreover, such quantitative measures in themselves, while providing useful data on actual withdrawal rates, were nevertheless quite meaningless to the evaluation of this project as it would be impossible to attribute changes in retention to this particular intervention. This is because the number of students withdrawing from a particular course tends to fluctuate over the years anyway, even without any specific interventions aimed at reducing withdrawal.[1] Therefore, the project aimed to make visible some aspects of

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[1] Retention figures for the first-year undergraduate course where CPs were introduced were identical to 2010–2011 (about 87 %) and slightly higher than 2009–2010 (82 %) and 2011–2012 (78 %).

the impact of CPs by focusing on student and staff self-reported experiences of the CPs. From an educational development perspective, these data at least make visible some of the value (Bamber 2013) of CPs to the lives of students and staff, in the context of learning and teaching as well as more broadly.

Thus, this was a small practice-focused project that sought to pilot various ways of implementing contemplative practices into the experience of both student and staff at QMU, with the underlying intention to enhance learning and teaching and possibly contribute to retention. The vision was to facilitate initial steps towards the integration of CPs in learning and teaching. However, as CP were unfamiliar to many students and staff, the project focused on offering opportunities to learn about and have an initial engagement with CPs, as follows:

1. Generic classroom based contemplative practices led by academic staff and/or students as part of face to face lectures (see Appendix 2 for a practice example).
2. Generic drop-in lunchtime mindfulness sessions, led by an external accredited mindfulness practitioner
3. Generic drop-in lunchtime self-led contemplation sessions
4. Presentations providing an introduction to mindfulness and a short practice session
5. Some funding was provided for students and staff to attend external events related to CPs.
6. Two 8-week Mindfulness Foundation Courses, one for staff and one for students, facilitated by qualified mindfulness practitioners, during the first half of Semester 2.

These were implemented as follows:

1. One lecturer introduced five-minute contemplative practice sessions at the start of each lecture in one module for first year (Y1) and second year (Y2) undergraduate students, in semester 1 and for Y1 only in semester 2. The first session was facilitated by the project coordinator. Subsequent sessions were led by the lecturer, who later on encouraged students to lead these sessions themselves, which they did from week 6. Initially, the contemplation sessions involved the whole class sitting in quietness, eyes closed (optional), with the awareness being guided towards being in the present moment, through focusing on the breath (see Appendix 2). Other approaches were also used by the lecturer and the students, such as body scan (where the attention is focused on parts of the body, usually starting with the feet or the top of the head and then slowly working one's way up or down; see e.g. Kabat-Zin 2004, Chap. 5), visualisations (where the imagination is used to create an inner landscape or event) and memory recall (going back in memory over the day, not just cognitively, but as an experience). The second lecturer started practicing mindfulness at the start of each focus session in a Masters module.
2. These were lunch-time drop-in mindfulness meditation sessions led by an external expert, lasting about 35 min, with an opportunity for sharing experiences afterwards.

3. These were lunch-time self-led drop-in sessions. If the coordinator was able to attend these he tended to guide the practice, using several approaches, including mindfulness, visualisation, memory recall, as well as contemplative observation.
4. The presentations were given by external experts.
5. A small number of places was offered to attend the Mindfulness4Scotland Conference in Edinburgh, 10 March 2013.
6. The 8-week template has become the norm in mindfulness training. This was offered separately to students and staff, ran over 8 consecutive weeks, 2.5 h on the same day each week, plus a whole day Saturday retreat near the end, all held at the University, within office hours and fully funded through the project. Places were offered on a first come first served basis.

Of course, given the broad potential benefits of CPs, there is no reason to assume that any benefits obtained would be restricted to the context in which they were encountered. In other words, generic sessions might well affect learning and teaching and classroom-based sessions might well affect general well-being.

Recruitment and Participation

Staff and students were invited to participate in the drop-in sessions and to attend the presentations through messages on the QMU 'moderator' (i.e. emails sent to everyone with a university email address) and through posters and leaflets distributed around the University. Two of the five lecturers who expressed an interest in using contemplative practices in their teaching were briefed on the process and handed a sheet with a short outline of a possible five-minute meditation at the beginning of a lecture. Only staff already familiar with contemplative practices were encouraged to participate, whereas those interested but not currently themselves practicing any form of contemplative practice were asked to first attend the introductory and drop-in sessions. Staff intending to take part in the pilot were also asked to make sure that students were given an explanation of the rationale and approach taken, on the voluntary nature of participation (those not willing to participate could simply do something else quietly during the 5 min practice) and to ensure the practice was strictly secular. The project coordinator was asked by one member of staff to lead the first practice session for each of two groups of students and this was done.

Evaluation

Evaluation took place as follows:

- An anonymous (2013) survey of all who attended at least one of the Introduction or drop-in sessions and left their email address and all those who had experienced in-class sessions. The total list, while variable (people were added and

taken off occasionally) included around 80 student and 50 staff. An email with the request to complete an online survey was sent out in December 2012 and May 2013. Up to two reminders were sent for each. Response rates, based on these approximate numbers were therefore mostly quite reasonable, at around 20% and 30% respectively for Semester 1, 9 and 30% for Semester 2.

- Students on one of the two courses where CPs were introduced were also asked about these (anonymously) through questions inserted into the regular module evaluation questionnaires at the end of each semester (see Appendix 1).
- Participants in the 8-week foundation courses were in addition offered a separate online evaluation survey, which asked them about the organisation of the courses as well as their experiences of engaging, with questions similar to those in the main survey.

Ethics approval was gained through the University's research ethics committee.

Results

Evaluation of Generic In-class Sessions

These were evaluated through module evaluation forms (Semester 1: Y1 $n=30$, $N=120$; Y2 $n=17$, $N=40$; Semester 2: Y1 $n=39$, $N=107$), but there was also a small number ($n=7$) of responses to the Semester 1 survey from students who indicated they had experienced these in-class practice sessions. There were no such responses in the Semester 2 survey.

Unfortunately, the evaluation questions in the module evaluation form were inadvertently altered in Semester 2, making it difficult to do a straight comparison (Appendix 1). Table 19.1 shows the Semester 1 results of the module evaluation forms. Only the combined results for the Y1 and Y2 student groups will be discussed here, given the small numbers.

About equal numbers of students reported to agree and disagree with the statement that they had experience of C/M (contemplation/mindfulness) prior to the semester. More students said they had engaged than not engaged (Q2). Slightly more students agreed than disagreed that C/M had helped them concentrate and focus during the class (Q3). Question four asked very explicitly about the perceived effect of C/M on academic practice and although more students indicated no effect, some indicated they had experienced an improvement in their academic practice, which is remarkable, given the very early phase of the project. Finally, there were about equal numbers of students indicating they wished to continue with the practice at the start of each class.

Judging from the module evaluations Likert-scale questions alone, overall it can be observed that there was a mixed response to the introduction of C/M but that second-year students seemed to indicate a more positive experience than first-year students.

Table 19.1 Student evaluations from Semester 1 in-class contemplative sessions: Year1 *n* = 30; Year2 *n* = 17. 'Agree' column shows % responses in 'strongly agree' and 'agree' categories. 'Disagree' column shows % responses in 'strongly disagree' and 'disagree' categories. Therefore totals < 100 %. %-ages rounded to the nearest integer

Question	Agree % (count)			Disagree % (count)		
	Year 1	Year 2	Total count	Year 1	Year 2	Total count
1. Prior to this semester, I had experience of contemplation/ mindfulness	40 (12)	35 (6)	18	37 (11)	53 (9)	20
2. I regularly engaged with the mindfulness/contemplation programme this term	43 (13)	47 (8)	21	30 (9)	24 (4)	13
3. The mindfulness/contemplation practice was useful in helping me improve my concentration and focus during each class session	27 (8)	41 (7)	15	20 (6)	30 (5)	11
4. As a result of practising mindfulness/contemplation I believe my academic performance improved	13 (4)	24 (4)	8	27 (8)	24 (4)	12
5. I wish to continue practising mindfulness/contemplation at the start of each class session	27 (8)	47 (8)	16	37 (11)	41 (7)	18

The online survey (Semester 1) allowed a simple cross-tabulation that showed there were seven responses from students who had experienced the same in-class sessions, six of whom were first year and two of whom were eligible for Lothian Equal Access Programme for Schools funding (see LEAPS 2011). While none of these had been engaged in C/M practices before, five of the seven indicated they had found the in-class sessions helpful. Five (presumably the same students) also indicated they wished for the University to continue to provide C/M opportunities. Four of the seven indicated to have considered ("during the last three months") leaving the University, and three responded that the C/M sessions had helped them decide to stay at QMU. While these numbers are very small, it is nevertheless encouraging that even after one semester of practice, some students said that they had found the sessions helped them decide to continue their studies, rather than withdraw. This is the only direct evidence emerging from the project to support the introduction of C/M specifically to enhance student retention.

Returning to the full response group, the comments made by students reflected this picture, but gave a little bit more insight into the dynamics of the situation. Some students reported very positive experiences:

> Practicing mindfulness was great, it help[s] you get more focus in class as you feel more relax[ed] and therefore understand everything better

while others were sitting on the fence:

> It hasn't done any harm, it's been a fun factor to the module, but it hasn't directly improved my learning I feel

with several comments suggesting that it was because of the large group and the lack of participation by some people that it became difficult to concentrate:

> Because we were so many people and not all kept quiet, it was hard to concentrate and not let the thoughts run off

Again the picture is mixed, with some students disliking the practice, while others are very positive about the experience. It is interesting that many comments from the Y1 students refer to the difficulty of engaging with the C/M sessions in a large group, as a result of others not taking it seriously and breaking the silence. The Y2 students commented on similar challenges overall, with the exception of this distraction factor, perhaps because their class was significantly smaller than the Y1 group:

> Didn't find it helpful and felt the time would have been better spent on going over the lecture and learning.
> I did not enjoy the contemplation and mindfulness, although I did like using the time to prepare and read over notes.
> IT WAS AN AMAZING IDEA! it makes you stop come back to your centre and help you to concentrate in what you are doing "now and here"
> I personally never found it effective, but that was just my personal opinion.
> I have begun using a meditation program before sleep, I feel I sleep better and feel better rested upon awakening.

Finally, there were a few comments that the C/M was too relaxing.

As indicated above, C/M sessions were not held for Y2 students in Semester 2 (because the lecturer involved was not involved in teaching these students in that semester). Also, the evaluation forms in Semester 2 for Y1 students contained just two questions (Appendix 1). Of 107 students, 39 (36%) completed the module evaluation form. Of these, 33% agreed or strongly agreed that the C/M sessions should be continued with next year's Y1 students, while 41% disagreed. Of the 35 responses to the second question, 13 (37%) thought the practice was a waste of lecture time. Another 13 (37%) indicated they found the practice relaxing. Five students (14%) said the practice helped them in some other way (e.g. "focus", "gets me into the zone", "insightful"). The remaining four (11%) gave neutral responses.

Evaluation of Drop-in Lunchtime Mindfulness Sessions

Approximately 50% of respondents had participated in one or more expert-led or self-led drop-in C/M sessions. Attendance at these sessions was not recorded consistently and quite low, with an estimated maximum of ten, minimum of none and an average of around three people. For the evaluation of these sessions, responses from the student and staff online surveys were combined, separately for each semester ($n=31$ for Semester 1 (15 staff, 16 students); $n=22$ for Semester 2 (15 staff, 7 students)). (It is likely that at least some of the respondents completed the survey in both semesters, therefore the responses could not be combined across semesters). Table 19.2 shows that in Semester 1, 15 people indicated to having experience of the expert-led drop-in sessions, five had experience of the self-led drop-in sessions. Fourteen people agreed that the drop-in sessions had been helpful, while one was

Table 19.2 Participation and evaluation of drop-in sessions

Combined student/staff responses	Semester 1 (*n*=31)	Semester 2 (*n*=22)
Experience of expert-led drop in sessions	15 (48% of respondents)	11 (50% of respondents)
Experience of self-led drop-in sessions	5 (16% of respondents)	7 (32% of respondents)
Agreed drop-in sessions were helpful	14 (93% of drop-in participants)	15 (83% of drop-in participants)

undecided. In Semester 2, 11 people indicated to having experience of the expert-led drop-in sessions, seven had experience of the self-led drop-in sessions. Fifteen people agreed that the drop-in sessions had been helpful, six responded the question was 'not applicable' (it is not clear why people who participated in these session would respond with N/A, rather than 'undecided').

Evaluation of Presentations Introducing Mindfulness

These were attended by 18 and 14 of the respondents (Semester 1 and 2 respectively), all of whom agreed that these had been helpful.

Evaluation of C/M General Engagement and Perceived Specific Benefits

Tables 19.3 and 19.4 provide a summary of the responses to Q5 and Q7, combining the student and staff online surveys. Please note that in Semester 2, seven out of 15 staff and three out of seven student responses were from people who had attended the 8-week foundation course (see separate section below). This suggests that these respondents were very interested in C/M practices, highly committed and therefore their responses will no doubt have positively skewed the overall evaluations.

It is interesting to note that in both semesters a similar proportion of respondents indicated to have been familiar with C/M (Q5d). This may suggest that the people responding in Semester 2 were not the same respondents as in Semester 1, as otherwise one would have expected this proportion to have gone up, as a result of becoming familiar with the practices in Semester 1. It is interesting to note that the proportion of respondents indicating familiarity was about half that indicating engagement, suggesting that 'familiarity' could have been interpreted as having knowledge rather than experience of C/M (Q5d). There was a slight increase (by 10%) in the proportion of respondents indicating they had engaged regularly with the C/M sessions in each Semester, as well as a slight increase (by 6%) in the proportion who disagreed with the statement (Q5f). This is an interesting observation. Semester 2 is usually busier and more pressured than Semester 1, due to the increase

Table 19.3 Overview of responses to Q5, staff and students combined, for each semester. %-ages are relative to number of respondents. 'Undecided' and 'Not applicable' responses are not included

Semester	5.d. I was already familiar with mindfulness and contemplation practices		5.e. I have begun to use mindfulness and contemplation regularly as a result of the sessions at QMU		5.f. I regularly engaged with the mindfulness and contemplation programme this semester		5.g. I was already engaged in mindfulness and contemplation		5.h. I would like QMU to continue to provide opportunities for staff and students to engage with mindfulness and contemplation	
	1	2	1	2	1	2	1	2	1	2
Agree	14(45%)	11(50%)	7(23%)	10(45%)	11(35%)	10(45%)	7(23%)	6(27%)	26(84%)	21(100%)
Disagree	8(26%)	7(32%)	10(32%)	3(14%)	8(26%)	7(32%)	14(45%)	12(55%)	2(6%)	0

Table 19.4 Overview of responses to Q7: staff and student responses combined, except for Q7b. %-ages are relative to number of respondents. 'Undecided' and 'Not applicable' responses are not included

Semester	7.a. The mindfulness and contemplation practice was useful in helping me improve my concentration and focus		7.b. As a result of practicing mindfulness and contemplation I believe my academic performance (students)/ my teaching-research (staff) has improved		7.c. The mindfulness and contemplation practice has helped me to cope with stress		7.d. The mindfulness and contemplation practice has helped me to be more effective		7.f. The mindfulness and contemplation practice has helped me to be more reflective		7.g. I wish to continue practicing mindfulness and contemplation	
	1	2	1	2	1	2	1	2	1	2	1	2
Agree	19(61%)	18(82%)	4(students); 12(staff)(52%)	2(students); 8(staff)(45%)	18(58%)	16(73%)	10(32%)	14(64%)	15(48%)	16(73%)	23(74%)	22(100%)
Dis-agree	2(6%)	0	2(students); 9(staff)(29%)	0(students); 3(staff)(14%)	3(10%)	0	4(13%)	1(5%)	3(10%)	1(5%)	3(10%)	0

in assessment load. Perhaps some respondents handled this additional pressure by increasing their engagement, while others stopped engaging as a result of it. It was particularly encouraging that the proportion of respondents indicating that they had begun using C/M as a result of the project almost doubled, while those in disagreement decreased (Q5e). Finally, there was a slight (15 %) increase in the proportion of people indicating they would like the university to continue to provide these opportunities (Q5h). All these results, while based on small numbers, are encouraging and indicative of the positive perceptions held by those who responded to the surveys. It should however be kept in mind that the respondents to the survey are self selected and probably on the whole more positive about the initiative than those who did not respond.

Question 7 in the online survey elicited responses about more specific perceived benefits of the C/M practices. Table 19.4 summarises the responses for both semesters.

As can be seen from Table 19.4 above, respondents were more in agreement with these statements in Semester 2 than in Semester 1, with the exception of Q7b. The vast majority of respondents agreed that C/M had helped them improve concentration and focus, and this proportion increased by 21 % from Semester 1 to Semester 2. In relation to academic performance, there was a slight decrease (7 %) in the proportion of respondents agreeing that this had improved, but a larger decrease in the proportion that disagreed with the same statement (15 %). In Semester 2, a larger proportion of respondents neither agreed nor disagreed. In contrast, the majority of respondents agreed that C/M had helped them cope with stress, be more effective and reflective, and these proportions increased notably (15, 32, 25 %, respectively) from Semester 1 to Semester 2.

Most respondents agreed that they wished to continue with C/M practices in Semester 1, increasing to 100 % in Semester 2. Again, it should be kept in mind that these results are based on small numbers, that respondents are likely to be self-selected towards the positive end of the scale, and that some or all of the respondents in Semester 2 were also part of the respondent group in Semester 1. Nevertheless, while tentative and possibly not representative, these results are encouraging. It is interesting to observe that higher proportions of respondents agreed with statements about specific benefits (i.e. concentration and focus, coping with stress, reflection; Q7a, 7c, 7f) than generic (and perhaps less well-defined) benefits (academic performance, effectiveness, Q7b&d). Both the generic and more specific benefits can be assumed to be important to learning and all except one saw an increase in the proportion of respondents indicating their agreement.

Mindfulness4Scotland Conference Evaluation

Five staff and three students participated in this conference, which focused on the application of mindfulness in the workplace, though did not specifically include Higher Education. Feedback was received from three staff and two students, who all expressed their appreciation of having been given the opportunity to learn more about this area. They all expressed their intention to become more involved in the CPs and were impressed with the growing networks of practitioners and researchers in this area.

Evaluative Comments of the Mindfulness Practices: Students

The online surveys to students included open questions inviting respondents to comment on their experience, with the C/M practices in general (Q.5), and on their perceived effect specifically on study, work and life (Q.7). The comments were overwhelmingly positive here, indicating that for most people who took the time to write in comments, the C/M provided opportunities to de-stress, take a step back and calm down. There were, however, also some less favourable comments, indicating that not everyone managed to engage with the practice or found it helpful when they did. Perhaps a more in-depth explanation of the rationale behind introducing C/M in the classroom would be useful to students. Boxes 19.1 and 19.2 provide typical examples of student comments.

Box 19.1: Student comments to Q6: "Please say a bit more about your experience of the mindfulness and contemplation practices this semester and/or how we can further develop these opportunities."

- it spurred my interest
- I did not find that it worked for me, first 10 min of class was wasted
- I found it very helpful to relax before starting work and to clear my mind.
- very calming before lesson and improved my concentration skills

Box 19.2: Student comments to Q8: "Please provide some more information about any positive or negative influences of the mindfulness and contemplation practice on your study, work and life."

- helps me to stay focused and balanced during the times of pressure.
- I feel it has helped me reduce stress in personal and academic life. It has definitely influenced my outlook on life in a positive way. I felt less stress in the lead up to exams.
- I would like to incorporate more into my daily life by having increased access to mindful-led classes.
- I would very much like to improve this aspect of my study, and learn how to cope better with everything in my life!
- Practising mindfulness and contemplation has improved my life to a great extend. I am more able to cope with stress and stopped taking things personal. All together it just seems to improve life and appreciation of life
- waste of time

Evaluative Comments of the Mindfulness Practices: Staff

> These sessions had a transformative effect upon my students. Their concentration rapidly increased during the semester and their alertness and responsiveness to my questions was much stronger than in previous years and I have been lecturing for 30 years (Informal comment from lecturer).

The online surveys to staff included the same open questions as to student (see above) inviting respondents to comment on their experience with the C/M practices in general (Q.6) and on their perceived effect specifically on study, work and life (Q.8). The comments were overwhelmingly positive here also, except that there was more emphasis on the difficulties of fitting the practice into very busy work and life schedules. Boxes 19.3 and 19.4 list all the staff responses.

Taken together these responses present a very positive picture of the experiences of students and staff. The relaxation aspect was appreciated, as was the range of different opportunities. For staff, making time to engage regularly was challenging and the need for regular practice was acknowledged.

Box 19.3: Staff comments to Q6

"Please say a bit more about your experience of the mindfulness and contemplation practices this semester and/or how we can further develop these opportunities"

- that the development of these practices will be very beneficial to staff and students at QMU
- I led short mindfulness sessions prior to counselling classes where reflection and self awareness are really important. The students enjoyed it and want to keep going with this.
- I totally loved it and was glad to see that the sessions continued.
- I'm pleased that the opportunities are there to make use of personally
- V[ery] enjoyable […] I really enjoyed the sessions which I attend as it is a different experience than doing it alone at home.

Box 19.4: Staff comments to Q8

"Please provide some more information about any positive or negative influences of the mindfulness and contemplation practice on your study, work and life."

- It was an interesting and enjoyable talk.
- I find mindfulness/meditation is a helpful practice in general and contributes to a sense of inner well-being and is therefore a positive thing to do in life, but I don't feel there is a direct relationship with the way I work or play in the rest of my life that I can specifically relate back to this practice

- I haven't experienced many concrete positive impacts yet but think I may have to do it more regularly!
- It has all been very positive and has increased with increasing practice, particular useful in helping me pace my work, helped with concentration and well-being as well as reflection, which is very important for a practitioner

Evaluation of the 8-week Mindfulness Foundation Courses

Evaluations of these courses generated the most positive responses. This is not surprising, given the highly self-selected group attending them. There were 18 respondents to the 8-week course evaluation survey, with nine responses from staff and students each. Attendance was also recorded independently by the course facilitators. This is presented in Table 19.5 below. Seven staff and 11 students attended five or more sessions. Given the extreme pressure on time and that the courses were run during working hours, this was a good outcome (Table 19.5).

Respondents expressed their experiences as indicated in Table 19.6. The questions set were as much as possible identical to those in the overall survey. It is clear from the table that most respondents agreed that the course had helped them and was useful to them, with some being undecided. As the respondents all had attended 5 or more session, this group was highly self-selected, motivated and committed to engage with the C/M practices. The Table 19.6 show their combined responses to some of the questions that were also included in the overall survey.

It is particularly encouraging to note that 13 respondents indicated their interest in integrating C/M into their study or teaching, confirming that the intensive course can provide a solid basis for people's engagement with the practices, something which is unlikely to be achieved solely through the drop-in sessions and presentations. Staff and students also commented on the perceived impact of C/M on study, work and life in general, as summarised in Box 19.5. It was of particular interest to note that these courses, besides helping directly with stress management, concentration, work and awareness, also especially provided an impetus to apply the C/M to life and to continue the practice more regularly in between sessions and following course completion.

Table 19.5 Attendances at the two 8-week courses

Course	Signed up		1–4 sessions	≥5 sessions	All sessions
Staff & PhD students	14	1	6	7	2
Students	21 (plus 15 on waiting list)	3	7	11	9
Total	*35*	*4*	*13*	*18*	*11*

Table 19.6 Responses from 8-week foundation course participants ($n=18$, response rate 51%). Counts (%)

Question	Agree	Disagree	Undecided/not applicable (N/A), or blank
6e. I was already familiar with mindfulness or other contemplation practices	12 (71%)	2 (12%)	4 (24%)
6f. I have begun to use mindfulness or other forms of contemplation regularly as a result of the course	16 (94%)	1 (6%)	1 (6%)
6g. I was already engaged in mindfulness or contemplation before I did the course	5 (29%)	8 (47%)	5 (29%)
6h. I would like QMU to continue to provide opportunities for staff and students to engage with mindfulness and contemplation	16 (100%)		2 (12%)
8b. The course has helped me to be more reflective in my teaching/studying	13 (77%)	1 (6%)	4 (24%)
8c. The course has helped me to cope with stress	15 (88%)	1 (6%)	2 (12%)
8d. The course has helped me to be more effective in my teaching/studying	12 (71%)	1 (6%)	5 (29%)
8e. The course was useful in helping me improve my concentration and focus	15 (88%)	1 (6%)	2 (12%)
8f. I would like to use mindfulness and contemplation in my teaching/studying	76% ($n=13$)		5 (29%)
8g. I wish to continue practicing mindfulness and contemplation	94% ($n=16$)		2 (12%)

Box 19.5. Word cloud of staff and student perceptions of C/M influence on study, work and life in general
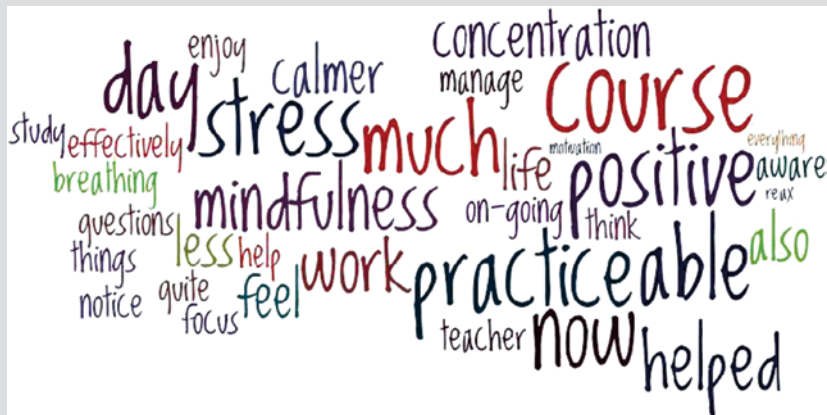
Conclusion

This paper provides a summary of project implementation and evaluation during and after each semester in academic year 2012–2013. A range of Contemplation/Mindfulness opportunities were offered to students and staff and two lecturers participated in implementing C/M in their classes, although in-class evaluation data was only available from one. The drop-in sessions were open to all staff and students, as were the presentations, the event funding and the 8-week foundation courses. Project evaluation was done through module evaluation forms and online surveys to students and staff.

Although the project is unable to provide direct measures of the impact of C/M on retention (as discussed in the Introduction) there is strong direct evidence of its overall positive impact on the student and staff experience at QMU. Even after just one semester, student and staff responses implied positive outcomes, such as enhanced awareness, concentration and focus, as well as improved academic practice, reduced stress and increased effectiveness and reflectivity. Agreement with statements about positive effects of C/M practices generally increased from Semester 1 to Semester 2. While numbers were very small, it was also noteworthy that three out of four students who had considered leaving the university indicated that the practices had helped them decide to stay, suggesting that these practices may have a positive, indirect, effect on student retention. There was clearly some division in opinion around the in-class meditations, with several students remarking that it was a waste of lecture time, while most others indicated it was a great opportunity to relax and focus the mind.

Students' online responses were more positive than their module evaluations, which may have been the result of self-selection, in other words, those who had a positive experience in class may have been more likely to complete the online survey. However, the overwhelming majority of respondents indicated they wished to continue the practices. An important feature emerging from the evaluation of the 8-week courses was 'practicability', as the course provided weekly contact with a tutor and other participants, thereby providing a motivation to take up more regular practice of C/M during the rest of the week and after course completion. Regular practice is key to harvesting the benefits of C/M and thus in that sense the 8-week courses may well be the most important aspect of this project to facilitate depth, while the other opportunities (especially the introductory presentations and the in-class sessions) were most effective in reaching larger groups of people.

It was also of interest that a number of respondents (staff and students combined) indicated to already be involved in contemplative practices or to have started to practice after being introduced to it through this project. In Semester 2 there was an increase in the proportion agreeing with the statement to this effect, as also for nearly all perceived benefits of the practices and this increase can primarily be attributed to the 8-week courses.

In conclusion several useful lessons emerge from this project in terms of engaging student learning in this non-traditional format:

1. Starting a lecture with a short meditation was a new experience for students and the level of engagement could be improved by providing students with a clearer rationale for the introduction of contemplative practices in the classroom. This rationale must include a clarification of the mental activity underpinning the C/M to dispel the idea that these practices are passive or a waste of lecture time. In fact, it can be argued that C/M have always been at the core of the Academy (Altobello 2007).

2. There is still a perception by many students and staff that lectures are for absorbing specific quantities of information and therefore any time taken away from the provision of information would constitute a waste of lecture time. Providing a clearer rationale as above, examples of the benefit to learning, a more gradual introduction to the practice and possibly a more subject-embedded approach could all be ways to address this perception and avoid students becoming too relaxed.

3. For C/M practices to be of benefit to student learning, more staff need to be engaged, so that students are likely to encounter these practices across their entire university experience, instead of just in one or two classes. While drop-in sessions are useful, the turnout to these was generally low. Thus to capture larger numbers of staff and students, it is crucial to embed C/M into teaching, learning and course design. There is still a lot of work to be done here in terms of engaging staff across the organisation with these practices and in helping them to provide a range of different approaches, including stand-alone, in-class and subject-embedded opportunities for engagement in C/M. Developments are currently under way to offer more specific workshops on how to integrate C/M practices into learning and teaching. In addition, the 8-week courses proved an essential ingredient to the mix of opportunities, in that they particularly facilitated the development by participants of a regular C/M practice.

4. A potential fruitful way forward is to adopt Rose's quest for the deepening of reflective practices, thereby to some extent avoiding the use of the terms contemplation and meditation. However, the risk associated with this approach is that very little will change, as 'reflection' is already well-established with most module learning outcomes, but likely does not include the contemplative dimension. A combined approach, 'putting contemplation back into reflection' may well be a viable way forward.

5. While relatively costly and time consuming, the intensive 8-week courses proved a great success in providing participants with a solid basis for practice. In future, we hope to be able to provide similar courses but may ask for individual financial contributions to make this sustainable and to encourage commitment to the entire course.

6. There is a certain risk associated with using the terms 'contemplation', 'meditation' and 'mindfulness' in that some people will be prejudiced against these practices from the very start, associating them with religious activity. It is possible that using more acceptable labels (e.g. 'brain-based learning'; 'teaching for deep learning'; 'core reflection') to attract larger numbers of people may allow a less conspicuous introduction into C/M practices.

This practice-based project has achieved significant engagement by students and staff from across the University with undoubted resulting positive experiences, thereby addressing the affective dimension of the student (and staff) experience. The potential for C/M practices to enhance the quality of University life and work for students and staff is significant and this project has made a first in-road at QMU into the employment of these practices in the classroom, to directly enhance the learning and teaching experience. The evaluation data, together with the published research and colleagues' professional judgements ('practice wisdom', (Bamber 2013) provide sample evidence of the value of this educational development innovation.

As a result of this project, the University has continued the funding for the drop-in sessions, the Student Union has begun to engage with mindfulness practices as a way to improve student mental health, examples of practice have been integrated into some induction programmes and contemplative practices have begun to be integrated in module learning outcomes. To end with Albotello's (Altobello 2007) starting quote of Tobin Hart (Hart 2004):

> If we knew that particular and readily available activities would increase concentration, learning [and teaching], wellbeing, and social and emotional growth and catalyze transformative learning, we would be cheating our students [and teachers] to exclude it (my additions in square brackets).

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Appendix 1 Evaluation Questions for In-class Practice

The following questions were used with a Likert scale (Strongly Agree-Agree-Neither Agree or Disagree-Disagree-Strongly Disagree-Not Applicable) for the in-class practice. There was also one open question (Q.6) to provide students with an opportunity to comment freely on their experience

Semester 1:

1. Prior to this semester, I had experience of contemplation/mindfulness.
2. I regularly engaged with the mindfulness/contemplation programme this term.
3. The mindfulness/contemplation practice was useful in helping me improve my concentration and focus during each class session.
4. As a result of practicing mindfulness/contemplation I believe my academic performance improved.
5. I wish to continue practicing mindfulness/contemplation at the start of each class session.
6. Please share any other thoughts and feelings regarding mindfulness contemplation practice this semester.

Semester 2:

1. I believe that the brief Mindfulness practice should be continued next year at the beginning of the lecture for the first year students.
2. Please provide your opinion in the form of an adjective (great, rubbish, brilliant, time wasting, relaxing, etc.) to describe the benefits you did or did not receive from the Mindfulness practice this semester.

Appendix 2 Example Practice

Contemplative Practice and Mindfulness in Higher Education
   Meditation in 7 steps:

1. *Be comfortable in body & mind*. Sit in an upright chair, your back well supported. Feet flat on the floor (you could take off your shoes). Head easily balanced on top of your spine. Hands palms-up in your lap, one palm on top of the other, or palms down, on your knees. Arms relaxed by your sides
2. *Deep breaths:* Take three deep breaths in and out, as deep as is comfortable, without straining. Do this in your own rhythm
3. *Centre yourself mentally:* Become aware of the feelings of your body on the chair, your feet on the floor. Then become aware of the sounds around you, any smells, the feeling of the air on your skin, and of your clothes on your skin. Close your eyes if they are still open.
4. *Bring your attention to your breathing:* Focus on the feeling and sound of your breathing. Remain still and feel the gentle in-and outflow of your breath. Feel it in your ribcage/chest, your abdomen, shoulders, and nostrils.
5. *Return to the breath:* Usually, after some time, a sound or a memory, a feeling or emotion will carry your attention with it. You may be caught up into this flow for just a few seconds or much longer. At some point you will realise what has happened. When you do, just return your attention to your breathing as in step 4. Keep going through step 4 and 5 during the meditation as needed.
6. *Return to the here an now:* Once the time is up, bring your attention back to the sensations of your body on the chair and feet on the floor. Become aware of the sounds and the feeling of the air on your skin. Become aware of the people in the room and bring yourself solidly back to the here and the now.
7. *Resume regular activity:* Gently open your eyes. Take a few minutes to re-adjust to where you are. Smile. Drink a glass of water. If you want, write a journal entry. Then resume your activities as usual.

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Chapter 20
Fostering the Affective and Cognitive Dimension of Learning in Exploratory Search

Valerie Mannix

This chapter explores the motivational capacity of individual and collective future self guides and images that blend motivational, cognitive and affective experiences of learners in the formation of future identities in higher education. It emanates from two recent qualitative research projects at Waterford Institute of Technology, Ireland, which explored how learners at the Department of Languages, Tourism and Hospitality studies creatively learned their way individually and collectively into new possibilities in formal, non-formal and informal learning spaces. The research concurs with the view of Dörnyei (2014, p. 522) that "the effective functioning of individual and collective self guides is dependent on several cognitive components such as the appraisal of learners' own capabilities and their personal and collective circumstances to anchor their vision in realistic expectations". Variable success is also, however, emotionally driven (transient emotions, persistent moods and deeply anchored emotional dynamics) and there is a strong need to look in particular at the role of affect in the creative formation of "possible" and "ideal" selves in exploratory search. Creative activity pertaining to the formation of individual and collective future learner identities depends, therefore, (as also advocated by Markus and Nurius 1986) critically on the interplay of thought, feeling and action and is furthermore activated by both individual and collective appropriate emotions (reflecting ontogenic and situational dimensions) and a variety of task specific cognitive plans, scripts and self-regulatory strategies.

As part of the discussion, the chapter draws on the work of Markus and Nurius (1986) on the notion of "possible and ideal selves" and the work of Baxtor Magolda (2011) on the notion of "self-authorship". The chapter also explores the literature on affect and the affective experience in psychology, psychodynamics and neurobiology to reflect on and characterise more effectively the motivational underpinnings of individual and collective creativity in the formation of "possible" and "ideal" selves and how such emotional investments may be nurtured in multiple spaces

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simultaneously. The chapter also reflects on how partners in creative collaborations offer each other "emotional scaffolding" in relation to the formation of learner identity-relevant information and motivation to pursue individual and collective self-relevant goals.

To conclude, the chapter calls for future motivational research to adopt a dynamic perspective that allows us to consider simultaneously the ongoing multiple influences between environmental and learner factors in all their componential complexity and in particular the psychology and neurobiology of affect.

Introduction

In the context of examining the hallmarks of an educated person in the new millennium, Herz (2005, p. 30) concludes that:

> it's about an educated person taking this vast river of data and information available nowadays at their fingertips and creating a context in which the information makes sense and can be understood. Values exist less and less in the pure data or in the pure information and more and more implicit, in people and in their context.

This view is similar to the work of Kegan (1994) and Mezirow (1990) on transformational learning—"the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mindsets) to make them more inclusive, discriminating, open, emotionally capable for change and reflective, so that they may generate beliefs and opinions that will prove more true or justified to guide action" (Mezirow 2000, pp. 7–8).

According to Baxter Magolda (2011, p. 76), "navigating the complexities of twenty-first century life requires self-authorship or the development of an internal voice to guide one's beliefs, identities and relationships." Furthermore, she advocates that higher education institutes can intentionally assist learners to "transiting from external to internal definition, establishing an internal criteria for what to believe, how to identify themselves and how to relate to others" (p. 76). This personal growth is a necessary component of "complex and holistic learning" (p. 76).

The concept of "critical communities of learners" developed by Garrison and Anderson (2003) has also become a universally agreed education practice, where students and lecturers construct and validate understanding that leads to further learning. Through this approach, the individual is cognitively independent but socially interdependent. Schon (1985) and Gibbons (1994) have also based their work on a concept of knowledge production, where learning is collaborative, flexible, and transitive. A strong argument is placed by Gibbons that learning activities need to be more socially accountable and reflexive. In this sense, both learners and practitioners are engaged collaboratively in varied learning spaces. The ideal of the third space concept, "environments or spaces that provide experience, stimulate the senses, encourage the exchange of information and offer opportunities for rehearsal, feedback, application and transfer are most likely to promote learning", is also endorsed by Chism (2006, p. 4), as an environment of learning.

For Kegan ([1994](#)), transformational learning, representing the growth of the mind, incorporates conceptions of self and relationships and the evolution of meaning making is in the form of three dimensions—epistemological, intrapersonal and interpersonal. A key enabler of change facilitating such "individuation" and "authenticity" has seen developments in educational research in learning models, which focus on problem-based learning, student-centred learning and authentic learning experiences.

Such ideas in relation to transformational learning and frameworks discussed resonate with both the concept of lifewideness[1] and possible selves.

Possible and Ideal Selves

According to Markus and Nurius ([1986](#), p. 954) in their seminal paper, possible selves, a future self state rather than a current one, represents the ideas which an individual has regarding what they could become (hoped for self), what they would like to become (ideal self) and what they are afraid of becoming (feared self). Information derived from past experiences also plays a significant role in this regard.

Their work has been of significant importance to researchers and practitioners. As Markus (2006, p. xi) summarises:

> By focusing on possible selves, we were given a licence to speculate about the remarkable power of imagination in human life. We also had room to think about the importance of the self-structure as a dynamic interpretive matrix for thought, feeling, and action, and to begin to theorize about the role of sociocultural contexts in behaviour. Finally, the concept wove together our mutual interests in social psychology, social work, and clinical psychology.

Furthermore, it became widely assumed that each individual has a wide repertoire of self representations and that the working self-concept is "an integrated subset of all the available self-representations". It is also " *continually active*" … and is a … "*shifting array of accessible self knowledge*" (Ruvolo and Markus ([1992](#), p. 98).

Whilst the work of Markus and Nurius ([1986](#)) was concerned with a framework of "multiple" possible and ideal selves, a systematic framework developed by Higgins et al. ([1985](#)) and Higgins ([1987](#)) focuses on the interrelations among the different self-states, Higgins et al. ([1985](#)) and Higgins ([1987](#)) proposed a self-discrepancy theory, which is underpinned by the idea that people are motivated to reach a condition where their self-concept matches their personally relevant self-guides. In other words, motivation in this sense involves the desire to reduce the discrepancy between one's actual self and the projected behavioural standards of the ideal/ought selves. Thus future self guides provide incentive, direction and impetus for action.

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[1] Lifewideness is the idea that most people inhabit a number of different spaces throughout their lives (for example, work travel, education, hobbies) and it is in such spaces that we have the freedom to make choices and decisions about our needs, interactions, relationships, roles, values and identities as well face challenges and problems as we create along with others the meaning of our lives. Barnett (2011) in Jackson (ed.). Learning for a complex world. Bloomingtown: Authorhouse. pp. 2–3.

If a sufficient discrepancy exists between self states, self-regulatory strategies are utilised with the aim to reduce the discrepancy.

Studies in neurobiology, according to Schumann (1998, p. 36) have also shown that innate homeostatic and sociostatic value establish the basis for somatic value—preferences and aversions acquired in the lifetime of the individual forming an emotional memory. This emotional memory acts as a filter that appraises current stimuli according to novelty, pleasantness, goal need significance, coping mechanisms and self and social image. Such appraisals, furthermore, guide our learning and foster the long-term cognitive effort (action tendencies) necessary for the achievement of high levels of mastery or expertise. The appraisals may, however, also curtail learning, thereby producing variable success. This stimulus-appraisal system is thus a major factor in a wide range of learning outcomes.

There has some debate in the both the education and second language acquisition literature as to whether individuals posses multiple possible selves (or one integrated possible, actual and ought-to self (Higgins et al. 1985; Higgins 1987). What is, however, clear according to Dörnyei (2014) and from the research projects discussed below that an ideal vision is insufficient for individuals to engage in motivated activities. There is also an associated need for the formation of strategies during the learning process as well as engagement in premise reflection along with the quest for continuous feedback, as discussed further below.

.... It could argued that the effective functioning of individual and collective self guides is also dependent on several cognitive components such as the appraisal of learners' own capabilities and their personal and collective circumstances to anchor their vision in realistic expectations. Variable success is also, however, emotionally driven (transient emotions, persistent moods and deeply anchored emotional dynamics) and there is a strong need to look in particular at the role of affect in the creative formation of "possible" and "ideal" selves in exploratory search. Creative activity pertaining to the formation of individual and collective future learner identities depends, therefore, (as also advocated by Markus and Nurius 1986) critically on the interplay of thought, feeling and action and furthermore activated by both individual and collective appropriate emotions (reflecting ontogenic and situational dimensions) and a variety of task specific cognitive plans, scripts and self-regulatory strategies.

Recent research undertaken by Al-Shehi (2009) has provided evidence that "visual learners are more capable of perceiving a vivid representation of their ideal selves, which in turn is reflected in heightened motivated effort and behaviour" (ibid., p. 168). Envisioning our futures through imagination according to Wenger (1998, p. 176) would imply that imagination is a "*process of expanding our self by transcending our time and space and creating new images of the world and our selves*".

There is also much evidence from neuroimaging studies, that "visual mental imagery and visual perception activate two-thirds of the same brain" (Kosslyn et al. 2006, cited in Dörnyei 2009, p. 16). Furthermore, it would seem that there is "a neuropsychological basis for Markus and Ruvolo's (1989) claim" that " imagining one's own actions throughout the construction of elaborated possible selves (visual, auditory, kinaesthetic, or visceral representations of the self in the future achieving

desired goals) may thus facilitate the translation of goals into intentions and instrumental actions" (Dörnyei 2009, p. 16).

Taking the results of such neuroimagining studies into consideration, it could be concluded that the process of expanding ourselves by transcending our time and space and creating new images of the world and ourselves is very much linked to a wide array of contexts and to the concept of lifewide learning. The development of emotional intelligences, that is, self and social awareness and management, is also of crucial importance as learners visualize ideal selves and reflect on their existing experiences and knowledge via such learning spaces.

Lifewide Learning

To reach out to all learners, especially hard to reach students, there is a need to impact learners' whole identities by facilitating them in striving towards a new and personalised attractive vision of learning. In this section, I present the concept of lifewide learning and how we might be able to help learners strive further towards "possible" and "ideal" selves' through the facilitation of learning in multiple authentic learning experiences. The notion of lifewide learning may be defined as "learning through multiple spaces simultaneously" (Barnett 2010, p. 23) or learning through all the experiences life has to offer (Jackson 2011, p. 101).

Very much associated with both the concept of possible and ideal selves and the concept of "lifewideness" is the promotion and integration of multiple sensory modalities, predominantly visual and auditory, resulting in mental representations of imagined objects, situations, emotions and actions (Knäuper et al. 2009). In other words, learners reflecting on what their future identities might be as they learn how to be, and how to become, in different places—multiple spaces of 'being and becoming'—both during their time in college and in a continued fashion throughout their lives. In such transformational spaces of "being" and "becoming", I argue that learners have a genuine possibility to engage in self authorship (Baxter 2011), and insider inquiry, instead of adopting conceptions of learning or generalised learning styles. It is vital that learning is located within the identities of learners and embraces student diversity, a view also held by Savin-Baden (2008, p. 16) that "*learning is indeed complex and specific to the learner and must therefore be located in the context of their lives and their stories*".

To gain a fuller understanding of the concept of a learning space in the context of promoting "possible" and "ideal" selves through "lifewideness", I reflect on the work of Barnett (2010) and Savin-Baden (2008) as well as the work of Eaton (2010) on formal, non-formal and informal learning spaces. Savin-Baden (2008) refers to the idea that there are "diverse forms of spaces within the life and life world of the academic (learner) where opportunities to reflect and analyse their own learning position occur" (Savin-Baden 2008, p. 8). Both Barnett and Savin-Baden have provided numerous examples of the types of diverse learning spaces in which learners may reside. Some examples include—work, non-work, occupational

networks; family, leisure, social networks and engagements, as well as manifold channels of news, information and communication and physical and global mobility (actual and virtual). Further examples might include bounded learning spaces (days away in which to think and reflect as a group); formal learning spaces such as courses and conferences, or social learning spaces where there is dialogue and debate in informal settings. In addition, spaces could also be perceived as silent learning spaces, away from noise that erodes creativity, innovation and space to think, writing spaces, places not only to write but to consider one's stances and ideas and dialogic spaces (critical conversations where the relationship between the oral and the written can be explored).

Savin-Baden (2008) makes a strong argument for more recognition of the creation and maintenance of 'smooth spaces' in 'striated' learning environments and the possible interplay of both types of learning spaces as well her emphasis on the notion of 'spatial ecology'. She distinguishes between smooth and striated spaces of learning based on the work of Deleuze and Guattari (1988, p. 48, in Savin-Baden (2008, pp. 13, 153, 154). She defines striated learning spaces as spaces '*characterised by a strong sense of organisation and boundedness*' (2008, p. 154). Such spaces could be deemed to be 'spaces of arrival', for example, course attendance on campus, or defined learning places such as lecture theatres and classrooms. Smooth spaces, by contrast, are deemed to be "open, flexible and contested spaces in which both learning and learners are always on the move", that is, 'spaces of becoming'. In such spaces, there is also a sense of displacement of notions of time and place so that the learning space is defined by the creator of the space, the learner. In other words, in such spaces learners are encouraged to contest knowledge and ideas offered by the lecturer and in so doing create their own attitudes, beliefs or dispositions towards a particular context, person or experience. (Savin-Baden 2008, p. 154). She also refers to, defines and emphasises the importance of the notion of 'spatial ecology' as the "creation of balance between and across spaces in higher education, so that account is not taken of merely knowledge, content, conceptions and acquisition, but also of ontology, of values and beliefs, uncertainty and complexity" (Savin-Baden 2008, p. 154).

In her recent work, Eaton (2010) provides useful definitions to aid us in our understanding of formal, non-formal and informal spaces of learning. Formal learning is intentional, organised and structured, arranged by an institution with a guided curriculum (striated spaces). Non-formal learning (unaccredited) may not be intentional or arranged by an institution (spaces between striated spaces and smooth spaces), but is usually organised in some way. Informal learning (unaccredited) is usually spontaneous and is not organised by a learning institution (smooth spaces).

In the next section I present, based on recent research projects at Waterford Institute of Technology, how learners in embracing the concept of lifewideness generate possible and ideal selves. Based on these studies, I believe that learners in such circumstances have more opportunity to develop their own personal authority, seek creative solutions to complex issues, make life-changing decisions as individuals, and become better team players and leaders. I interpret such learners as perceiving the world in a more meaningful way.

Research Studies at Waterford Institute of Technology

My Ph.D. research (Mannix 2008) investigated the perceived sources of language learner and teacher motivation at my workplace at Waterford Institute of Technology. In relation to a group of 49 second language (L2) learners, this qualitative study revealed most interesting results. Overall, the lecturer-student relationship and the quality of instruction were the most significant factors recorded in relation to the motivation of these particular second language students. In many cases learners' possible and ideal L2 selves were influenced by the L2 lecturer—their way of being, how they communicated, their values, goals and perceptions in relation to the L2 language and culture, intercultural communication and lifestyle. L2 learners' possible selves were also influenced by the L2 lecturer's perception and behaviour around learning and learning how to learn. Therefore, the more open lecturers were to engage with learners about the L2 language, culture and in relation to learning in all its forms and to encourage students to explore further individuality and collaboratively, the more interested students became to learn both the language and about the L2 culture themselves. In some cases, L2 possible selves included "learning more about other cultures" (L3 learning), "a desire to live abroad", "a desire to spend some time working in the L2 country" or "a desire to engage with German speaking students online".

One particular finding indicated that students pursuing language studies were more motivated and self-determined in their learning and had developed a more defined sense of self or future self having spent an academic year abroad (alternative learning space). During this particular time, students had time to engage in individual and collective formal, non-formal, informal spaces—academic learning, university life, friendships and workbase learning.

To summarise:

> such students were more inclined to relate aspects of their previous learning experience to their current one and use creative strategies in achieving their learning goals. Furthermore, they reported being able to identify more with the second language and culture and their attitudes towards learning other languages and their perceptions of other cultures (alternative spaces of learning) had also been positively influenced (perceptions of their actual and future selves). Furthermore, having spent time in a L2 (second language) community, learners' perceptions of the difficulty of language learning and their perceptions of their ability to succeed in learning the language had also significantly changed in a positive way. (Mannix 2008, p. 327)

Conversely, learners who did not partake in the academic year abroad perceived the value of learning and indeed the value of language learning to be purely instrumental. One frequently cited "ought –self", for example, was "the need to listen to everything the lecturer says to pass the exam" as well as "the completion of an academic degree course to enhance their employment prospects". Frequently, such learners reported feeling anxious before assessments and reported a lack of confidence in their ability to succeed or to improve on their existing grades. Such learners also demonstrated a stronger reliance on lecture notes and support from their lecturers.

Of particular interest was the enhancement of students' intercultural awareness and competence as a result of residing in formal, informal and non-formal spaces of learning during the study abroad period (authentic sites of practice). Intercultural competence—being able to communicate across difference- is a valuable tool for individuals to reach new levels of consciousness, understanding and identification with the notion of "otherness" and connects the cognitive, behavioural and affective domains of individuals (Deardorff 2008; Byram 1997; Kegan 1994).

Some of the formative possible and ideal L2 selves included the international communicative self coupled with an intercultural friendship self orientation.

International Communicative Self (International Communicative Goals) "Having spent an academic year in Germany and met some many different nationalities, I don't feel that two languages is enough. I would like to live in at 3 different other countries or even more, so that I can understand other cultures".

Intercultural Friendship Orientation "Whilst in Germany I enjoyed having interaction with different cultural groups. As a result, I became more interested to learn German and I do think my German has improved as a result".

Having returned from the academic year abroad, students also reflected in their journals about their evolving curiosity and sense of discovery in regard to new and unfamiliar environments and new ways of doing things.

> In Germany I was asking constant questions and wanting to try new things out.
> I realise there is more to this world than Ireland.I noticed that German students and students in general in Germany tend to enquire more about topics, assignments in the lecture. They delve deeper and discuss more than we do. They are not afraid to ask. I think this is something I have become better at since my time in Berlin. Before I went to Germany I didn't have enough confidence to ask, especially when I wasn't sure.

Students also showed a Intergroup approach tendency.

> I wouldn't mind sharing an apartment with international students now as I want to learn as much as I can about other cultures. I never thought I would think this way before going to Germany.

They also showed a sense of openness. -having the experience of otherness:

> "Having spent a year in Germany, I now understand better how messages can be perceived in another cultural context"

> "I have learnt that Germans take a while to become comfortable with you and that they are more reserved but this doesn't mean they are rude or that they have a problem with you in particular".

Overall from the study, there was a strong indication that to reach out to all learners, especially hard to reach students, there is a need to impact learners' whole identities by facilitating them in striving towards a new and personalised attractive vision of learning. Although 'possible selves' may be successfully achieved through the facilitation of lifewide learning in multiple authentic learning experiences, it may not be a sufficient driving force in making a real difference to the enhancement of learner-motivated behaviours. To develop in learners an attractive vision of their future language selves and thus develop effective motivational self-guides for learn-

ing, there is a need to facilitate learners in the development of motivational strategies towards possible and ideal L2 goal attainment as well as the importance of the promotion of group cohesiveness. It is found while learners aspired to engaging in more alternative and autonomous forms of learning in striving towards mental representations of imagined objects, situations, emotions and actions, they were unsure how best to begin and continue.

A more recent study focused on trying to enhance the delivery, learning facilitation and assessment of an interdisciplinary module *Food, Energy and Sustainability in the Hospitality Industry* offered on the current Diploma in Restaurant Management programme at Waterford Institute of Technology. After several conversations, we reflected on the various spaces in which our learners may have chosen to reside in, or could potentially reside in at that time (formal, nonformal and informal spaces). We also wanted to value diversity and to produce graduates with a comprehensive knowledge of food energy, sustainability issues and practices in the hospitality sector reflecting the three pillars of sustainability—the social, environmental, and economic dimensions.

The facilitation of the module was designed to foster the ongoing learning, engagement, dialectic interaction and reflection of all participants, as they resided in multiple learning spaces of "being" and "becoming" simultaneously. Such learning spaces, to give some examples, included learning in striated formal spaces within a course such as written work conducted in class; the design of creative art posters pertaining to sustainability; involvement in the coordination of a sustainability symposium, as well as the coordination of the Euro Toque South East Regional gala tasting lunch as part of the symposium.

Within a course, off-campus learning included field trips to distilleries, breweries, sustainable award-winning green hotels, as well as an award-winning gastro bar and a dining experience in a Michelin restaurant. Students also had a number of options in regard to their choices of other non-formal learning experiences. These included, for example, working on student allotments for fruit and vegetable growing, foraging for foods and the rearing of departmental pigs in a local farm environment, which contributed a percentage of ingredients used in a sustainability symposium. Students also opted to engage in an English language course assisting non-national students' competences of English language with the International Office and others choosing to become involved in voluntary work.

The student-led sustainability symposium held towards the end of the second semester gave students, lecturers, and industry stakeholders from various establishments the opportunity to further engage in a forum (learning space) for the professional exchange of interdisciplinary knowledge and skills relating to food, energy and sustainability.

Before the event, students were divided into three sub-groups (spaces of learning)—floor management, marketing management and restaurant management. The symposium included the hosting of an indoor food market exhibiting a variety of local artisan food, beverage producers and microbrewers. A series of masterclass local-ingredient cookery demonstrations ran concurrently and the Institute hosted the annual Euro Toque South East Regional gala-tasting lunch. We invited local ho-

teliers, chefs, restaurateurs, artisan suppliers and producers to take part in this event. Industry stakeholders were also invited to showcase the ethos of sustainable technologies, practices and structures in the context of the agriculture and food environment.

Students were required to write a reflective journal and to design a poster with the theme of sustainable development in hospitality so that they could assess their learning experiences over the two semesters. Learners could freely choose their aims, the activity they engaged in and in due course the criteria against which they judged their efforts and development. The poster was to be informative and appeal to peers and colleagues for public display at the interactive sustainability symposium. Students showcased their final pieces of course work on sustainable practices in the form of a 'pop up' art gallery and students' industry mentors were invited to view their progression. At the interactive sustainability session, a question and answer session took place, enabling the exchange of ideas and information.

Students were assessed by both their lecturer and peers. The assessment criteria included the level of management, organisational and executional skills demonstrated by the students in regard to the symposium event, but also their presentation skills, understanding and development of knowledge as well as the layout and appearance of their final presented work at the symposium. Feedback was provided to learners through constructive peer interactions, feedback from and interaction with lecturing staff and industry stakeholders. Learners were expected to review their experiences and their evaluations of them and were encouraged to imagine different pathways they might have taken and to reflect on these with the wisdom of hindsight.

After the symposium, a focus group took place to ascertain and discuss the learning outcomes achieved by the groups. Some of the comments which emerged from the focus group highlighted the motivational impact of learning in a 'real environment' and the cross-disciplinary and interdisciplinary application of knowledge when learners reside in multiple spaces of learning.

> The symposium allowed us [to] experience the organisation and management of an event from the initial idea to the actual event. The learning was real and allowed us to use knowledge not alone from sustainability module but from other modules such as oenology, restaurant management, leadership and business.

Other learners also commented on the experience of probing and searching in new spaces of learning and indeed how they reside in several spaces simultaneously.

> As Food and Beverage manager it was interesting to research and probe ways in which we could highlight the green sustainable theme for the dining event. The use of reclaimed slate for menus, stones and reclaimed wooden planks oiled as food slavers were great.

Most importantly, students enjoyed the learning experience and felt a real sense of achievement.

> All of us enjoyed working together as a team and felt a sense of real achievement at the end of the event day.

Students felt that the event gave them the knowledge and confidence to speak to decision makers in a working environment about the introduction of small sustainable changes to current practices. One particular student wrote:

> I would never had the confidence to speak to experts in the culinary industry before. I have grown a sense of confidence about the things I know and I am curious to learn more, especially around sustainable practices.

The event brought the class together for a common purpose with a tangible outcome, led to more expressive and creative ideas, and the development of new skills which could be applied in a 'real life' situation. Learning outside the confines of the college learning experience was described as a boost, giving the opportunity for discussions with peers in a social setting and importantly, opened up a lateral approach to thinking of sustainable initiatives in the hospitality industry.

Students had often previously experienced learning as knowledge located and defined by the teacher/instructor, causing them to exercise external formulas, which lends weight to the work of Baxter Magolda (2011). To quote, by example, one student from the group, "Initially I thought that you attended your lectures and practicals, listened to the lecturer and took everything down and learned it". As they wrestled with concepts and preconceived ideas about issues pertaining to sustainability and engaged in problem-finding as opposed to problem-solving, they gradually began to challenge their own perspectives and issues in regard to sustainable practices. Nevertheless, they still engaged in generalisable learning styles. The need for strategic and reproductive pedagogy (for further reading: Savin-Baden (2008, p. 18) was crucial during this pre-actional phase.

On entering the actional phase of learning, learners gradually connected their experiences through interaction with each other. Generating opportunities for debate became crucial. Such debates introduced questions about practice and understanding of knowledge pertaining to sustainable development within and beyond disciplinary areas. As the module progressed, students began questioning assumptions and arguments by examining evidence from the multiplicity of their learning experiences and spaces (case study analysis, work supervisors, peers, family, field trips, symposium event), thus developing as effective learners. Learning gradually became a flexible entity, where learners began to perceive that there are other valid ways of seeing things besides their own perspective.

> Half way through the year, I have come to understand that there isn't a set way of looking at issues and problems. I believe I think differently about things, as I explore, find out more and listen to the viewpoints of others. Both the class discussions and informal learning outside of class very useful.

Learners also demonstrated a shift to identity-located learning stances from more generalised forms of learning and from the exercise of external formulas, giving support once again for the work of Baxter Magolda on the notion of self authorship and learning partnerships. Learners took more responsibility for the management of their own journey and the development of new skills. The notion of 'defining myself' and my 'future self' became increasingly important and of relevance to learners, as they continued to engage in multiple spaces of learning. Learners also demonstrated striving to reach a balance between identity-work (who I am expected to be) identity-play (who I want to be).

> This year my learning has become more personal and meaningful. I can sense a change in me and others tell me they notice a change—I am more open to exploring other possibilities and I am more motivated and confident to play my part in the promotion of sustainable practices.
>
> The various learning experiences during the course have helped me to gain a more all-rounded view of the world and puts learning and experiences, personally and professionally into context.

Pedagogical autonomy and reflective pedagogy (for further reading, see Savin-Baden (2008, p. 18) were crucial during this learning phase for learners to recognise that learning is complex and specific to themselves and therefore is located in the context of their lives and stories.

In the post-actional phase and the application of learning, students were able to demonstrate in their final pieces of work an acquired interdisciplinary and broadened perspective on the nature of sustainability within a national and global context.

They demonstrated an ability to interpret the social environment but also to anticipate the reactions to actions within it. They also became able to develop relationships and judgements in relation to issues pertaining to sustainability and showed the capacity to engage in the notion of value and citizenship, consensus decision-making and consciousness-raising.

They chose more creative ways of working at the boundaries of disciplinary knowledge and exercised the notion of criticality and problem management. They also engaged in the interrelated worlds of theory and practice and entered the realm of the so-called spaces 'in between' and to recognise that the status of knowledge is contextual.

Most importantly, they grasped an argument placed by Savin-Baden (2008, p. 19), that individuals and groups "*operate on diverse trajectories and when they collide, learning spaces emerge and often learning occurs*" and as a result, new identity stances are therefore formed.

In terms of the challenges and lessons learned, it was evident that choice was important to learners undertaking their learning journey, but often the choice that they had made did not lead to the experience that they had expected. This was very evident particularly at the beginning of the module, where learners found it difficult to explore multiple options and where they tried to problem solve in haste without first defining the problem and reflecting on their choices and strategies. One of the challenges to staff was that of enabling learners to learn new strategies and skills to cope with and master a situation, whilst respecting their freedom to choose and their desire to persist on their learning journey. Occasionally, both planned and unanticipated experiences added to the opportunity and challenges we also faced as practitioners. So we had to recognise that, as the students progressed, and as different staff and student standpoints collided, learning spaces emerged and often new learning occurred. The need to explore the impact of our own pedagogical stances in regard to the student learning experience and valuing diverse learning journeys is crucial.

Roles for learner, tutors, administrators and assessors need to be clearly defined. At times, particularly during the pre-actional stage of learning, learners had an expectation that the onus was on tutors and assessors to demonstrate the knowledge

that they needed to acquire. For some it took time to grasp that they also had a role to play in knowledge creation.

The facilitation of student engagement in a multiplicity of learning spaces requires much thought and much time. It not only involves positive working relationships with colleagues who are part of the team, the institution and the wider community, but also involves strong leadership skills, collaboration, planning and decision-making.

When it comes to assessment, there needs to be recognition for freedom of choice in the way learners record and represent their learning. The mode and expectations of assessment, however, need to be clearly communicated to learners. In our case, a written statement about the criteria to be applied was given to students.

There may be a risk that encouraging individual choices may lead to disregard of formative peer interaction. Learners, therefore, should be encouraged to create their own networks and relationships for learning and personal development.

Concluding Remarks

I hope to have shown in this chapter that lifewide education as put into practice at Waterford can be an invaluable tool toward the promotion of "possible" and "ideal selves". Collectively, the multiplicity of 'spaces' in which we reside represent our self-determined lifewide curriculum, which directs us further towards future spaces of 'being' and 'becoming' (possible and ideal selves). Through the lifewide curriculum, learners have the opportunity to plan, manage and reflect on existing and emerging sustainable development issues.

I have argued that by enriching spaces through participatory teaching and learning methods, students are empowered to engage with and reflect on economic, environmental and social concepts. We are also enabling learners to make choices and decisions, both individually and collectively, as well as promoting competences such as critical thinking, imagining future scenarios and reflection in such spaces.

Finally, in order to facilitate learners in becoming "co-creators of knowledge" and in the reconstruction of identities (possible and ideal selves), is a domain of practice that creates positive relationships between learners and facilitators of learning. Such domains of practice requires learning facilitators firstly to know and reflect on what they know about learners and learning both inside and outside formal educational settings, secondly to have the capacity to identify beliefs and discrepancies between their own perspectives and student perspectives on practices, and thirdly to identify staff development needs. Developing self-assessment and reflection tools for facilitators of learning may be useful in that regard.

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Appendix 1 Evaluation Questions for In-class Practice

The following questions were used with a Likert scale (Strongly Agree—Agree-Neither Agree or Disagree—Disagree—Strongly Disagree—Not Applicable) for the in-class practice. There was also one open question (Q.6) to provide students with an opportunity to comment freely on their experience
   Semester 1:

1. Prior to this semester, I had experience of contemplation/mindfulness.
2. I regularly engaged with the mindfulness/contemplation programme this term.
3. The mindfulness/contemplation practice was useful in helping me improve my concentration and focus during each class session.
4. As a result of practicing mindfulness/contemplation I believe my academic performance improved.
5. I wish to continue practicing mindfulness/contemplation at the start of each class session.
6. Please share any other thoughts and feelings regarding mindfulness contemplation practice this semester.

Semester 2:

1. I believe that the brief Mindfulness practice should be continued next year at the beginning of the lecture for the first year students.
2. Please provide your opinion in the form of an adjective (great, rubbish, brilliant, time wasting, relaxing, etc.) to describe the benefits you did or did not receive from the Mindfulness practice this semester.

Appendix 2 Example Practice

Contemplative Practice and Mindfulness in Higher Education
   Meditation in 7 steps:

1. Be comfortable in body & mind: Sit in an upright chair, your back well supported. Feet flat on the floor (you could take off your shoes). Head easily balanced on top of your spine. Hands palms-up in your lap, one palm on top of the other, or palms down, on your knees. Arms relaxed by your sides

2. **Deep breaths:** Take three deep breaths in and out, as deep as is comfortable, without straining. Do this in your own rhythm

3. **Centre yourself mentally:** Become aware of the feelings of your body on the chair, your feet on the floor. Then become aware of the sounds around you, any smells, the feeling of the air on your skin, and of your clothes on your skin. Close your eyes if they are still open.

4. **Bring your attention to your breathing:** Focus on the feeling and sound of your breathing. Remain still and feel the gentle in- and outflow of your breath. Feel it in your ribcage/chest, your abdomen, shoulders, and nostrils.

5. **Return to the breath:** Usually, after some time, a sound or a memory, a feeling or emotion will carry your attention with it. You may be caught up into this flow for just a few seconds or much longer. At some point you will realise what has happened. When you do, just return your attention to your breathing as in step 4. Keep going through step 4 and 5 during the meditation as needed.

6. **Return to the here an now:** Once the time is up, bring your attention back to the sensations of your body on the chair and feet on the floor. Become aware of the sounds and the feeling of the air on your skin. Become aware of the people in the room and bring yourself solidly back to the here and the now.

7. **Resume regular activity:** Gently open your eyes. Take a few minutes to readjust to where you are. Smile. Drink a glass of water. If you want, write a journal entry. Then resume your activities as usual.

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Part V
Critical Transitions in Teaching and Learning

Chapter 21
Moving the Field Forward

Prudence Layne and Peter Lake

Swim with the Tide or Go Against the Flow?

Is it possible for the 21st-century instructor to stay rooted in tradition and still be characterized as an engaging, effective or good teacher? Similarly, can the 21st-century higher education institution afford such an instructor and resist student-centered innovations? How many of us would go to a doctor who had only read material up to 1972 or one whose surgical techniques meant more pain, risk of complications, recovery time, costs and liabilities for patient, doctor and hospital? Fewer of us would *willingly* choose to use the hospital whose equipment, facilities, and staff had not benefitted from new advances for decades. Even if our treatments were free, we would be mindful of the risks. Pursuing an education is no different and it is dangerous to believe that teaching techniques which were appropriate twenty years ago will be right in the present, or that students and their needs remain the same. Not only should everyone in every discipline and field be expected to keep abreast of the latest content, but also the most effective, engaging and efficient methods for delivering that content.

Institutions Moving Forward

One challenge for higher education institutions centers on how to develop strategies of engagement in an age of financial cutbacks. With higher education costs becoming increasingly more expensive, financial investors (students, parents, donors,

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governments and others) are rightfully demanding greater accountability and demands on their investments. Like nations tackling healthcare delivery and associated costs or corporations trying to boost profits and cut spending for demanding governing boards, neither higher education institution nor instructor can ignore the demands from the students to whom educational costs are being shifted. The challenge of developing low-cost resources (time, financial and human) and high impact strategies are even more urgent.

Instructors Moving Forward

Do we need to change how we teach? If so, how do we know when, why and how to do so? When is experimentation acceptable? When is the experimentation more harmful than it is helpful? Students will not always let educators know when change is appropriate, even when given the opportunities to provide feedback. In that sense, they too must demand greater accountability from themselves and not just their instructors. On their part, educators must continuously and proactively review and seek ways of improving their teaching, learning form the lessons of history and the experiences of other instructors. We must also resist the danger of experience-driven inertia. "I know how this should be taught, and that is what I have been doing for the last 20 years." Engaging pedagogies do not just benefit students, but instructors as well, animating our teaching, extending our skills, and challenging the routine of doing things as they have always been done.

Several industries provide examples of experimentation processes from which we can learn. For example, science, particularly medicine and the development of new drugs, can teach us a lot about how we answer these questions of experimentation in our teaching. We might think about how one gets from the trial stage to human experimentation before taking new drugs or techniques to market. Working within communities of practice can be an effective approach for instructors who are more hesitant to take risks in their teaching. These communities provide feedback on ideas, offer collaboration on design, and function as our laboratories of experimentation before we introduce these ideas into our classrooms. Furthermore, they should include students as partners in the work and experimentation. Bringing students into the research process as collaborators further extends our classroom practices. Investigations into the teaching and learning should be a symbiotic process as opposed to looking at teaching in isolation.

Pilots are another excellent way to experiment. It is a brave instructor indeed who will try a new method on five hundred students at the same time. Instead, smaller groups, perhaps in collaboration with partners from other communities of practice, allow the trial phase of new pedagogies to be better assessed. Many of the authors in this book have tested ideas using smaller cohorts to help manage any problems that may occur. Involving colleagues in the pilot can be very helpful. Not only do they bring additional perspectives about our decisions and assumptions, but they share the workload since new approaches also mean creating new methods and

materials. The lucky amongst us work in environments where colleagues feel part of a community and share the vision of improving their courses. Occasionally, however, when the entire institution is built on a culture of conformity, experimenting can be very difficult. The emergence of the SoTL field should bolster the confidence of instructors who feel they lack institutional support. The Scholarship of Teaching and Learning positions instructors to have their research and teaching collaborations and partnerships valued and rewarded more broadly.

Part of the challenge of instructors moving forward is trying to determine the longevity and efficacy of new teaching techniques. Even when they fail, what can we learn? Another challenge for academic staff in the United States centers on the linking of students' assessment to teacher performance and salaries. Here we have an opportunity to learn from our colleagues in the United Kingdom where one's salary and the assessment of the module are not directly linked simply because the unions would not allow it! At Sheffield Hallam University, for example, "killer modules" have been identified that have a higher than average failure rate. The instructors have to assemble a plan for developing and improving the module. The instructor is mentored throughout the process where appropriate. This strategy has the additional benefit of diffusing the culture of entitlement and grade inflation that is certain to develop when salaries and student assessments are linked.

Moving from Theory to Practice

Moving from theory to practice demands adaptability, fearlessness, flexibility and the acknowledgement that teaching-learning should be a collaborative enterprise and partnership among institution-instructor-student. Our central aim in this collection has been to interrogate, demonstrate and inspire some of the global innovations in which our colleagues are engaging as we continue the often slow and deliberate route to creating long-lasting and sustainable change in higher education.

In this book we have seen some interesting and exciting innovations across various disciplines and fields. We also recognize that, an educator's context and pedagogical philosophy restricts or drives that person's ability and desire to move from theory to practice. When doing is what matters, how does one move from the theoretical and philosophical to the practical? What can we learn from this collection and from what other colleagues are doing?

As higher education instructors confront classrooms that are increasingly multicultural and diverse or face the challenge of increasing those elements into environments that may be more homogenous than reflected in the world, the need to think more critically about the context, delivery, format, structure, and impact of our courses assumes greater urgency. Guiding our collective work is our desire to find achievable techniques and strategies of engagement that do not overwhelm, but yet have high impact. What we hope is that higher education institutions around the world will provide infrastructural support and partnership for instructors who wish to modify existing pedagogies and experiment with new strategies of engagement that enhance students' academic and social lives.

Our Next Chapter

We are aware that we could not cover all of the current innovations happening across the globe in the Scholarship of Teaching and Learning field. Several avenues for additional exploration and development remain. Disciplinary- and domain-specific examinations of Teaching and Learning in the 21st-Century largely remain untapped. Embedding best practices into the internationalization of global curricula and optimizing learning across diverse populations also remain areas of exploration in SoTL.

To keep pace with the growing and diverse personal and professional lives and needs of shifting student demographics, we recognize that new techniques, more questions, and some of their solutions may have developed by the time this book comes to print. In our effort to move the field forward and the wisdom of our contributors' vision beyond the life of these pages, we invite our readers to join our online community of practice. The *Global Innovation of Teaching and Learning* website will provide a platform for educators to converse and share their ideas and stories with others. We hope that it will be a space that both moves our work and the SoTL field forward, but also celebrates the rewards of "transgressing boundaries" in higher education, especially those that limit student success and achievement.

Glossary

One of the interesting elements working with authors from around the world is that is challenges us to think carefully about the words and phrases we use in everyday communications with local colleagues. Here is a list of acronyms and phrases that occur in the book that may need explaining.

AACE Association for the Advancement of Computing in Education
AACRAO American Association of Collegiate Registrars and Admissions Officers
ABA American Bar Association
ACM Association for College Management
ADHD Attention deficit hyperactivity disorder
ANOVA Statistical test
APSA American Political Science Association
AUK American University of Kuwait
AUK American University of Kuwait
AUSSE Australasian Survey of Student Engagement
Banksy Graffiti artist in UK
Bologna Process Created the European Higher Education Area (Declaration in Bologna 1999)
C/M Contemplation/mindfulness
CAP Council for Accelerated Programs
CAP Centre for Academic Practice
CBI Confederation of British Industry
CCC Cross-Conceptual Coherence
CIQ Critical Incident Questionnaire
COIL Collaborative Online Institute for Learning, an initiative of SUNY (State University of New York) at Oswego
COIL Collaborative Online Institute for Learning
Constructivism Learning as an active, constructive process
Course In the US, course refers to a class; in the UK and elsewhere, a collection of descreet learning units (called Modules) that when added together qualify the student for a degree.

CP Contemplative Practice
CPD Continuing Professional Development
CPs Contemplative practices
CSEP Certified Special Events Professional
CSM Central St. Martins, London
DIR Department of Institutional Research
DMIS Developmental Model of Intercultural Sensitivity
DMIS Developmental Model of Intercultural Sensitivity
DO Developmental Orientation
Dogme95 An avant-garde filmmaking movement started in 1995 by the Danish directors Lars von Trier and Thomas Vinterberg,
EHEA European Higher Education Area
Eportfolio system Electronic portfolio
ESL English as a second language
Faculty In the United States, the term refers to instructors; in the UK and elsewhere, the term refers to departments
FIPSE Fund for the Improvement of Post-Secondary Education
Flipping Online learning facility supporting student experience
Fresher New student
GarageBand Music creation facility
GDP Gross Domestic Product
GENE A globally networked learning environment
GNLE A globally networked learning environment
GNLE Globally networked learning environment
HEA Higher Education Academy
HEFCE Higher Education Funding Council for England
HEI Higher Education Institutions
IDI Intercultural Development Inventory
IE Industrial Expertise
IEEE Institute of Electrical and Electronics Engineers
IO Information overload
IP address Internet protocol address
IPF International Preparation for Fashion
IR101 Introduction to International Relations
JISC Joint Information Systems Committee
K-12 school calendar The schedule governing kindergartem through 12th grade education in the United States and Canada
LCF London College of Fashion
LEAPS Lothian Equal Access Programme for Schools
Lecture Capture Lecture recorded "live"available to students for later playback
Likert scale A method of ascribing quantitative value to qualitative data to aid statistical analysis
LMS Learning Management System
Long-thin Over two semesters
LSA Latent Semantic Analysis

LSI Latent Semantic Analysis in information retrieval contexts
LSP Lego Serious Play
MCNC Middle College National Consortium
Metareflection Thinking about the reflection experience
MIT Massachusetts Institute of Technology
MIT Massachusetts Institute of Technology
MMORPGs Massively Multiplayer Online Role Playing Games
Module Block of teaaching/learning providing credits leading to an overall degree
MOOC Massive Open Online Courses
MOOCs Massively Online Open Courses
Moodle Online learning facility
MSc Master of Science
NAFSA Association of International Educators
NCCU North Carolina Central University
NCCU North Carolina Central University
NCES National Center for Education Statistics
NCREN North Carolina Research and Education Network
NCUDL National Centre of Universal Design for Learning
NEH National Endowment for the Humanities
NHS National Health Service(UK)
NPR National Public Radio
NSEE National Society for Experiential Education
NSSE National Survey of Student Engagement
NTS Non-traditional students
NYC New York City
OG Orientation Gap
ORACLE Computing software producer
PBL Problem Based Learning
PCD Personal Career Development document
PEER Peer Evaluation in Education Review
PGCert Post Graduate Certificate
PO Perceived Orientation
PPD Personal and Professional Development
QMU Queen Margaret Univeristy, Edinburgh
R EM sleep Rapid eye movement sleep
RAMA Royal Academy of Music, Aarhus
RAMA Royal Academy of Music, Aarhus
REAP Re-engineering Assessment Practice in Higher Education
RPP Research Practice and Principals
SCALE-UP The Student-Centred Active Learning Environment for Undergraduate Programs
SCV Socially critical vocationalism
SEDA Staff and Education Development Association
Semester Half a university year. The period varies by geography between 10 weeks and 17 weeks

Short-fat Over one semester
SHU Sheffield Hallam University
SoTL Scholarship of Teaching and Learning
SoTL Scholarship of Teaching and Learning
SPSS analysis Statistica; analysis software
SSP Study Skills for Professionals
STEM Science, Technology, Engineering, Maths
SUNY State University of New York
TEAL Technology Enabled Active Learning
The Guild Exeter University students' union
The Pod Inflatable space with Mac and Photo booth for recording)
TOEFL Teaching of English as a foreign language
Trimester A university year split into three parts. Trimester Three is also known in
   some quarters as Summer Teaching
UCN University of North Carolina
UDL Universal Design for Learning
UMW University of Montana Western
UNISA University of South Africa
UNISA University of South Africa
UWM University of Western Montana
Venn diagram Diagram that shows all possible logical relations between a finite
   collection of sets.
WASC Western Association of Schools and Colleges
Wiki Interactive website
WISeR WIdening Participation and Student Retention
WOLF Wolverhampton On-line Learning Facility

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