

# Chapter 6

## Developing Unbundled Online Subjects at SandstoneU



### 6.1 Introduction

This chapter discusses the development of three case study subjects developed for unbundled online initiatives at an elite research-intensive university (referred to as ‘SandstoneU’), where the lecturers had fairly high levels of autonomy over their curriculum work. These subjects include two MOOCs, one located within a science discipline (referred to as ‘Behavioral Ecology’), one within an interdisciplinary field (referred to as ‘Interdisciplinary Logic’), and one humanities subject (referred to as ‘Classical Studies’) offered via an OPM partnership arrangement. The discussion focuses on the aims, priorities, and experiences of the lecturers responsible for redeveloping the particular subjects and how they designed and justified their curriculum, guided by understandings of curriculum discussed in Chap. 3. For each subject, it includes an outline of the context of development, the lecturers’ aims for the new subject, the subject structure and content delivery design, the approach to activities and discussion, the assessment design, and the lecturers’ general perspectives on the delivery model. The chapter draws on curriculum documents and interviews with subject lecturers conducted as part of the research project in 2012–2014. All lecturers and subjects are referred to by pseudonym and a full list of the kinds of documents collected and the interviews held as part of this research project is provided in the appendix. The discussion of each case highlights the challenges the unbundled form raised despite the lecturers’ autonomy over their work. It also demonstrates the complex thinking that underpins curriculum work, and how the lecturers sought to use the new platforms in ways which aligned with their overall understandings of what matters educationally, both in general and within their particular disciplines.

## 6.2 Case 1: Behavioral Ecology, MOOC Initiative

Behavioral Ecology was developed and offered as a MOOC in 2013. It was one of the first round of MOOCs offered by SandstoneU via its MOOC partnership arrangements. Like most mainstream MOOCs, the MOOC platform teaching model was one primarily restricted to video lectures, online quizzes, and student-directed discussion forums. The content was delivered via video lectures over weekly time frames and students could discuss the content among themselves via student-initiated discussion forums before being tested on their knowledge of that content via weekly quizzes. Although the lecturers had autonomy in content selection at SandstoneU, the format of the MOOC videos tended to be highly scripted. The videos were typically filmed within a studio, with the academic presenter reading from the text of their script against a backdrop of aligned PowerPoint slides.

Two lecturers, Matt and Ethan, were responsible for developing the Behavioral Ecology MOOC. Matt has won a number of university awards for innovation in teaching and was approached by university leadership and asked to develop a MOOC along with other recent awardees. Matt selected his third-year Behavioral Ecology subject and asked Ethan as the subject's co-coordinator to work with him on its redevelopment. Matt and Ethan were both senior academics within the university's zoology department. Ethan was already professor and Matt was appointed professor following the development of this MOOC. While they identified their research fields somewhat differently—Matt as behavioral ecology and Ethan as evolutionary biology—both agreed their research interests and understanding of their field were very much aligned.

The subject from which the MOOC derived was a third-year subject taken as an elective component of the zoology major and the ecology and evolutionary biology major in the Bachelor of Science. The subject was a lecture-only subject that was taken in tandem with a co-requisite practical subject where students undertook independent research in allocated groups. It had high-level prerequisites that ensured students were familiar with important concepts prior to study, including evolution, natural selection, and the basics of experimental design. The subject comprised 30 lectures which were scheduled twice or thrice weekly across the semester. Its assessment included a two-hour theory exam and a one-thousand-word piece in the style of a news article which required students to rewrite the findings of a scientific article in the form of an accessible, popularized account. The exam questions asked students to interpret data from a real research article and answer questions about the implications of the study, why it might have been approached in that particular way and what other methods researchers could have used. The second assessment was intended to develop scientific communication skills and included a process of peer review whereby students received feedback from each other on their drafts before being assessed by the subject coordinators. Since taking over the subject, Matt and Ethan had substantially reframed the assessments to support the development of generic skills and moved away from an exam approach, which they felt focused too strongly on rote testing of content knowledge.

Matt and Ethan identified their primary aims for the subject as helping students to develop an understanding of their field and how it operates, and ‘the nature of the science’ that sits behind the findings (Ethan, Interview 3). In contrast to some critiques of MOOCs (e.g. Bates, 2019; Rhoads et al., 2013), they were not simply concerned with providing students with abstracted content or with asking them to rote learn key concepts, but instead wanted students to understand the broader picture and the agreed boundaries, rules and ways of practicing within their research field. Ethan commented that the MOOC was about ‘not just knowledge but [...] also how that knowledge is acquired’ (i.e. the structure of knowledge and the norms of the field) (Ethan, Interview 1).

On the subject website, the Behavioral Ecology MOOC objectives were identified as:

...[to] understand how researchers use scientific logic to approach answering questions, and begin to ask your own questions about animal behaviour; explain the difference between ultimate and proximate; explain the processes of natural and sexual selection and how they shape animal behaviour; understand theoretical concepts such as competition for resources, altruism, kin selection, parental care, and sexual and family conflict in light of Darwin’s theory of evolution; and critically assess competing theories and alternative hypotheses and suggest how they might be tested experimentally.

These objectives are about providing students with a sense of what the field is about and how knowledge is applied within it. The MOOC was here not positioned as ‘packaged’ or ‘reified’ (Rhoads et al., 2013) knowledge, but instead as a subject designed to engage students within a disciplinary framework and provide them with opportunities to participate in disciplinary conversations.

When asked why they wanted to develop their particular MOOC, both Matt and Ethan emphasized their desires for the broader public to appreciate the research base behind popular natural history documentaries. Matt commented that he chose to develop his subject into a MOOC because he felt there was huge interest in the subject matter, but not enough understanding of the science that supports those understandings, with people walking away from natural history documentaries ‘assuming that the BBC discovers all of these things, when in fact of course all of these programs are summarizing and relating stories that have come out of individual research projects’. He commented that he ‘wanted to give people a chance to learn a bit more about the research behind those discoveries and to just understand a little bit more about how animal behavior research is conducted’ (Matt, Interview 1).

In the interviews, Matt and Ethan also spoke about their broader teaching practices and discussed the ways in which they have previously reconfigured assessments to better reflect their own views about what good learning looks like. These changes—which involved incorporating student peer review of essay drafts and reframing exam questions toward interpreting raw data—were about acknowledging the importance of students’ own meaning-making practices in their learning. Both lecturers saw real value in connecting with students’ own understandings to ensure students actively engaged with the substance of what was being taught, rather than simply recalling lecture content. Ethan, for example, commented that he was interested in experimenting later with a flipped classroom model (see Bergmann & Sams, 2012), where

students would be asked to watch video lectures prior to class and then engage in activities relating to those lectures. He noted this was because it ‘doesn’t give the students the option of just sitting at the back of the class and passively absorbing stuff’ (Ethan, Interview 4). The thinking evident here shows how Matt and Ethan valued students’ own interactions and knowledge constructions and sought to emphasize and create space for this in their teaching.

The structure of the MOOC was taken directly from the on-campus subject. However, there was some reduction in the breadth of topics covered in the on-campus subject before the MOOC development began with the broader aims of the MOOC in mind. Matt and Ethan redeveloped all 30 lectures for the subject as MOOC videos and incorporated additional introductory videos to help students better understand the field and concepts such as evolutionary processes and natural selection. In our first interview, Ethan commented:

We’ve added some introductory lectures into the structure of the [MOOC] where we just reiterate some of the bits of basic knowledge that we think students should be aware of and they’re mainly around evolutionary processes, natural selection and so forth. And we try and take the opportunity within lectures to just add a little bit of background or refer students to additional resources where they can learn more if they need to. (Ethan, Interview 1)

The MOOC videos followed the same format as the on-campus lectures but with less repetition and examples. Matt and Ethan made a point of designing each video around one or two key points, splitting or refining videos where they felt there was too much content. These key points were then summarized on the final slide and emphasized as the key message students were expected to take away from the lecture. Given the open audience of the MOOC, the content was re-pitched at first-year level, but still comprised third-year level content. Matt and Ethan originally planned for a 6-week long subject but chose to expand the subject length to eight weeks while completing the video filming as they wanted to reduce the weekly video load.

Matt and Ethan were concerned with providing a sense of their research field within the subject, including in relation to the kinds of research that is done and what is valuable about that. They also both emphasized their desires for the broader public to appreciate the research base behind popular documentaries as a driver behind their MOOC. In their MOOC lecture videos, they attempted to give students a sense of the science behind the research and the ways particular claims had been reasoned and proven rather than just tell students the outcomes of research findings. They included references to authentic research projects and the findings of those projects in their videos. In Ethan’s words, the approach was about showing students ‘there’s some science behind it’, rather than ‘simply telling a story’ (Ethan, Interview 3). Matt commented that what set the MOOC apart from BBC natural history documentaries was the focus on the research studies themselves, which meant the approach was not about taking content at face value but:

...saying, ‘okay, what are the arguments, what are the alternative possibilities, how did they arrive at this particular conclusion rather than another conclusion’ [...] [Within the MOOC] we try and take a critical approach to looking at studies that we are analyzing. So if there’s

a flaw in the study or there's a problem with it then we try and discuss that. So I think we do want to sort of encourage critical thinking and a skeptical view about whether or not things represent good evidence or bad evidence. (Matt, Interview 1)

Matt and Ethan also devoted significant space and time in the subject to explaining the rules and norms of their field, including a video lecture dedicated to the kinds of questions that are answerable from a biological research perspective. According to Ethan, this lecture was 'technically important for the discipline' because it covered the differences between evolutionary explanations, causative explanations, and learning explanations. Matt similarly noted that in the later lectures, 'almost all the studies that we will then be talking about do one or other of those things [described in this lecture], they use observational information to test an idea, they'll do an experiment to test an idea or they will use comparative data to try and test an idea' (Matt, Interview 1). The lecture covers the kinds of questions which can be asked by the discipline and can be tested experimentally, and those that cannot be answered scientifically through experimental studies. In this video, Ethan argued that some questions about animals can be answered by biological research, and some cannot, and that within the context of research the only kinds of questions which should be asked are those which can be tested scientifically through experimentation. By insisting on the importance of the 'Asking Questions' lecture, Matt and Ethan were concerned with engaging students within the disciplinary frame and inviting them to participate in disciplinary conversations.

One aspect often associated with scientific forms of disciplinarity is hierarchical knowledge structure (see Bernstein, 1996; Muller, 2009). For Behavioral Ecology, Matt and Ethan spoke about the variance in students' prior knowledge as a challenge, given the importance of sequence (i.e. what knowledge is introduced at various stages of study) within their field. In relation to the differences between the MOOC and the on-campus subject, Matt commented, 'we know that we've got a completely different audience; for our third-year students, those students have done prerequisites at second year, at the university, we know their level of preparation, we know their level of understanding of concepts like ecology, that's not true for our [MOOC]' (Ethan, Interview 3). In response, Matt and Ethan decided to align the content with the third-year subject, but in a way which made that content more accessible to the students. Matt noted, 'we try and introduce them to topics gently but we're not afraid to sort of discuss some trickier complex concepts. So it's almost like it's taking them from first to third year in some lectures, very quickly' (Ethan, Interview 3). In redeveloping the material for the modularized MOOC form, Matt and Ethan elected not to downplay the disciplinary approach, but instead to reinforce this and make it more explicit. Here, the approach maintained conceptual coherence by accounting for the hierarchical structure of the knowledge field.

Matt and Ethan also wanted students to understand and appreciate that the knowledge being taught was not fixed but evolving and subject to debate. In Ethan's 'Asking Questions' lecture, he pointed to the complexities of what constitutes research and that one of the issues raised within the field is the way different types of questions generate different kinds of answers. Ethan argued that four kinds of questions are

evident in the field, which focus on (1) development, (2) causation, (3) evolutionary history, and (4) survival value, and that an important aspect of research in the field is about distinguishing between these different forms of explanations. Based on the four questions, Ethan explained that the question of ‘why do bowerbirds pay so much more attention to building, renovating and decorating their bowers in spring-time?’ might be answered according to those alternate frames as (1) that the hours of daylight increase trigger changes in hormones; (2) to attract females for breeding; (3) that complex bowers may have evolved from more simple constructions built by ancestors; and (4) that males have learned the behavior from parents or neighbors. Within this video, Ethan set up parameters for the kinds of questions which should be engaged with, drawing attention to areas of potential contestation within the field.

Matt commented in relation to this lecture that he and Ethan had a good sense of what questions can and cannot be answered, but that he felt ‘in the dialogue with students there’s an opportunity for broader conversation about that’ in sharing their own understandings (Matt, Interview 2). However, Ethan also noted that in aiming to ‘make the concepts as accessible as possible’ within the MOOC, he and Matt limited ‘the level of ambiguity or uncertainty that is what makes third-year teaching much more interesting than first year teaching’ (Ethan, Interview 3).

Both Matt and Ethan scripted their lectures, which they found labor intensive but necessary in terms of ensuring the videos remained under the allocated length. Matt noted that ‘writing the scripts is very time consuming but there’s something satisfying about saying what you want to say in the most economical efficient way and also not wanting to forget things’. He advised that in terms of breaking up the content, ‘I’ve found that there are sort of natural ways of which I can break up some of the material so you know there’s one topic that I teach during one lecture that I split into three smaller lectures because they’re sensible bite size chunks’ (Matt, Interview 2). He noted that, ‘I haven’t had any concept where I felt like this is really, really hard to get across in this amount of time or in this way’, and although he found the first videos ‘excruciating’, he found the process ‘more and more enjoyable’ as he continued (Matt, Interview 2).

The MOOC was also developed to include ‘researcher meets’ (via Google Hangouts) with different experts where students could ask questions and discuss the subject material. The original plan was to offer one per week but Matt and Ethan decided this was too much and ended up organizing a total of three in the final four weeks of the subject. These sessions enabled students to engage with and ask questions of prominent researchers within the field via online conferencing technologies.

Alongside the videos, the MOOC also offered opportunities for the students to engage with each other and ask questions via online discussion forums. These forums were the dominant ways in which students could interact with each other within the MOOC platform (although some did engage via Facebook sites and the like). The discussions were student-led, with the students initiating their own discussion threads and responding to each other with only minimal input from lecturers and teaching assistants. They were therefore not an element which the lecturers could plan for or direct in any detail. For the most part, Matt and Ethan saw the discussion forums in positive terms and appreciated the learning opportunities that they provided beyond

the video lectures and assessments. Matt emphasized the value of the forums and the high level of engagement shown by students, noting ‘it’s humbling to see the high level, the intellectual level of debate that goes on among them’ (Matt, Interview 3). He saw this as particularly impressive because the discussion boards offered via the university learning management system tend to be ignored by on-campus students. In contrast, the MOOC forums encouraged learning by allowing students to express their own interpretations of the content. In Matt’s third interview, which occurred about halfway through the MOOC teaching, he commented:

I think as the instructor you’ve got to resist the temptation to step in and provide the definitive answer because I think you’re going to discourage learning that way. [...] I’m wary of posting something that will kill off the discussion because people go ‘oh the instructor posted this and so therefore my view must be wrong or invalid.’ (Matt, Interview 3)

Matt noted that he really liked the ‘generally cooperative way in which people did things and the way that someone would pose a question and other people would take the time to answer it and often give a really good answer’ (Matt, Interview 3). Ethan also noted that ‘you do find that people say, “I didn’t really understand this” and then they will get a string of responses and typically those responses will be on the mark’ (Ethan, Interview 3).

Matt also commented in relation to the Behavioral Ecology MOOC that, while there were ‘plenty of posts where people are a little bit off the mark or a bit left of field, he also ‘saw a lot of people there where I thought these people could be great potential community TAs [teaching assistants], they really understand the material well, lots of insightful posts’ (Matt, Interview 4). Matt and Ethan also employed a teaching assistant to monitor student discussion as much as possible and although they did not engage with every post, they did ensure their teaching assistant either responded to ‘genuine posts that are saying there’s something unclear’ (Ethan, Interview 3), or alerted the lecturers to the need to do so. Matt and Ethan relied on the students to respond to queries in the first instance, but then had the teaching assistants explain further where those responses were incorrect. These responses show that while the lecturers valued the ways in which the forums provided space for going beyond the video lectures, they also tended to primarily position them as an additional space for students to clarify what was said in those videos.

The lecturers’ interview comments also highlighted their emphasis on the importance of keeping discussions within the boundaries and parameters of their disciplines and fields, rather than bringing in concerns that are outside of that. While the lecturers did want students actively constructing and engaging with the concepts taught, they saw boundaries as important in terms of what was valuable and had defined ideas about what discussion looked like that was on track or ‘off the mark’. An example of students going outside disciplinary boundaries in the forum discussions occurred in one incident where Matt and Ethan indicated some concerns about the ways students had responded to Ethan’s introductory lecture on ‘Asking Questions’. They had intended that this lecture would specifically draw attention to disciplinary boundaries in defining what discussions were appropriate and worthwhile. In this lecture, Ethan had explicitly made the point that asking whether animals experience happiness

is not a question that can be answered within ecological or biological research and expresses anthropomorphism (attributing human characteristics to animals). When he went to develop the quiz questions for this lecture Ethan wanted to deal with the issue of anthropomorphism in an interesting way so he referred to a recent book by Australian author Tim Winton, where the central character pondered about what fish think. One quiz question asked why this issue cannot be resolved. The correct answer within the quiz was that, from the perspective of the discipline, fish do not think because human characteristics cannot be ascribed to animals and whether fish think is not empirically testable. However, the question led to heavy debate within the forums about whether animals think or not, much of which focused on students' relationships with their pets and whether their pet loved them back. This issue was one of the most dominant discussions in the forums and developed across numerous threads. Ethan in particular found these responses extremely challenging and posted multiple times in the discussion forums to try and direct the students back to discussions he felt were relevant to the subject. However, he found that students would simply start the discussion again within another forum thread and that his comments tended to not be effective in refocusing the students to approach the content within rather than outside the disciplinary frame. Matt and Ethan's struggles here highlight their emphasis on the discipline as the defining boundary as to what is appropriate in the forum discussions.

The issue of disciplinary boundaries raised here also points to the challenges of not being able to respond appropriately and correct students' inappropriate responses in a platform which has little lecturer control. In relation to the issue, Ethan commented:

...it's very frustrating to be in an environment in which we're trying to teach something about the science of animal behavior and yet the most dominant issue that the students are struggling with—and of course they are struggling because it's impossible to answer—is essentially non-scientific. It's a sense of frustration. You think well, hang on, I'm not cutting through here at all. What can I do to cut through? (Ethan, Interview 3)

Here, the multiplying nature of the forum threads and the ways problematic discussions emerged in various places presented significant constraints to Ethan's ability to redirect the student discussions. These issues may derive from problems with the way Ethan framed a particular question, and potentially his and Matt's inexperience with online teaching in general. However, off-topic discussions also point to the ways in which the uncontrolled space of the forums could be problematic and adversely impact the curriculum intents of the subject. Thus, while the openness of these forums allowed students to debate and take up the content delivered in any way they pleased, drawing on their prior experiences and knowledge, it also did not provide any surety that these discussions would proceed in ways which connected students' own contributions productively with the curriculum content.

Students were assessed using multiple-choice weekly quizzes and a final peer review writing task. In taking up the option of multiple-choice assessments, Matt and Ethan elected to allow students to check their understanding and receive feedback on their responses before proceeding to the final tests, providing students with multiple attempts to complete each test and providing detailed automated feedback about

where they had gone wrong. They wrote multiple versions of questions around the same concept so that students were not able to simply memorize the correct answers. Matt commented that this was:

...about that deeper learning that comes from being able to get the question right regardless of how it's served up. And so, we've put a lot of effort into writing feedback on the quiz questions so that when you get it wrong there's actually quite a lot of information there that helps you understand why you got it wrong. So it hopefully helps you to do better the next time. (Matt, Interview 3)

However, he also noted that the multiple-choice format meant changes for the ways in which he usually approached examination questions, which comprised questions which asked students to really consider and critique real research and required 'quite open-ended answers' (Matt, Interview 2).

The second assessment was modeled on the written component of the on-campus assessment and required students to develop a popularized account of a scientific paper which would be assessed by their peers. The task was set at the same length as the on-campus task (1000 words), and the peer review was done by a rubric modeled on the on-campus rubric but was less detailed and nuanced. This rubric included ten criteria, including the following examples:

Did the article have a short and informative title?

1. 0- No. The title had more than 12 words, and the title was also not clearly informative about the article.
2. 1- The title was too long (more than 12 words), or it was not clearly informative about the article.
3. 2- Yes. The title had fewer than 12 words and was informative about the contents of the article.

Did the article clearly explain the purpose of the study, i.e. the question the researchers were trying to answer?

1. 0- The purpose of the study was not explained.
2. 1- The purpose of the study was explained, but this explanation revealed some misunderstanding of the source paper.
3. 2- The purpose of the study was clearly and accurately described.

Did the author clearly and concisely explain what approach (methods) the researchers used to answer their research question, and describe the key findings of the study?

1. 0- Neither the methods, nor the findings were described.
2. 1- The article described the methods, but didn't describe the key findings (or vice-versa).
3. 2- A clear, accurate and concise description of the relevant methods and findings was given.

In contrast to the on-campus task, these criteria and the scoring rubric were detailed, explicit, and left limited room for student judgment. It was left up to students to determine what counts as an 'informative' title or an 'accurate' description of the

study purpose, methods, and findings, but the rest of what they were asked to assess was clearly defined. This left out how well students captured the substantive parts of they were asked to do, rather than simply elements of that. These attempts to codify criteria for the purposes of peer assessment raise the question of whether this led to measuring what can be measured, rather than what was educationally desirable or valued (Biesta, 2010). The emphasis was on a set definition of what counts, rather than taking seriously how students might interpret that and what they might bring to the task in both their own approach and their judgments of others' work. More importantly, in defining the assessment task by criteria which could be easily and consistently graded by students, the task itself was changed from one which might have allowed for a range of possibilities in terms of student responses to one which was templated and potentially superficial.

In total, over 45,000 students enrolled in the Behavioral Ecology MOOC. More than 25,000 of those engaged with the materials and almost 1500 completed the assessments. Matt and Ethan were happy overall with the outcome of their MOOC, but also overwhelmed by the process. Ethan maintained a negative view of MOOCs as a teaching model overall. He saw benefits in developing the MOOC in that the process of redoing the lectures helped him think more specifically about sequencing and what is emphasized. However, he also worried about the packaged nature of MOOC lectures and did not like delivering material in an environment where he was not able to read his audience and respond accordingly. He commented that while in an on-campus lecture he might explain a concept in 'three or four different ways', that was not possible for the videos developed for a MOOC since 'the students scrutinize everything' (Ethan, Interview 3). He commented that 'packaging [lectures] up as smaller units' is useful for time-poor students, but 'the question you have to ask then is, is this really engaging in the subject as richly and deeply as you might expect or are we actually simply providing a fairly superficial account?' (Ethan, Interview 1). Matt and Ethan were provided with funding to develop the MOOC but were not able to use this to buy-out other teaching responsibilities and hence found the volume of work required to prepare the MOOC materials a considerable burden. At one point, including his time and the time of support staff, Matt estimated that 'with copyright, planning, structuring, writing, you know there is two days of effort for every fifteen-minute lecture of which there are forty' (Matt, Interview 3).

Overall, this case demonstrates the complexity of thinking which underpins curriculum work. It highlights the centrality of the discipline in Matt and Ethan's decision-making as well as their commitment to authentic student engagement and scientific debate over simple transmission of content. In contrast to arguments MOOCs simply reify knowledge (Rhoads et al., 2013), these lecturers aimed to provide students with not just knowledge about their field but the chance to participate in disciplinary conversations. Yet the case also demonstrates the challenges of realizing these aims within the unbundled context of the MOOC, where the opportunities to engage with students about their own ideas and connect these to the knowledge base of the subject are limited.

### 6.3 Case 2: Interdisciplinary Logic, MOOC Initiative

Interdisciplinary Logic was developed as part of a second group of MOOC offerings for the SandstoneU MOOC initiative and was offered via two MOOCs in the first half of 2014. The lecturers responsible for the subject, Rod and Debra, had originally planned to offer one MOOC, but were interested in running the MOOC in parallel with their on-campus teaching and, on advice from the learning design team managing the partnership, elected to split their subject into two MOOCs: one five-week subject on propositional logic and its applications, and one eight-week subject on predicate logic and its applications.

Rod and Debra were longstanding friends and colleagues with interests in logic and its cross-disciplinary applications in their disciplines. Rod was a professor of philosophy in the Faculty of Arts whose first degree was in mathematics and statistics. Debra was a lecturer in the Faculty of Engineering with degrees in mathematics, philosophy, and computer science. Both identified as ‘logicians’ but also in relation to their wider disciplinary associations (as a philosopher in Rod’s case and an applied mathematician in Debra’s).

The Interdisciplinary Logic MOOCs were derived from an existing first-year subject available to any student completing an undergraduate degree. This subject was introduced in 2008 as part of a suite of interdisciplinary subjects (defined by the university as comprising cross-faculty teaching involvement) which were completed by students to meet a requirement that they take one semester-worth of subjects outside their core degree. Its subject matter was not located around a new problem but constituted a quasi-discipline itself, with agreed concepts and ideas that were traditionally taught across the university within different disciplinary programs. The on-campus subject was led by Rod and Debra but included contributions from a number of other lecturers and incorporated perspectives from philosophy, mathematics, computer sciences, engineering, and linguistics.

The on-campus subject provided an introduction to propositional and predicate logic and their use and application in the discipline areas. It was divided into ‘core lectures’ in propositional logic, followed by associated application lectures in engineering (digital systems), philosophy (vagueness), and linguistics (meaning); and ‘core lectures’ in predicate logic, followed by associated application lectures in linguistics (quantifiers), computer science (prolog programming), philosophy (definite descriptions), and mathematics (quantifiers). The subject content developed progressively over the semester, with later concepts building on knowledge of preceding concepts. The assessment for the subject included homework assignments, a mid-semester test, an end-of-semester exam (assessed via multiple-choice and short answer questions), and group workshop projects. The subject’s focus on the application of logic across disciplines was innovative and different to many other logic subjects or components where logic is simply taught as a skill for applying elsewhere.

Rod and Debra were interested in experimenting with new teaching practices. Before starting the MOOC, they had experimented with ‘flipping’ parts of their

lectures by developing low-cost videos on their iPads for students to watch outside of class and using their class time to test students on their knowledge of that material via student response systems such as clickers (an interactive technology which allows lecturers to immediately view student responses to questions). They evaluated the effectiveness of those videos before proceeding with the development of the MOOC videos.

In terms of their aims for the new MOOCs, Rod and Debra wanted students to understand logic as more than ‘a bunch of tools’ or ‘skills that will be used elsewhere’ (Rod, Interview 2). Instead, they wanted students to get a sense of the conceptual structures and methods associated with the study of logic, the different fields that use and apply logic knowledge, and the kinds of research approaches and practices that sit behind that. Although the promotional materials for this MOOC discussed the relevance of logic to the modern world, including in relation to digital systems, the focus of the subject was not on what logic offers for understanding the world as a tool but on conveying a broader sense of its orientation as a quasi-discipline that informs other disciplines. There was an emphasis on understanding the conceptual structures and methods associated with the study of logic and its use and application across related disciplines.

Rod and Debra wanted to give students an understanding of the ways in which knowledge is developed and the kinds of understandings that sit behind that, rather than just giving them access to content abstracted from the ways of knowing that underpin it. The emphasis was on understanding the disciplinary ways of knowing that draw on logic, not just logic as an abstracted technique able to be taken up by the students in any way they please. In our first interview, Rod described logic as a quasi-discipline in its own right with its own core content, distinct from the kinds of interdisciplinary fields which locate around particular problems or issues (in relation to climate change for example). This core content is applied in a range of different disciplines, but it has its own knowledge structure, which is hierarchical (Muller, 2009), and aligned with Becher’s (1989) conceptualization of a ‘hard’ field. In line with Muller’s (2009) emphasis on conceptual coherence, Rod and Debra were very concerned with the order in which content was provided to students, particularly in terms of the importance of students understanding the concepts underpinning propositional logic before starting predicate logic.

The interdisciplinary nature of logic was also particularly important to how the MOOCs were designed. In our first interview, Debra commented that the point of the on-campus subject and the related MOOCs was ‘to try and demonstrate that the same core knowledge of formal logic – first propositional logic and then predicate logic – is used in five different disciplines, and forms an integral foundation to five different disciplines’ (Debra, Interview 1). This emphasis was on understanding how logic knowledge ‘works’, the rules which govern its use, and its application across different knowledge fields. Rod also confirmed that this interdisciplinarity was critical to the purposes of the subject. He commented:

So there is still going to be that kind of interdisciplinarity in the [MOOC]. That is a crucial thing for us... That is a crucial thing in what it is to learn this at a university level. Because— it’s like the difference between learning arithmetic and learning mathematics. You could

learn this as just a bunch of different little skills, which is like often how mathematics is taught in school, we just need you to learn your times and plus tables and everything. And sure there's a space for that. But we want to motivate this by saying, here are lots of different ways of how that's applied. And then we want to evaluate its success on that basis of those things as well. We want to say right [...] if this tool gives us this answer, how is this actually an answer to the original question and what was motivating the question. [...] We want the students to be able to not only notice that this tool does this well and does this well and does this well, but why it might be and where the limitations of the use of that thing might be and that is a crucial thing which makes something really a university level thing because it allows you to not only get some tools to use but to have the critical expertise to be able to know when a particular tool might be appropriate. And that kind of interdisciplinarity, or at least multidisciplinary is a crucial thing in the motivation of the subject. (Rod, Interview 1)

Like Matt and Ethan, Rod also strongly emphasized the importance of presenting logic knowledge as not settled (cf. Rhoads et al., 2013) but as an evolving field. He commented:

...there is the sense that often the way that logic is taught in service courses is as a tool or skill, completed science and you go away and use it. And that's not wrong but that's not all there is. So we do want to get people a sense that these are kinds of things that were discovered and invented and this result that we'll be talking about was formulated and understood in the 1950s and before that people did not know this. And so having a sense that these kinds of things are things that we are figuring out, learning. (Rod, Interview 2)

Although they commented on the value of MOOCs in reaching broader audiences, Rod and Debra primarily framed the benefits and purposes of their own MOOC in terms of attracting students who would continue with study in one of the disciplines which employs logic application. Rod also emphasized the value of the MOOC in allowing students taking logic in later year levels to catch up on content they missed through not having taken logic in the first year, describing it as 'less effective but more easily distributed' than actually taking the class—so 'like an enhanced textbook' (Rod, Interview 1). Here, the ideal imagined student taking the MOOC was clearly positioned within a disciplinary trajectory and the resources were seen as valuable because of what they offered for someone developing within a disciplinary framework.

The two MOOCs followed the structure of the on-campus subject as much as possible, with the primary difference being around the structure of the application areas' content and the assessment. Each lecture was developed into a new video and detailed supplementary subject notes were produced, covering the lecture content not able to be included. The two MOOCs included all the disciplinary application areas but allowed students to elect to complete different application areas and be rewarded for those they chose to complete.

Rod and Debra were clear that maintaining all five application areas rather than focusing solely on the core logic content was a key part of what made their MOOCs distinctive. The number of disciplines included within the frame was seen as important and Rod and Debra argued that 'trimming [the discipline offerings] down will diminish it quite substantially' (Debra, Interview 1), because it would give students a more limited sense of how logic is applied and the different forms that it takes. In their

on-campus teaching, Rod and Debra were open to amending their curriculum content in some areas to accord with what students were able to handle, and since introducing the on-campus subject had reduced the mathematics load. However, they did not see content reduction as simply a matter of reducing the examples but as something that would change the aim of the subject. In relation to their decision to offer two MOOCs rather than one, Rod noted:

...we could have either made the content of our subject not very interesting and more sort of traditional and fitted it all within roughly eight weeks or keeping the content that we think makes it exciting, it sort of naturally splits into a first half and a second half. (Rod, Interview 3)

Rod and Debra both scripted their videos, which was time consuming, but otherwise found the development of the videos ‘relatively straightforward’ and noted that ‘there’s no real significant decisions to be made’ (Rod, Interview 4) since most of the content had already been developed. Rod saw real benefits in the way the videos made the practices of logic, which ‘are kind of tacit’ and ‘hard to articulate’, explicit and enabled students to see logic as something practiced rather than as abstract rules. However, he also commented on the differences between his on-campus style of lecturing, ‘which is much more interactive and prone to interruption and much more loose’ than the approach he took to the video lectures which was ‘to write the script, to practice it, cut things out until you’re happy with it’ (Rod, Interview 4). He noted that his focus for the videos was more strongly oriented to ‘how tight the content can get’, in ways that were different from his on-campus approach to lecturing (Rod, Interview 3). Debra similarly commented on the importance of ‘being more focused and sharper’ in her video lectures, as without that there was the challenge that ‘the students can lose the point of what’s the most importance thing’ (Debra, Interview 2).

In developing their videos, Rod and Debra sought to illustrate the differences between the disciplines which use logic. In the first linguistics lecture in MOOC 1, for example, Rod included a slide which quotes the philosopher David Kaplan as saying:

Linguists are like vacuum cleaners! Philosophers are like black holes. Philosophers react to every theory by constructing arguments against it. Linguists react to every theory by taking it in and using it to explain some of their millions of examples. (MOOC 1, Lecture 5.1)

In explaining this quote, Rod noted the reflection provided insight into ‘how the discipline of linguistics works’ and he encouraged students to read another essay by a linguist covering similar ground. Rod commented that the coverage of the different disciplines and fields meant that ‘it’s like everybody’s learning different languages’ and that within the subjects they ‘make that kind of discomfort a topic for attention’ (Rod, Interview 1).

Rod commented that the development of the videos was ‘an immensely productive activity for us’ as ‘we realized ‘goodness, we have just been doing this because that’s the way we’ve been doing it for the last couple of years’ and we discovered that we didn’t really need to do that’. He elaborated:

And when things were divided up into little bits it was you know, oh my goodness, this kind of thing really occurs over there. If we actually spelled this out a little bit earlier on, then this would actually make things easier here and here and here. And something about dividing things up into individual concept sized pieces rather than lectures made that kind of clearer to us which we wouldn't have noticed otherwise. (Rod, Interview 1)

Here, the process of revisiting the content provided new insights into constructing curriculum from a body of knowledge that he valued.

Rod and Debra also prepared supplementary notes for each video, which Debra observed was helpful in allowing them to isolate the most important elements of their longer lectures and include the rest within notes that might then be able to be developed into a new textbook.

As with the Behavioral Ecology MOOC, both Interdisciplinary Logic MOOCs offered opportunities for students to engage with each other and ask questions via discussion forums. Rod and Debra did not face any of the challenges with these forums encountered in the previous case but likewise saw the use of teaching assistants as important in keeping the discussion on track and correcting misconceptions. They recruited star students from the first MOOC to act as teaching assistants in the second MOOC and Debra commented in relation to these teaching assistants, 'they were actually really good and would answer straight forward pointed type questions, you know, go look in the course notes' (Debra, Interview 4). These teaching assistants were seen by Rod and Debra as pseudo-tutors, with sufficient knowledge and understandings to adequately explain core concepts to students who were struggling and to direct them to further explanations contained in the subject materials.

The assessment was designed to assess student knowledge of the content. The core areas and most of the application areas were assessed via automated multiple-choice questions while the final assessments and the philosophy and linguistics application areas for the first MOOC were assessed via peer review of short answer questions. Like Matt and Ethan, Rod and Debra saw significant value in the way the multiple-choice question format enhanced revision practices and reinforced understandings, and likewise chose to allow students to check their understanding and receive feedback on their responses before proceeding to the final tests. Rod commented:

...a student can practice with ten of these problems and figure out that okay I've got it all right and they know they've got ten out of ten, and [for] other students still struggling [...] [we can] give them feedback on 'no, you made a mistake here, revise this bit.' (Rod, Interview 1)

There was a focus on providing students with clear and explicit direction about what was misunderstood and what the students needed to work on to correct the attempt. Within multiple-choice forms of assessment, right and wrong answers were clearly defined and like Matt and Ethan, Rod and Debra tended to see the benefits of the multiple-choice approach in providing students with opportunities to identify the areas they were struggling with based on the answers given.

Interestingly, this concern with explicitly defined criteria and right/wrong answers was also strongly evident in relation to the peer review assessments, where greater fluidity and space for interpretation might have been expected. The lecturers made the decision to use peer assessments as they felt that there were elements of the content

that could not be assessed by multiple choice. They felt that automated assessment was appropriate and practical for most of the course, but also wanted to include some peer review for the philosophy and linguistics application areas, and for the final task. Debra noted for those areas ‘if it’s all reduced to multiple choice too much is lost’ (Debra, Interview 1).

However, Debra and Rod tended to frame the peer review task not in terms of student interpretation or in terms of the learning that occurred from the process (traditionally how such assessment is justified—see Boud et al., 1999) but in terms of their potential for reliability and validity. In the lead up to the MOOC starting, Debra took another MOOC as a student to learn more about peer assessment and was critical of the lack of clear directions regarding assessing peers’ work. Based on this experience, Debra and Rod decided they would develop two rubrics per assessment—one which would explain at a high level how the student’s work should be assessed and which would be released at the time of the question, and a second more detailed rubric that would clarify which key concepts needed to be defined and what an acceptable definition would include at various levels from excellent to poor which would be released with the commencement of the peer assessment. This second rubric included an explanation of the key concepts to be included in response to each question and clarified the elements that were part of an excellent definition, compared to an adequate or poor definition. In talking about why explicit rubrics were necessary for peer review teaching, Debra commented:

Unless you actually tell students what the right answer is or what a right answer is or the parameters under which this counts as a correct answer, I think you’ll inevitably get that sort of wild discrepancy. [...] for the final marking, you really need the nitty gritty what’s right and what’s wrong because those judgements cannot be left for students, they don’t actually have enough knowledge or too many of them don’t. (Debra, Interview 3)

Peer assessment was here not about students’ interpretations but about students acting as substitutes for experts, with the knowledge and expertise of those experts reconfigured in written and codified form for students to use. The authority to decide ‘what counts’ as a correct answer was not assigned to or invested in the students themselves but contained within the detailed criteria sheets.

The lecturers commented that they felt constrained by the options for assessment in the MOOC, with Rod noting that the assessments were required to be ‘much more highly constrained’ than the assessments used within his on-campus teaching and that it was ‘more difficult to have the more creative aspects of what the students might be doing evaluated’ (Rod, Interview 1). These constraints were the main way that Rod and Debra saw the MOOCs as differing from the on-campus subject. Debra noted that the course had ‘very much the same sort of educational goals that we have for the live university subject [but] because of the constraints of the [MOOC platform] assessment, the students taking the [MOOC platform] subject will not have as big a range of assessment tasks as our own students’ (Debra, Interview 3).

Rod declined to be interviewed following the delivery of the MOOCs but Debra was happy with the process and what the students had achieved. For the first MOOC, over 50,000 students enrolled, over 27,000 engaged with the materials, and just over

1200 completed the assessments. For the second MOOC, over 25,000 enrolled, over 7500 engaged with the materials, and over 400 students completed the assessments. However, like Matt and Ethan, both Rod and Debra found the workload in developing the MOOCs highly time consuming. They were primarily confident in their decisions about the course and in its structure and development but struggled with the amount of work involved in developing the materials. Both noted that the development of one 15-minutes video was equivalent to about a day's work before filming began, and that was despite already having their lecture notes already prepared.

As with the Behavioral Ecology MOOC, this case demonstrates the complexity of work and thinking required to move the on-campus subject to the new MOOCs form. Although focused on an interdisciplinary subject, the case highlights the discipline-based, 'inward-facing' (Becher, 1989) orientation of the lecturers' purposes and its centrality in how the subject was designed. It shows how within these aims, content reduction was not a simple issue but something the lecturers saw as potentially changing what students were able to take away from their teaching. The case highlights some of the benefits these lecturers saw in rethinking their content material for the new MOOCs form, but also the challenges of realizing their aims for the subject when the options for assessment and the opportunities for academic judgment of this were limited. It also offers an example of lecturers responding to the unbundled nature of the MOOC by creating more detailed requirements and directions to students about what was required.

## 6.4 Case 3: Classical Studies, OPM Initiative

Classical Studies was developed for delivery as part of the SandstoneU OPM partnership. This OPM initiative was designed to replicate an 'elite' teaching experience by combining asynchronous student-paced content with live synchronous online sessions in the style of a professor-led tutorial. The subject was developed by Laurie, a classicist with associate dean responsibilities for teaching and learning within his faculty and offered in mid-2014. It was the only subject offered by SandstoneU as part of the OPM partnership before the venture was disbanded. The subject development involved collaboration between Laurie and the US-based partnership production and support team. This was mostly conducted via Skype and email, although Laurie visited the US at one point to film videos for the subject.

The on-campus subject from which Classical Studies derived was offered as a second-year subject with no hard prerequisites. The subject formed part of majors in Latin, Ancient Greek, and Ancient World Studies, and was also taken as an elective by other Bachelor of Arts students, particularly English majors wanting to be able to recognize classical references within literary texts, and students from outside the Arts Faculty with a general interest in the subject. The on-campus subject was structured thematically, comprising different weeks on themes related to the content. It was taught via a weekly 1.5-hour lecture, a weekly hour-long tutorial, and set weekly

readings. The assessment included a 750-word document analysis, a research essay of 1750 words, and a take-home exam of 1500 words.

Laurie described his intention for the online subject Classical Studies not just in terms of what content would be studied, but in terms of the disciplinary ways of knowing underpinning that. He said his aims were to ‘give students an accurate impression of the ancient world, how you go about understanding a complex series of cultures and societies within a distant period like that and how that can then reflect on what we do and who we are’ (Laurie, Interview 2). He commented that this subject was about approaching ancient material from a ‘historical cultural context’ and understanding how you ‘approach the material that comes down to us and what skills do you need to apply to the material that comes down to us in order to understand what its importance was in that very different cultural context’ (Laurie, Interview 4).

According to Laurie, the discipline of classical studies incorporates multiple methodological and analytical approaches designed to understand the different kinds of material evidence from the ancient world, including literary, artistic, and archaeological artifacts. Laurie commented, ‘we focus very much on a defined region and period and then anything goes within it in terms of the material that you can bring to bear to understand the culture and society of the times’ (Laurie, Interview 2). However, although Laurie felt ‘anything goes’ to an extent, he was clear that the discipline of classical studies comprised a particular approach and way of knowing that was different from history and literary studies. He strongly objected when the online platform staff labeled his subject as history and insisted on it being relabeled as classical studies. Laurie saw no distinction between his purposes for his online subject and for his on-campus subject, given neither had hard prerequisites and both could be taken by students from both within and outside majors concerned with classical studies. He commented that students take his subjects for a range of different reasons but emphasized that, regardless of background or major, what he wanted to engage students with was an approach particular to classical studies:

What I really want to engage them with, is understanding things in their very, very complex cultural and changing cultural and social context and most students will understand that and if they don’t understand that then I’m doing something wrong. [...] hopefully all the students are going on the same sort of journey and they’re kind of approaching the material in a similar way even if after the course is over they’re getting different things out of it. (Laurie, Interview 2)

As with the lecturers developing the Behavioral Ecology subject, Matt and Ethan, Laurie acknowledged and discussed the different backgrounds, trajectories, and interests of students, but did not see these as guiding the design of the subject. Like Matt and Ethan, he wanted his students to develop a sense of the ‘how’ of his discipline, not just the ‘what’ of its knowledge discoveries (although that too is important). When Laurie was asked about his approach to his on-campus teaching, he emphasized depth and discussion:

I mean the classicist approach is you’ve got a primary text but what that text might be it could be anything from a site plan to an actual piece of literature to some visual images of statuary or wall painting or whatever it might be but you also have very clearly marked out

“these are the questions we’re going to ask, this is how we’re going to go about it?” and even how mechanically we’re going to go about it, if it’s going to be open discussion group work, task based whatever. And don’t try and do too much in that time. (Laurie, Interview 2)

Laurie noted that as he has gained more experience teaching, he has increasingly focused on ‘providing more time to focus on less’. He commented:

I suppose that’s increasing the depth to some extent at the expense of the—just the amount of material that you get through. I mean I suppose it’s always a worry that students will get to the end and they won’t have done anything in the Hellenistic period of something. [...] [But] I don’t think it does [matter] if you’re confident that you have prepared students with—you’ve given the kind of tools that if they do need to go on with that they know exactly what to do with it, what to look for, how to go about it. I think it’s actually much more important to focus on the how to go about it and you can only do that if you’re spending enough time on particular issues, particular problems, particular texts or particular materials rather than going bang, bang. (Laurie, Interview 2)

Laurie noted that many of his students found it difficult to ‘keep track of all the details of the narratives because [...] there’s lots of different narratives’. However, he also saw this volume of material as not contingent but critical to the purpose of the subject and the field. He commented:

The typical discussion when we get to the point of okay what evidence can we use to support that argument, is a student will go ‘oh it’s that myth with that guy, oh what’s his name, he kills the minotaur, what’s his name’ and they will struggle to keep all of this because there’s just so many names. And unless they’ve got the text directly in front of them, they’ve got the notation directly in front of them, there’s still a challenge to remember it. [...] There’s a volume of information that they need to manage in order to actually bring to bear the various skills and to apply the evidence to do the learning and to do the work. (Laurie, Interview 4)

In revising the subject for the online format, Laurie’s main concerns centered around (1) ensuring equivalence with the on-campus subject and maintaining the integrity of the face-to-face engagement with the students; and (2) enhancing the level of detail and depth provided in the supporting materials across the different units.

In accordance with the SandstoneU OPM initiative approach, Classical Studies was designed to mirror the on-campus subject, although some minor changes were made to the structure to fit in with the 14-week semester length common in the US where the initiative was based. (In Australia, a standard semester is 12 weeks long). Each week, students were provided with a range of online content which they were expected to review over the course of the week. This content was extensive and typically included an introductory lecture video (referred to as a monologue), followed by additional lecture videos (between 5 and 20 minutes in length). These lecture videos were set alongside ‘flipbooks’ of slides which included the detail needed to understand what was being said in the videos, such as the definition of key terms. Weekly readings were included within the platform and the weekly content concluded with a ‘roundtable’ video designed to act as a primer for the weekly synchronous class. These ‘roundtable’ videos comprised a scripted discussion between the academic and two student actors, leading toward predefined questions which students were expected to prepare answers for in advance of the class.

In making the shift from a lecture to pre-recorded video format, Laurie noted that he did have to think about where the material could be divided and how he ‘would begin and end each video to make sure it actually flowed on to the next’. But as he saw it, ‘that wasn’t really a curriculum change... that was more a presentation issue’. And he felt it worked quite well because ‘there are key points obviously in how you plan in a lecture of where your main topics are, where the kind of the introduction phase finishes and you move on to—or you have a case study or whatever, it did actually, for me anyway, fall quite naturally into different segments’ (Laurie, Interview 1). He also saw this format as a positive, noting:

Look my opinion at the moment is that there is no obvious to me, and I would have to see some students actually learning from this but there’s no obvious distinction at the level of potential student learning between the video structure that I have for the content and me standing up in a lecture and delivering to the students who are there present. In fact given that they can pause and go back over things immediately, there might be more advantage to having it in for them for their learning to having it in the video format, it might be richer. (Laurie, Interview 1)

In addition to focusing on equivalence between the on-campus and the online subject, the changes Laurie made to the subject materials for Classical Studies were primarily geared toward enhancing the level of detail and providing student support. This is in quite strong contrast to much of the thinking around ‘good’ online teaching and the framing of the TechU case study subjects discussed later, where there is a lot of concern around content overload putting students off and restricting their engagement with the material (see Chaps. 2 and 7).

The roundtables were also geared toward pointing students in the right direction and were based around the topics and readings used in previous tutorials but contained more structured questions than Laurie would typically use. He also incorporated precise instructions about what elements of the course students should access first and the order they should complete their readings and other tasks into the design. In the second interview, he noted:

To give one example we’re going through the readings and trying to break up the fairly hefty PDFs we have for each week, into a number of smaller PDF’s. Focus on ‘have this read before you look at the lecture material’, ‘have this read before you do the round table’, ‘have this read before you come to the live class so it’s just a little clearer.’ (Laurie, Interview 2)

This extra context was about providing background for the live synchronous class and support for the kind of fine-grained analysis required in the discipline. Speaking more broadly about emphases in his teaching, Laurie advised:

...the important thing then is really to remember don’t overload them with versions. You can talk, you can provide the context about all sorts of different ways of approaching [the content] but when you actually sit down in the live classes to discuss things in detail, to get their feedback, to get them working on a particular version, try and restrict how much you do but don’t splinter that effort, don’t dissipate the depth that they can go into it. And to some extent the online approach is a very easy way of doing that cause you’ve got as much as you like to provide the broader context and the information about approaches to that but when it comes down to the live class it’s just like any other live class, you’re going to need a key focus on what are we doing here, what are we focusing on in order to get the most out of it. (Laurie, Interview 2)

In revising the structure to meet the US 14-week requirement, Laurie was concerned with ‘look[ing] for the particular weeks where we’d known from the experience of teaching it on campus, it was actually a bit crammed for the material that we were trying to fit into that point’ (Laurie, Interview 1). He chose to expand one theme (heroes) across two weeks and added a second theme (gods) that had previously been dispersed across the entire course. These two elements were completely reorganized, although they incorporated elements from the on-campus course.

When asked directly about who he thought the students would be Laurie advised, ‘I’m trying not to build up too many expectations, quite honestly I really don’t know. I suppose if I had to guess, I’d expect students from the same broad set of interests as we would typically get. And as I say I guess one advantage is we’re used to a broad cohort in [our subject] anyway’ (Laurie, Interview 1). In response to the kinds of students he might get through the SandstoneU OPM Initiative, Laurie kept the requirements the same as his on-campus teaching but added additional instructions around the subject clarifying what was expected and how students should engage with the materials. His emphasis was on maintaining the way the subject has been taught through controlling more strongly for different student trajectories and in bedding down and articulating exactly what needed to be understood about the discipline at that level.

In addition to engaging with the online materials, students were expected to attend synchronous online classes with Laurie and interact with peers in online forums. These synchronous classes were offered via video-link, with students able to be allocated into break-out rooms for small group discussion. In contrast to the MOOCs, these synchronous classes allowed for substantial engagements between lecturers and students and Laurie described the weekly live synchronous classes as being the ‘nucleus’ of each topic (Laurie, Interview 3). Without this component, Laurie saw the subject as potentially ‘shallow’ (Laurie, Interview 3) despite his feelings about the benefits of being able to enhance the materials he provided in the online context. In his second interview, Laurie commented that:

...the real core of both the on campus and the online version is the live class still, they still share that and will continue to share it and potentially the online tools that [the platform] are allowing me to develop might, and should, allow me to enhance and extend the live class small group element of it. (Laurie, Interview 2)

Laurie approached these synchronous classes in a more prescriptive way than his previous on-campus teaching. For each week, he developed ‘roundtable’ videos which consisted of recorded discussions between himself and two student actors, in which questions and topics were raised which were designed to lead into and prompt student preparations for the synchronous class. In the last interview, which took place after the subject teaching had completed, Laurie spoke about focusing more on the ‘detail’ of how those synchronous classes would occur in comparison to his on-campus teaching, in terms of ‘thinking about how (a) in the seminar leads to (b) leads to (c) to get to the final points that I want the students to take away from the session’ (Laurie, Interview 4).

However, Laurie's prescriptive approach to the synchronous classes was different from the other components of the subject given that these classes allowed him to engage with students in the moment of teaching. While Laurie commented that he was considering limiting the material or being 'even more specific with the questions' (Laurie, Interview 2) prior to starting the teaching, once teaching began, he was able to use those classes in an open way, responding to how the students were going each week and the kinds of questions they themselves raised from the material. Laurie did not see the synchronous class as different from an on-campus tutorial since he was able to monitor the discussion in the moment. He commented that the live synchronous online class was 'just like any other live [on campus] class' and was based around a key focus determined as part of the subject development (Laurie, Interview 2). His emphasis was on making the classes a space to 'discuss things in detail, to get their feedback, to get them working on a particular version' without dissipating the depth of discussion. In his approach to designing questions for the synchronous classes, Laurie commented, 'I designed them very carefully to also be escalating, to kind of warm the student into the topic, to get them engaged, to make them start thinking interpretively and then I went up to the big open question at the end that they can respond to' (Laurie, Interview 1). Additionally, the number of students enrolled in Laurie's subject was in the end very small—only eight students—and Laurie was able to work with them in the tutorials in collaborative ways and engage with the substance of their ideas and questions.

The majority of the assessment mirrored the on-campus subject requirements and included a 750-word primary source analysis, a research essay of 1750 words, and a take-home exam of 1500 words. The first task required students to analyze a particular section of a core text; for the research essay they were required to select one of four questions or select their own topic for research; and they had to respond to one of six questions in essay form for the take-home exam. Laurie commented that these tasks were designed to be 'identical to what we do on campus down to the questions asked' (Laurie, Interview 2). There were also multiple-choice questions about the content every second week; these were graded but the percentage allocated was minimal and the intention was more for students to be able to see if they were keeping up with the content and to provide formative feedback.

Laurie was pleased with the development of the subject and with the quality of the materials he developed. There were issues with student numbers—in the end only eight students enrolled, one from the US and the rest from Australia—but Laurie felt those students were given a comparable learning experience to on-campus students. He was very positive about the potential for online learning to allow a richer engagement and expanding the context he could provide for students. In our first interview, he noted,

Other tools like the flip book, like the increasing I'm thinking the directed—the Roundtable directed discussion, I think are really valuable extras that I wouldn't be able to do in any other way but online. I suppose I could do the flip books in a PDF form, I couldn't do the demonstrated directed discussion interaction in any other way than online and they are additions. (Laurie, Interview 1)

He felt that he learned a huge amount from the experience; not just about how to teach online, but ‘how think through what’s really, really essential in teaching’ (Laurie, Interview 1).

As with the other two cases discussed in this chapter, this case study subject was also focused on a discipline-based approach and on ensuring students develop a sense of the ‘how’ of classical studies as a discipline. The subject aimed to capture what needs to be understood about the discipline of classical studies and its redevelopment for online delivery focused on articulating that and enhancing the level of detail and student support provided. As with the Interdisciplinary Logic case, this case demonstrates the challenges of reducing the amount of content within a subject of this kind and the potential for this to change the outcomes the subject aims to build toward.

## 6.5 Conclusion

The SandstoneU unbundled online subjects were developed in a context where lecturers maintained relatively high levels of autonomy over their curriculum development. The subjects were located in different fields, including a scientific discipline (ecology/biology), a humanities discipline (classical studies), and an interdisciplinary field (logic), but common across them was an ‘inward’ facing orientation toward the internal development of the knowledge field and its own norms of validation in line with the characteristics ascribed to ‘pure’ disciplinary fields (Becher, 1989; Bernstein, 1996). Together, these cases demonstrate the complex thinking that underpins curriculum work and how lecturers navigated the unbundled form to pursue the kinds of education they saw as valuable. Both explicitly and implicitly, the lecturers developing these subjects indicated their belief in the importance of the discipline and its form as something that they were trying to convey to students, something that extended beyond the particulars that they might select. They also valued student engagement, but within a strong sense of what they were trying to draw students into. These lecturers also faced particular challenges in remaking their curriculum for an unbundled context, particularly in relation to issues of content reduction and assessment. Yet, while they struggled with some of the rigidity of the new platforms and with not being able to relate to students and approach explanations in more tacit and less direct ways, they also liked the ways in which the new form focused their thinking on what students need and encouraged them to think deeply about the content and sequence in relation to the knowledge taught. These experiences highlight the genuinely difficult work of curriculum making and the continued importance of the discipline in how curriculum is constructed. The experiences discussed here both differ and converge with the experiences of the TechU lecturers, which are discussed in the following chapter.

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