CONTEMPORARY APPROACHES TO RESEARCH IN LEARNING INNOVATIONS

Leveraging Social Capital in Systemic Education Reform

Ian R. Haslam and
Myint Swe Khine (Eds.)

SensePublishers

Leveraging Social Capital in Systemic Education Reform

CONTEMPORARY APPROACHES TO RESEARCH IN LEARNING INNOVATIONS

Volume 10

Rationale

Learning today is no longer confined to schools and classrooms. Modern information and communication technologies make the learning possible anywhere, any time. The emerging and evolving technologies are creating a knowledge era, changing the educational landscape, and facilitating the learning innovations. In recent years educators find ways to cultivate curiosity, nurture creativity and engage the mind of the learners by using innovative approaches.

Contemporary Approaches to Research in Learning Innovations explores approaches to research in learning innovations from the learning sciences view. Learning sciences is an interdisciplinary field that draws on multiple theoretical perspectives and research with the goal of advancing knowledge about how people learn. The field includes cognitive science, educational psychology, anthropology, computer and information science and explore pedagogical, technological, sociological and psychological aspects of human learning. Research in these approaches examines the social, organizational and cultural dynamics of learning environments, construct scientific models of cognitive development, and conduct design-based experiments.

Contemporary Approaches to Research in Learning Innovations covers research in developed and developing countries and scalable projects which will benefit everyday learning and universal education. Recent research includes improving social presence and interaction in collaborative learning, using epistemic games to foster new learning, and pedagogy and praxis of ICT integration in school curricula.

Leveraging Social Capital in Systemic Education Reform

Edited by

Ian R. Haslam
Cabrillo College, USA

and

Myint Swe Khine
Emirates College for Advanced Education, United Arab Emirates

SENSE PUBLISHERS
ROTTERDAM/BOSTON/TAIPEI

A C.I.P. record for this book is available from the Library of Congress.

ISBN: 978-94-6300-649-1 (paperback)
ISBN: 978-94-6300-650-7 (hardback)
ISBN: 978-94-6300-651-4 (e-book)

Published by: Sense Publishers,
P.O. Box 21858,
3001 AW Rotterdam,
The Netherlands
https://www.sensepublishers.com/

Printed on acid-free paper

TABLE OF CONTENTS

IAN R. HASLAM AND MYINT SWE KHINE

1. SOCIAL CAPITAL IN THE AUTONOMOUS WORLD OF TEACHERS

There have been many attempts to overcome the inertia in school systems to improve student success. Many have failed to have much influence on children's ability to read and write. There have been some notable exceptions such as Singapore, Shanghai, China, Finland, Japan, Hong Kong, South Korea and Ontario, Canada (Mourshed et al., 2010). Common among each of these systems is their attention to capacity building (Fullan, 2011), their rigorous curriculum standards, their innovative teaching and learning skills and their systemic implementation. The focus in this book is on leveraging social capital through collaboration between teachers and school leaders in the area of curriculum change and instructional excellence.

However, schools are not designed or organized to have teachers collaborate in a systematic manner or lead large scale curriculum reform 'from the middle'. For the most part teachers work in professional isolation rarely seeing another colleague except as they pass in the corridors or collect their mail in the general office (Flinders, 1988). They work behind closed doors for perhaps four hours straight, with up to a hundred and sixty students a day with literally hundreds of interactions between the teacher and students. In so doing they find themselves with almost unlimited classroom autonomy in the way they teach, the pace of their teaching, what they teach, how they teach and how they assess their students. Requiring teachers to collaborate means they have to find the time in the day somewhere between planning tomorrow's lessons and grading yesterday's student papers. The antagonists would argue that to be required to be a part of learning communities is to relinquish their professional autonomy (the freedom to choose whether to work with colleagues or not) and; as importantly, that they find the time in their teaching day to attend the meeting. DuFour (2011) notes Andrew Hargreaves (1991) sentiments that some teachers may feel that,

> Requiring educators to work together violates their right as professionals to work in isolation and can result in only "contrived congeniality" rather than true collaborative culture. (DuFour, 2011:58)

However, DuFour cannot find any reference that defines a professional as "someone who can do whatever he or she pleases". Similarly, his investigations reveal no research that says students learn better when teachers work in isolation. On the other

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 1–15.

hand, there is a great deal of literature that says students learn better when teachers collaborate. He concludes that school systems really should find inclusive structures that support teacher collaboration and,

> … all members of staff should be required to participate. An individual's desire to work in isolation does not trump a professional's obligation to apply what is considered the most effective practice in his or her field. (DuFour, 2011:60)

It takes leadership to create a culture of collaboration. The evidence suggests that transformative approaches to leadership could be conducive to improved student learning outcomes in schools. Transformative school leaders focus on the needs of their constituencies so as to empower them with the confidence of taking ownership of their responsibilities. It emphasizes the quality of the relationship between the leader and the follower through "ethical role modelling, motivation and care for individual needs" (Franciosi, 2012).

The moral imperative of every teacher has to be to help their students to be successful. Teacher collaboration is known to improve student success. While the 'egg carton' structure and organization of schools means that teachers work in professional isolation from their colleagues and is not conducive to teacher collaboration and therefore student success. However, many teachers do tend to be very creative in their lesson preparation, their learning activities and student assessment and certainly therefore do have the potential for creative contributions. In like manner, teachers do enjoy sharing and have much practice in making presentations to groups so it does not seem to be such a great leap from innately creative classroom work to the sharing of that work in professional learning communities. Transformative leadership can create a culture of leadership has been can create a culture of employee empowerment and creativity. Kim and Yoon (2015) report a positive correlation between transformative leadership and employee perception of a culture of innovation. Yaping et al. (2009) note that employee learning and transformative leadership was positively aligned to employee creativity which was further mediated by employee self-efficacy. Eisenbiel and Boerner (2011) confirmed that transformative leadership promotes creativity in the workplace but cautions that transformative leadership increased employee dependency which reduced creativity.

However, the link between school leadership and creative solutions to organizational restructuring in schools suggest that reforms to school leadership are a necessary pre requisite to school reforms. It also indicates that creative teachers will be empowered to participate in a professionally collaborative work environment should they have the trust and respect of their school leaders and colleagues.

The purpose of this book is to look for ways to develop a culture of teacher collaboration and student success in schools. This book has two sections. The first section looks at digitally mediated social capital and school leadership conducive to creative school decision making. The second section is a discussion of developing social capital in Australian middle schools, the large scale school reforms in the UAE and the needed reforms to community colleges in the USA.

Nappi's chapter laments that the efforts to reform public schools in the USA have not been terribly successful. Even more depressing is that the need to reform America's K-12 system was recognized years ago. A *Nation at Risk* (1983) reported that other countries educational systems have outperformed the USA. This fact was also supported in Haslam's chapter where he reports the findings from the Organization for Economic Cooperation and Development's (OECD) Program for International Student Assessment (PISA). These data indicate Asian countries performing at much higher levels than most western countries in the areas of literacy and numeracy. Nappi goes on to suggest that the No Child Left Behind (NCLB) Act of 2002 created increased tension in a complex system that was not going to be improved by punitive accountability measures imposed on teachers and school administrators. Audet and Jederberg report the same problem with the NCLB reforms. Fortunately, the Every Student Succeeds Act (2015) "scales back the federal role in K-12 education" giving increased autonomy for states and school districts. What was alarming to Nappi and others (Fullan, 2011) was the assumption that student success was a proxy for teacher effectiveness. In short, if students failed it was because teachers were not doing their jobs. If the emphasis was on test scores and grades, and the teacher was the custodian of those grades, then the grades could be inflated and the curriculum scaled back so as not to be seen to be failing the students. Of course the net effect was lower levels of attainment across the system which was revealed when students left high school with ambitions of being successful in college and university. This is what happens when teachers are held accountable for student failure. In short, much more attention needs to be given to effective teaching, teacher competencies and the development of social and professional capital in school.

There is much evidence in this volume and elsewhere that teacher collaboration in a climate of trust and respect is important to student success. There is also evidence to suggest that the way schools are organized means teachers spend most of their day in isolation from their colleagues. Ironically, whilst they teach professionally adrift of each other they could have numerous and intense interactions with their students. Potentially leaving the teacher emotionally drained and in need of private time to unwind and regroup.

Of particular note relative to high performing teachers is their potential to improve student success in any school. Nappi cites Glazerman et al. (2013) who took 20% of high performing teachers and incentivized them to teach in under performing schools. The results showed a positive correlation between 'value added' teachers and student test scores.

Leveraging social capital in an educational system is a challenge due to, among other things, its organization and its inevitable professional isolationism. Nappi suggests that one way to overcome this problem is to direct resources to a school based Teacher Leadership initiative (Nappi, 2014). Teacher leadership is a form of distributed leadership that enables selected classroom teachers to lead school based professional development as they model lessons, mentor, act as learning facilitators and data coaches and in general be a collegial catalyst for change.[1]

Teacher leaders provoke and promote collaboration with colleagues, breakdown feelings of professional isolation, and engage in embedded professional development on a daily basis. Done well, this could change the way many teachers teach, increase professional capital in the school and improve school success.

However, school change does not come about by itself. It needs leadership, vision and persistence. It needs transformational leadership which as Audet and Jederberg advocate is creative and risk taking. One of the most important considerations is the expertise on staff that might be willing and able to undertake the role of Teacher Leader. In like manner the Teacher Leader needs training themselves. Teaching students to think critically in school is an enduring theme across many systems as is teaching teachers to think critically about the way they teach. 'Thinking about thinking', Nappi argues, requires reflection and consideration of one's core values as a teacher investigates all aspects of an issue while attempting to solve problems. This process is as valid for teachers on teaching as it is for students in their studies. In a same vein, Audet and Jederberg came to a similar conclusion in their chapter as they explore the potential for teacher creativity in their classrooms and in the school and how that can be used to achieve higher levels of student success.

There is no doubt that digital mediated networks have a profound effect on the social lives of teachers but do they have any effect on their professional lives? In fact, to what extent are teachers collaborating online? Do they share resources and ideas for teaching online? Do they have online colleagues they trust and respect that they can go to during their teaching day to discuss the challenges of teaching and learning or class management or assessment? Are they taking advantage of their mobile devices before during and after classes? Are they using technology to help them stay in touch with other teachers and avail themselves of new ideas and best practice?

The chapter by Lightfoot seeks to explore these possibilities. It sets the stage with a discussion on the ubiquitous nature of social capital in an information age by making the assertion that teacher professional development can be as effective on a digital platform as it can in a face to face workshop. Taking that notion one step further, the professional development of teachers might be even more profound using a hybrid combination of online and face to face opportunities. With the pervasive use of mobile technology and the likes of Facetime and Skype; not only could a rich network of like-minded colleagues be helpful to each other in traditional professional development settings but it could also be helpful to job embedded professional development. Lightfoot discusses the literature surrounding the growth and sophistication of online learning management platforms. Although there is a growing interest in the need for professional collaboration of teachers especially when linked to substantial curriculum changes there is very little research concerning online professional networks and the development of professional capital. Still the growth of 'machine mediation' continues to challenge rather than compliment traditional views on teaching and learning. Fullan (2011) would concur that although the infusion of technology and its use in schools is appealing to policy makers and

education reformers; by itself it is of little use. It requires teachers working together with the curriculum in hand to make the most of the technology at their disposal. Lightfoot notes there was indeed some promise in technology changing schools but this has not been the case. The early promise of technology revolutionizing education has seldom been realized in the ways that had been anticipated. Instead new technologies have augmented existing technology and quietly and subtly the art and science of teaching has changed.

Conversely, the potential for digital social capital to impact the professional development of teachers is "encouragingly positive". Lightfoot goes on to describe, for example, communities of experience and communities of practice in education that have been created through the use of, www.Helpforteachers.com, www.siteforteachers.com and www.EdWeb.net which help experienced and novice teachers access the collective wisdom of their colleagues. In fact, the latter has links to professional development for instructional leaders looking to engage their colleagues in conversations about school management and student success. The beauty of these and other sites is that they create bonding capital (school based networks of colleagues and friends who share ideas and best practice) in schools and linking capital (system wide based networks of colleagues who compare ideas and create best practice in the system) between schools thus helping to scale professional capital across a system.

What is even more intriguing according to Lightfoot is that while a teacher's professional network continues to grow the extent to which they are helpful in the classroom remains a function of the degree to which a teacher participates in the conversations. Clearly, one of the most important conversations in this day and age is how to frame questions and participate in online conversations about teaching? In every online social network there will be people designated as 'active nodes'. These individuals persistently involve themselves in online conversations and have a number of colleagues and associates at various stages of full integration with the network. Others are members of the group and at various stages of readiness but who learn from reading posts how to engage. These 'slumberers' or 'lurkers' as Lightfoot refers to them who are in fact learning how to engage with the group. If the future of teaching and learning is to engage teachers in professional learning communities many teachers will need help in online participation. There is an art and to some extent a science of participating effectively in online professional learning communities. On the one hand keeping conversations on topic and on the other hand doing the homework for the conversations that can blend best practice with a person's reality.

Lightfoot features Seddon and Postlethwaite's suggestions that online learning communities engage in a variety of conversations including information sharing as well as 'problem analyses' and 'synthesis'. Participants in these 'networks of practice' can be required, and often do, endeavor to 'facilitate conversations' online while they are 'multi-tasking' and 'researching' relevant material. As a result, network members find themselves engaged in different types of learning including

'reflection', 'meta-cognition and co-construction'. The key to the success or failure of a networked professional community would be the extent to which the opportunity to engage was helpful and relevant to the social and professional needs of the participants. Hence the ground rules for participation are critical.

One study of interest cited by Lightfoot that mirrors the sentiments of Nappi and Audet and Jederberg is how school leadership can influence a creative work environment for teachers. Siew Mee Barton looked at the social and cultural conditions for successful networks of practice in Australia, Singapore and South East Asia. As expected, she noted the importance of patterns of leadership in the development of social capital support of as being essential to an effective network of practice in schools. This mirrors the recommendations of Audet and Jederberg who explore the role of leadership in encouraging a creative workplace. In both instances participating in an online professional network, and being creative in the workplace requires an element of professional risk taking. This is achieved when a person feels comfortable and secure in a trusting, respectful work environment.

The virtual staffroom for teachers ensures that online professional collaboration is accessible to teachers outside of the school day. Teachers work with students all day, every day. Often times they do not have the time during the school day to work with colleagues and school administrators in an after class meeting. They are just too busy. However, the network community is accessible at times when it's convenient for teachers like before school and after school and away from school as well as during free periods or lunch breaks during the school day. The frustration that teachers feel when they hear consultants and administrators suggest that teachers can meet together to discuss student progress during their lunchtime or their free period has a negative impact on teacher morale and ultimately on the success of system wide reforms.

The authors are of the view that research in this area is scant at best. It is especially challenging to locate meaningful theory in education on 'group learning and creative group work'. Ironic really when one considers that the purpose of a school is to be a learning organization, and yet the principles of having a shared vision, the use of cross functional work teams, the personal mastery of work skills, the teacher's mental models of teaching and a systems perspective (Senge, 1990) are so hard to find in modern schools. What is compelling about this chapter is the way the authors attempt to weave the idea of creative classroom teachers in their design of lesson plans and their assessment of students with two possibilities. On the one hand, those teachers could well be intrinsically motivated to share their creative solutions to classroom problems with their fellow teachers and across their school districts. After all they are not 'shy' of presenting their materials in class. On the other hand, is the idea that teachers could use their creative skills in solving organizational problems within the school. Some time is spent in the chapter on the conditions for creative work including a culture of mutual respect for differing opinions and ideas, and of trust, empathy and collegiality among stakeholders. Interestingly enough the creativity used in class preparation and class management tends not to be public but

exists in isolation in the classroom. Potentially good work and innovative solutions to the core business of education (teaching and learning) kept away from the public eye year after year. Not only that, but important matters like the assessment of student progress both at the grade level and through the curriculum sequence by discipline could well be overlooked, thus compromising student progress by not catching students in need of remediation soon enough.

In view of the shortage of research on group creativity among teachers and school leaders in their workplace the authors use practical examples or vignettes to illustrate the complexities as well as the range of skills needed to be an innovative leader. At the same time, they lament on the lack of attention to the ecology of the school day that affords so little opportunity for collaborative professional discussions either on student progress or on instructional practice. Clearly, the nature of the teaching day (multiple lessons back to back) for most teachers is not only emotionally draining but also creates a time pressure making collaboration with other teachers difficult. Not only that but many teachers are not even sure they have anything novel or inspiring to share about their day. Many are of the view that all teachers are doing the same thing in the same way so, 'what's new'? In fact, nothing could be further from the truth, especially this day and age when senior teachers were likely trained during the 1970's and 1980's and could be working with young teachers newly graduated. There is so much to be shared and learned from each other.

Having something novel and unique to share with a colleague that was derived from either individual or group creative thought that could help teachers be more effective while at the same time is motivating and rewarding. But how to find the time to shape those social and structural elements in such a way that school leaders and teachers can construct a culture that openly values and celebrates ideas that inspire other teachers as well as students? When school leaders find the time to pay attention to their teacher's work, are supportive of their ideas then, according to Audet and Jederberg, will teachers feel more confident to take risks, participate openly in discussions which could result in novel solutions to teaching and learning challenges and school organizational problems. In short, creative groups will enhance the professional capital in the system and are known to improve student success.

The professional learning community (PLC) has been well documented (Harris & Jones, 2013) of late in the education reform literature. The PLC is a group of teachers with a common interest whether it is a single grade level or a single teachable subject[2] which enables educators to share best practice, collaborate, support each other and identify action research projects on effective teaching. It also facilitates a creative thinking space which may over time lead to the dissemination of best practices and new and novel ideas on teaching and school management.

However, creative PLC's will not happen on their own, and require determined school leadership with the skills and commitment to enable them to happen. Not only do teachers need to learn about the possibilities and the potential of professional learning communities but school leaders need to know how to guide the group, how to challenge the group and be prepared to act where possible on their recommendations.

There is evidence that transformative leadership styles are especially conducive to empowering and intellectually stimulating a workforce. Audet and Jederberg note that,

> Researchers have found correlations among Transformational Leadership, motivational theory and creativity in private business… such that… employees become involved in creative efforts when certain leader-member exchanges are experienced.

The authors conclude that perhaps a new leadership model is required when attempting to overcome the inertia in schools toward school reform. One that moves from leader initiated transactions to data driven, teacher and student initiated conversations. Franciosi (2012) would agree that school leadership needs to move away from a 'leader-centric' organizational framework especially in a digital mediated culture of change and innovation.

Finding the time in the day to collaborate with colleagues on student progress or on instructional best practice is difficult the way that schools are structured today. In like manner, after four back to back hour long lessons with over 120 students and including multiple interactions, teachers can be emotionally drained and neither have the motivation or the energy to attend meetings with colleagues. They really do need private time to reflect on their teaching, plan their next lesson, finish marking student work and generally wind down before their afternoon assignments. The only access to colleagues any time any day for many teachers is through a digitally mediated social media platform.

Australia has a well-respected educational system which is continually looking at ways to make improvements to its service provision. However, Main's chapter suggests that there is still much to be done to improve teaching and learning in the middle years of schooling. Australia are not on their own in this regard as most school systems around the world would recognize that the eleven to fifteen year-old can be the most challenging students to work within the system. Typically, school reform literature is focused on macro level reforms to the entire system starting with its curriculum and staff development and working out to include its support infrastructure. In Main's case she is interested in reforms to the middle years of schooling. She is particularly focused on the nature of the student and the challenges they experience as they cope with uncertain futures that even today's young teachers find hard to predict. Technology and globalization has become just too pervasive and todays 15 year olds do not know what it was like to have limited access to technology and information. What makes this chapter even more compelling is the assumption that middle years' curriculum and instruction should be tailored significantly differently than it has been in the past. That learning outcomes by grade level cannot follow the same sequence that perhaps they might have followed in the past and that blanket reforms imposed on middle years' teachers make their work especially challenging. Most curriculum reforms start with numeracy and literacy curriculum sequences. Generally accelerating or adjusting what students should

try to achieve by grade level and usually the sequence is similar across the world. Except in perhaps, Shanghai China where the OECD reports that 15 years olds are capable of handling math problems 3 grade levels higher than the rest of the world.

It is imperative notes Main that Middle school be recognized and acknowledged as a unique period in a child's education and be given special curriculum attention as well as specialized teacher training. However, the Australian Curriculum, Assessment and Reporting Authority (ACARA) chose to designate four stages of schooling and in effect split the middle grades into an upper primary and high school by dividing grades 8 and 9. This continues to ignore the sensitivity of this period of schooling and continues to make life difficult for teachers and administrators charged with teaching these students.

The "muddle in the middle" as Main describes the conundrum of reforming middle years' education is not just about children experiencing significant physical and emotional changes it's also about the socio economic context that surrounds them. Never before has there been so much diversity in schools around the world. Brought about by globalization of immigrant populations around the world and, as Lightfoot points out, by the ubiquitous nature of technology enabling communication and information for everyone everywhere! These children are 'net natives' and don't know anything different. Their teachers are not! Even mid-career teachers grew up in a different world with potentially more stable elements in their lives. This alone suggests it might be time to take a deeper look at this school population and reach out to them with a different school structure, a more pliable curriculum with purposefully relevant learning outcomes and creative forms of assessment.

Main feels that first curriculum policy makers must accept and recognize these challenges. That those involved in teaching in the middle years should be more actively engaged in any reforms to curriculum and instruction. That teacher collaboration needs to be handled carefully even though studies support improved learning outcomes when teachers work together in teams to monitor student progress and share resources while they observe each other teach. However, not all teachers are trained in the 'art and science' of teacher teams and collaborative projects. They tend to spend their working lives in isolation from their colleagues and when required to be a part of a team could see it as a form of 'contrived congeniality' (Hargreaves & Dawe, 1990). Something that has to be tolerated rather than engaged.

It takes creative leadership as Nappi reports in her chapter and Audet and Jederberg note to change the culture of a school or even part of a school such as the middle years. The most compelling solution is to 'lead from the middle' and have teachers be part of the solution. 'Teacher centric leadership' will develop trust and respect among teachers and administration while at the same time increasing social capital and human capital. There is likely enough recognition among middle years' teachers that something needs to change for them to achieve their goals that they will participate in any reforms that they see as having the potential to improve student success. They likely need this intervention more so than teachers at any other stage in school. Nappi talks about the potential of Teacher Leadership teams,

Lightfoot talks about digital learning communities, Haslam introduces the Teaching and Learning Centre and Main recognizes the value of Teacher Teams in the middle years. Each having merit in its own right but each requiring leadership and vision when it comes to resource allocation and school management. Main refers to this as 'courageous leadership' while at the same time 'reflective leadership' that engages all parties, including the teaching force, students, parents and the school administration in solutions to the problem of student success.

The Abu Dhabi school reforms in the UAE are as complex as anywhere in the world involving linguistic, curricula, instructional and infrastructure challenges. Dr's. Litz and Blaik Hourani discuss in some detail the relationship between the Abu Dhabi Economic Vision 2030 and education sector reforms undertaken by the Abu Dhabi Education Council (ADEC). There have been a number of attempts to overcome the inertia in the system by attempting to build social capital (by infusing western trained teachers directly into the classroom) when the system was resistant and developing human capital (through professional development partnerships with Singapore's National Institute of Education and others) when it was considered unwarranted. This included well intentioned initiatives to improve K-12 student success that have been plagued with linguistic challenges (moving from exclusively Arabic in schools to bilingual Arabic and English) and western curriculum overhaul especially in math, science and English. Add to this an attempt to infuse modern western style instructional strategies like differentiated instruction, integrated curriculum, continuous assessment, multi-sensory education resources and student centered learning and work as a teacher became intolerable for many who felt they had to leave the system.

Along with soft skill upgrades to the system came the inevitable infrastructure challenges associated with technology and the inevitable 'smart classroom'. All of which required intensive professional development and even re-training for many teachers in the system who could not make use of the expensive classroom. This became, in part, the responsibility of the newly formed Emirates College for Advanced Education which was modeled after Singapore's National Institute of Education (NIE) and included its Eurasian pre service teacher education programs and a number of post graduate training programs for in service teachers. All in all, a patchwork quilt of initiatives designed to improve the public education system so as to create a workforce that could participate meaningfully in a knowledge based global economy predicted in the Vision for Abu Dhabi 2030.

Fundamentally, Abu Dhabi Vision 2030 is a plan to change the economy from being reliant on hydrocarbons to a more diversified professional services economy. Similarly, they wanted to develop the Abu Dhabi brand from a regional to a global partner in a knowledge based economy. This requires a well-educated populous and a continuous supply of skilled labour. At the same time the nations Emiratization program was established to develop human and social capital in the indigenous Emirati population.

Education systems that have highly successful students have teachers with good qualifications and training (human capital) and well-honed professional skills which they are keen to share with their colleagues (social capital). Reforms to the Abu Dhabi system was largely built around attempts to develop social capital with both cluster manager consultants working with school leadership and teacher leaders working with classroom teachers playing a pivotal role.

Western trained Cluster Managers were hired by ADEC to work with school administrators to improve their operational day to day decision making. This was initially met by some resentment in the field but over time changes for the better did occur in selected school clusters. The western managers were themselves ex school leaders from overseas and had different perspectives on school based problems which were implemented and helped local administrators. However, there were teething problems with this plan not least of which was the language barrier. Local administrators had some English but not enough to understand why changes needed to be made. In like manner, western cluster mangers did not have context and could not understand the internal and external pressures on the school which would affect problem resolution. This might have been a sign that building social capital through front line western teacher intervention in an Arabic speaking school system could have negative ramifications across schools and do more harm than good to student learning outcomes.

If the collaborative challenges that Cluster Managers experienced did resonate with Abu Dhabi policy makers they did not take heed, as their next initiative was probably the largest Teacher Leader program ever conceived in a large scale school reform across the world. Western trained, English speaking teachers were hired from all over the world to schools and classrooms across the Abu Dhabi system. They were to work hand in hand with local colleagues to implement Stage 1 (K-3) of the curriculum reforms. At face value it sounds like a wonderful solution to curriculum upgrades but in practice needed much more thought and consideration. The students spoke little English, the English based textbooks did not arrive in time and were not available in all schools, the local teachers only had limited use of English and very few parents could speak English. The result was resentment among local teachers who felt their skills were disrespected, frustration among parents who couldn't follow the curriculum or help their children at home and general amusement by children as they sense the tensions in the classrooms between foreign and local teachers. But in this example we have a teacher leader, a mentor, and experienced classroom teacher trying to make sense of a new curriculum and a new context while supporting a classroom teacher who does not want the new teacher to be there. At best there was initially 'contrived congeniality' and at worst resentment and disillusion.

Litz and Blaik Hourani support the need for collaborative approaches starting with teachers working closely with other teachers as "agents of school reform" and for ADEC to continue to build human and social capital among Emirate's. This is indeed is happening in Abu Dhabi as professional development programs are being

implemented. The Qiyada Program is a leadership initiative for K-3 Principals. The curriculum covers professional standards for Principals which includes developing collaborative teacher leadership. A similar set of professional Performance standards have been identified for teachers and one or more of the expectations is for teachers to communicate and collaborate with other teachers and develop their professional skills. More recently, a declaration by ADEC now requires all teachers to be licensed in order to teach in the Emirate.[3]

In spite of the resources targeted at education reforms in Abu Dhabi progress is slow. Emiratization (which in itself is a form of human and social capital development) has created ambiguities and sometimes obstacles to student success. Bonding capital between teachers from different languages and cultures takes time to bear fruit. New methods of teaching, new curriculum material needing complementary resources requires professional development of new teachers. Consultants and foreign teachers are not as effective as locally based master teacher leaders.

It is clear that the challenges facing public education in many parts of the world are not confined to third world countries but are pervasive across America as well. Students are completing their high school education and finding themselves unable to continue in their education because of poor numeracy and literacy skills. The American community college has been the bridge for those who need support to make university level study skills and for those students who simply choose not to go to university but to study for a career at the community college and go directly into the workforce. Those students whose placement tests for college admission are too low are advised to attend developmental education programs in English, mathematics and reading so as to upgrade their skills for university level work. This is quite similar to the system in the UAE and in Bahrain where the language of instruction at university is english which requires students to take at least two years of English language training before they can enter the university where all classes are taught in English. The American community colleges are a lifeline for many students but are they equipped and ready to make the reforms they need to serve the growing numbers of students who are not workforce ready? The California Community College Chancellor's Office's (CCCCO) strategic plan acknowledges these challenges and recently published an update on the progress of its Student Success Task Force's 22 reform recommendations.[4] One of their recommendations is curriculum reform. In the absence of concrete recommendations from the Chancellor's Office some colleges have taken it upon themselves to implement a 'guided pathways' approach. Based on research from Columbia Teacher's College's Research Centre[5] Bailey et al. (2015) were of the view that college curriculum for transfer and for developmental education (remedial, math, English and ESL) offer far too much choice and far too little guidance for students.

Haslam's chapter looks at how reforms to high performing K-12 systems across the world can help inform changes to the USA community college system. He has determined three powerful ideas that are embedded in top school systems. These include the critical strategic drivers that have helped overcome the inertia to change

in school systems (Fullan, 2011). Secondly, are the components of high-performing school systems including robust curriculum standards and the professional development of teachers (Mourshed, 2010). Lastly, is the importance of building capacity through professional learning communities and then leveraging professional capital across the system (Harris & Jones, 2013; Hargreaves & Fullan, 2013).

As with any education system there are excellent examples of schools or colleges that have adopted best practice and have created organizations conducive to change in relation to the needs of its students. One such example is Valencia College from Orlando, California who have a comprehensive Teaching and Learning Centre to engage its faculty and staff in professional and organizational development. Core teaching competencies are in place for all adjunct and tenure track faculty as formal teacher training has never been a requirement of employment at the community college. This is surprising as community colleges have always been teaching intensive organizations and should have had some system in place to ensure faculty remain up to date in their discipline field as well as having pedagogical competence. Classes on teacher competencies create and promote professional learning communities who are encouraged to work together on student, teaching and subject matter challenges as they track students through their system. The net effect is shorter times to graduation, complimentary course success rates and good program completion rates.

The California Community College system is a large and complex network of colleges serving over 2.4 million students and 112 colleges. It will not be easy to reform but the one aspect of strategic reform that has helped K-12 systems to serve their children better is the systemic nature of the changes. In Singapore, for example, the gap between the weakest schools in the country and the best schools has been reduced considerably due to the system wide interventions of the Singapore's Ministry of Education. The gap between the best community colleges in California and the worst community college in California could be determined in part by the CCCCO Scorecard. Of particular interest are the 2015 findings of the effectiveness of California's community colleges in remediating the literacy and numeracy rates of students.[6] The CCCCO reports 31% of students were successful in remedial math courses and 43.4% of students were successful in remedial English courses. The variance between colleges in the success rate of remedial math instruction is between 18% and 51% and in English between 20%–68% success rate. One way to ensure the gap narrows is to have high performing colleges share best practice across the system through collaborative professional learning activities. Better yet, 'digitally mediated network learners' as suggested by Lightfoot.

A second recommendation of interest in the CCCCO Student Success Task Force is item #6 on revitalizing and re-envisioning professional development. This initiative includes a budget of $12 million for the 2015–2016 fiscal year. Which is a good start but is it enough? There are 112 colleges across the system which means that these funds will not go very far and that as one time funding they will not be sustainable. In K-12 education reforms the two main drivers are the need to change curriculum and the need to professionally develop the staff on the new

curriculum. A good example in California is the introduction of the new Common Core Curriculum in California public schools and the professional development state wide of California's teachers.[7] Haslam goes on to outlines three 'next steps' for reforms to the California community college system which include:

1. To adopt and refine the 'guided pathways' approach to curriculum scope and sequence at the community college.
2. To require all new instructors to hold an accredited teaching certificate or enroll in an 'on-site' teachers certificate offered by the College District's Teaching and Learning Centre.
3. To ensure these policies are scaled system wide so as to help all students in all colleges state wide.

This book is organized in two parts. The first part explores questions pertaining to school leadership and technology that could help develop professional communities and teacher leaders in schools. The second part looks at ways to leverage social capital across the system so as to improve student learning outcomes. Examples include the Australian middle school reforms, K-12 reforms in Abu Dhabi and reforms inherent in the California Community College system. In each case there is a consensus that collaborative professional schools are important and that each stage of schooling should be looked at differently. There is also an example from the UAE where attempts to build social capital did not work as expected due to context, culture and language. And finally a proposition that Teaching and Learning Centres across college districts should house the college's efforts to train its staff, collaborate on its curriculum reform and share professional best practice by 'leading from the middle'.

NOTES

1 http://www.aspendrl.org/portal/browse/DocumentDetail?documentId=2402&download
2 It could also be a topic of common interest such as assessment or class management.
3 http://www.thenational.ae/uae/uae-wide-teacher-licensing-scheme-to-begin-in-2017-minister-says
4 http://www.californiacommunitycolleges.cccco.edu/Portals/0/StudentSuccessInitiative/SS_TaskForce_2015-12-11.pdf
5 http://ccrc.tc.columbia.edu/
6 http://scorecard.cccco.edu/scorecardrates.aspx?CollegeID=000#home
7 https://edpolicy.stanford.edu/publications/pubs/1389

REFERENCES

Bailey, T., Jagger, S., & Jenkins, D. (2015). *Redesigning America's community colleges: A clearer path to student success*. Cambridge, MA: Harvard University Press.

DuFour, R. (2011). Work together: But only if you want to. *Phi Delta Kappan*, *92*(5), 57–61.

Eisenbeib, S. A., & Boerner, S. (2013). A double edged sword: Transformational leadership and individual creativity. *British Journal of Management*, *24*, 54–68.

Flinders, D. J. (1988). Teacher isolation and the new reform. *Journal of Curriculum and Supervision, 4*(1) 17–29.

Franciosi, S. J. (2012). Transformational leadership for education in a digital culture. *Digital Culture & Education*, *4*(2), 235–247.

Fullan, M. (2011). *Choosing the wrong drivers for whole system reform* (Seminar Series 204). Melbourne, Australia: Center for Strategic Education.

Hargreaves, A., & Dawe, R. (1990). Paths of professional development: Contrived collegiality, collaborative culture, and the case of peer coaching. *Teaching and Teacher Education, 6*(3), 227–241.

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school.* New York, NY: Teachers College Press.

Harris, A., & Jones, M. (2013). System improvement through capacity building: The power and potential of professional learning communities. In I. R. Haslam, M. S. Khine, & I. Saleh (Eds.), *Large scale school reform and social capital building*. New York, NY: Routledge.

Kim, S., & Yoon, G. (2015). An innovation driven culture in local government: Do senior managers transformational leadership and the climate for creativity matter? *Public Personnel Management*, *44*(2), 147–168.

Mourshed, M., Chinezi, C., & Barber, M. (2010). *How the world's most improved school systems keep getting better*. London: McKinsey and Company.

Nappi, J. S. (2014). The teacher leader: Improving schools by building social capital through shared leadership. *The Delta Kappa Gamma Bulletin International Journal for Professional Educators, 80*(4), 29–34.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization.* New York, NY: Double Day Currency.

Yaping, G., Jia-Chi, H., & Jing-Lih, F. (2009). Employee learning orientation, transformational leadership and employee creativity: The mediating role of creative self-efficacy. *Academy of Management Journal, 52*(4), 765–778.

Ian R. Haslam
Cabrillo College
USA

Myint Swe Khine
Emirates College for Advanced Education
United Arab Emirates

JUDITH STEGMAIER-NAPPI

2. STRENGTHENING THE LEAD

Supporting Teachers in the Teaching of Critical Issues

> I know no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion.
>
> (Jefferson, n.d.)

INTRODUCTION

> There is the standing danger that the material of formal instruction will be merely the subject matter of the schools, isolated from the subject matter of life-experience. (Dewey, 1916, p. 12)

The answers to critical issues begin with wondering. Have you ever witnessed an event or phenomenon for instance: unusual weather patterns, war or unrest, pollution and in response posed questions such as: Why is this happening? What can be done to change this situation? What is going on? These ponderings are the beginning phase of finding solutions. In order to allow students to explore critical issues and develop insights and potential solutions, schools must advocate critical thinking and give students opportunities to figure out problems independently. Rote learning may be an effective manner for students to learn multiplication, the alphabet, vowels and consonants, and mathematical formulas; however, once this background knowledge has been internalized educators need to reevaluate what it takes to make one a great thinker, leader, problem solver, change agent.

In today's society, a great deal of attention has been placed on student achievement outcomes with the intent of leveling the playing field for underserved students and, as a result, closing the achievement gap. Recently, states have had the opportunity to request flexibility in meeting certain requirements of the Elementary and Secondary Education Act (ESEA), if they agreed to put certain reform measures, including student performance goals into effect (U.S. Department of Education, 2013). While well meaning, the requirements put forth by ESEA are often perceived to be counterproductive to the teaching of critical issues. According to Ramirez (2008) school professionals need to support the pursuit of social justice with high expectations of all students. The question is, how can educators hold students to

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 17–41.

higher levels of achievement while keeping within standardized state and district mandates that connect student assessments to teacher performance? Some teachers may argue that time does not allow for engaging students in exploration and critical thinking. Fromm (1968) identified two routes that humankind might take, toward a programmed society in which individuals would be a component, or toward a resurgence of hope and humanism. I believe that most desire the latter for society, yet if we, as educators, do not want our students to become programmed members of society, critical thinking must be fostered. Careful consideration of lesson design that focuses on the standards and support by teacher leaders can prove effective in promoting thinking about critical issues and, at the same time, hold all students to high expectations.

Public Policies and Student Achievement

In international comparisons of achievement, students in the United States scored below twenty nine educations systems in mathematics literacy and twenty two education systems in reading literacy (U.S. Department of Education, 2015). While many factors may have accounted for the results obtained, the position of schools in the United States is generally perceived as uncertain. The notion of schools not serving the academic needs of students is not new. The publication of *A Nation at Risk* (1983) found that although historically schools and colleges have made positive contributions to the country and the welfare of its citizens; other countries have met and exceeded our educational successes. Since the report was released, policymakers have largely operated on the belief that our schools are inadequate. Public Law 107–110 otherwise known as the No Child Left Behind (NCLB) Act of 2002 (U.S. Department of Education, 2002) was a reauthorization of the Elementary and Secondary Education Act (ESEA)that was signed into law in 1965 by President Lyndon Baines Johnson (U.S. Department of Education, 1965), who believed in the concept of equitable educational opportunities for all students. The Elementary and Secondary Education Act called for providing financial resources (Title I funding) to schools in order to level the playing field by supporting students considered to be at risk. In addition, focus was placed on student achievement, teacher quality, and parental involvement.

The main educational reforms of ESEA were retained in the reauthorization. However, The No Child Left Behind Act of 2002 went a step further by holding state and local education agencies (LEAs) accountable for student achievement. This increase in accountability was viewed as the key to improving school and district performance. To this end, NCLB called for states to implement student assessments in mathematics and reading in grades 3 – 8 and once in high school. States were mandated to rank schools on the basis of their general performance as well as for major subgroups and to sanction schools that failed to make adequate yearly progress (AYP) toward the goals set forth by individual states (Hanushek & Raymond, 2005). In order to allow for transparency, it was also required that average

results be publicized. The attention given to high risk students and the transparency in reporting results was designed to give stakeholders the knowledge needed to make decisions that could improve the educational process in all communities.

Recognizing that instruction is a key component to meeting AYP; Title II, "Preparing, Training and Recruiting High Quality Teachers and Principals," was put into effect (U.S. Department of Education, 2006). Title II required each state to cultivate a highly qualified teaching force and districts were mandated to ensure that highly qualified teachers were in each classroom. To meet this goal, high quality professional development opportunities were required for each teacher. High quality professional development was identified as professional development that would give teachers the competencies that would assist them in becoming highly qualified and help students in meeting the standards set forth by the state. Another component of Title II mandated that evidence based practices be implemented as an impetus to student achievement.

The primary goal of the No Child Left Behind Act was to close the achievement gaps between the highest and lowest achieving subgroups of students. A study conducted by the Center on Education Policy (2008) found that achievement gaps on state assessments have primarily narrowed since 2002. Investigating the gaps in students found to be proficient in reading and math for all subgroups in all states with adequate data, in 327 occasions the gaps had narrowed while in 76 occasions the gaps had widened; in 20 occasions gaps remained constant. While these findings are encouraging, the question still remains as to whether or not performance on high stakes assessments will lead to improvement in quality of life as determined by future earnings, further education, and contributions to society. Most recently NCLB, or The Elementary and Secondary Education Act, has been reauthorized and is now known as Every Student Succeeds Act or ESSA (2015). The goal of ESSA is to provide all children with the opportunity to a fair, equitable, and high quality education. ESSA seeks to improve basic programs and therefore, close achievement gaps. The Every Student Succeeds Act scales back the federal role in K-12 education and gives more power to individual states and districts. The 2016–2017 school year will be transitional as states develop policies designed to comply with ESSA. Major issues that the new law addresses are testing and accountability, teacher evaluation, grants and fiscal accountability (National Conference of State Legislatures, 2015).

Instruction and Student Achievement

Many reforms and policies, extending from professional development for teachers to the adoption of content standards as a basis for curriculum writing and student learning, have been implemented in public schools in an effort to improve instruction and increase student outcomes. Although the scope of the reform efforts that have been mandated is considerable, until recently, most schools and districts have assessed them solely through the use of student test scores with little to no attention given to monitoring and collecting data on the quality of instruction and ultimately

relating the data to student outcomes. The lack of attention to instruction is interesting given that quality instruction has been identified as the most important school factor to impact student achievement (Darling-Hammond, 2010; OECD, 2010). Incomplete data related to the influence of instruction on school reform and student achievement, leaves schools wondering where to focus professional development funds and activities. According to Darling-Hammond (2010), teachers who are effective possess: content knowledge, the ability to develop higher order thinking skills, an understanding of the developmental process, the capacity to adapt, a solid intellect and strong verbal ability. Although these factors have been recognized as qualities that effective teachers possess, simply possessing the identified characteristics do not guarantee an increase in student outcome or achievement. Teachers must also be provided with quality professional development, a curriculum that is aligned to the standards, and the ability to collaborate with colleagues.

Presently, all public school districts in the United States are expected to evaluate teachers using multiple measures. The multiple measures used include; student achievement data, classroom observations, and additional data such as lesson plan review, teacher reflection, etc. (Hull, 2013). Formulas for allocating the weight of different measures may vary however, formulas should be field tested to show that they are valid. Since the main goal of educators is to increase the level of student learning, and student test scores have been shown to have a positive correlation to teacher effectiveness (MET, 2013), statistical measures designed to link student outcomes to instruction might carry more weight in formulas designed by states/districts.

Effective teachers must have a wide variety of research based teaching strategies available and be able to apply the strategies appropriately. Effective teachers need to have job embedded professional development that will assist them in using research based strategies to meet student needs, collaborate with colleagues, and use student work as the impetus for adjusting and delivering instruction. Effective teachers should also have the tools necessary to collect classroom data and make instructional decisions based on the data collected.

Value Added Measures and Student Achievement

Studies have implied that value added measures, or teachers' impact on student test scores, separate from economic and sociological factors that may impact learning, are an indicator of student achievement in the short term (Hanushek, 2009; Gordon, Kane, & Staiger, 2006; MET 2013). A study conducted by Glazerman, Protik, Bruch, and Max (2013) examined the use of financial reward to encourage teachers who had the top 20% of value added student test scores to volunteer to teach in a low performance school. The findings show a positive correlation between value added teachers and student test scores. The Measures of Effective Teaching (MET) Project (2013) examined the practices of approximately 3,000 teachers. It was determined that multiple measures including value added measures, classroom observations, and

student questionnaires should be used to provide teachers with meaningful feedback in order to improve instruction.

Although studies indicate that value added measures are an estimate of student achievement in the short term, the question still remained as to whether the increase in achievement would carry through to adulthood. In order to address this question, a study was conducted by Chetty, Friedman, and Rockoff (2013). The study analyzed data based on student achievement and teachers in grades 3–8 in a large urban school district from 1989–2009 and data from United States tax records from 1996–2011. About one million individuals were tracked from elementary school to early adulthood. Income, colleges attended, and teenage births were measured. It was found that students assigned to high value added teachers in early elementary school years are more likely to attend college, earn a higher income, and live in moreexpensive neighborhoods (Chetty, Friedman, & Rockoff, 2013). Related studies conducted by Murnane, Willett, Cuhaldeborde, and Tyler (2000); Lazear (2003) have resulted in similar outcomes. While many have criticized utilizing value added measures as a means to evaluate teachers, evidence indicates that value added measures when used as part of multiple indicators are a viable means to identify effective teachers.

LEADERSHIP

Leadership has been found to be one of the most important factors in the teaching/learning process. Leadership can have a profound impact on student learning and the quality of teaching, both of which can influence student achievement (Dinham & Crowther, 2011; King & Bouchard, 2011). While research indicates that skilled leadership has significant influence on school and student success; with the ever increasing demands placed on school principals in an effort to be more transparent, it is not feasible to expect the principal to singlehandedly transform or improve the school. Distributed or shared leadership is more likely to bring about school and student success as this type of leadership will nurture and maintain a positive school climate, provide examples for teachers to implement best practices, and improve student achievement (Weller, 2001). Distributed or shared leadership can be described as a way of leading a school through increasing the amount of individuals who are included in the decision making process. Teacher leadership is an example of this type of leadership.

Schools today struggle with an increasing number of problems including: safety, graduation rates, absenteeism and poverty while seeking measures to increase the level of student achievement. According to Harris and Muijs (2004) teacher leaders make a contribution to their school by working with their colleagues in order to establish a culture of learning designed to ultimately increase student achievement. Glickman (2002) states that teacher leadership allows teachers to have an impact on the school and therefore, teacher leaders can affect change that may ultimately result in increased student achievement. Although there has been a trend toward shared leadership through the implementation of teacher leaders, traditionally,

schools have existed with a top down approach. Therefore, a paradigm shift is required in order for teacher leadership to be meaningful and sustainable. In order to have a successful teacher leadership program, schools must develop and support a culture that promotes professional development and allows for teachers to assume leadership roles (Danielson, 2006). According to York-Barr and Duke (2004) if the accepted standards in a school organization are designed to bolster learning and ongoing advancement, all stakeholders will concentrate on learning; teachers will be expected to take part in professional development opportunities and teacher leaders will be viewed as role models offering positive contributions to the teaching profession.

Teacher Leadership

Teacher leadership is the process through which classroom teachers take on a variety of responsibilities, depending on expertise, in order to promote student achievement. Although it had been thought for many years that building principals alone can improve schools, change is more likely to occur when organizational capacity is increased through the development of teacher leaders (Buchen, 2000). Cummings and Worley (2009), discuss the impact of organizational capacity on educational reform. Organizational capacity, or school capacity, is comprised of the collective knowledge and skills that each professional brings to the teaching process. Increasing the social capital of a school through the development of teacher leaders is a means for principals to maximize organizational capacity and, as a result, bring about change.

The present decade has brought with it a high stakes accountability movement with a focus on an increase in student achievement. The desired increase in student achievement and an overall improvement in the quality of educational opportunities for students will require organizational change. Harris and Muijs (2004) found that successful educational reform is more apt to occur when teachers take on leadership roles. Distributed leadership is a factor that contributes to greater student achievement as teacher leaders have the ability to influence and support others in order to bring about change. According to Hirsh and Killion (2007) change will not take place if leadership is given to a select few. Sustainability is another aspect of teacher leadership. Teacher buy-in to the school's vision, goals, and initiatives will help to ensure that these components of an effective school will continue even if the principal leaves. Teacher leadership is not a new concept. In 1986, a report funded by the Carnegie Foundation for Advancement of Teaching suggested that districts denote individuals who could model teaching methodologies for other teachers. Although teacher leadership is not new, one need not look far to realize that it is an untapped resource in many schools and districts. One might question why teacher leadership has not become a mainstay of public education. Perhaps, as Gawande (2013) said of the medical field, "ideas that violate prior beliefs are harder to embrace." In order to validate teacher leadership and challenge the belief that

principals (or a select few) must hold all the power, teacher leaders need to focus on school and student improvement.

In examining teacher leadership, two distinct types emerge; formal teacher leadership and informal teacher leadership (York-Barr & Duke, 2004). Teacher leadership can be formal in that the individual is recognized as a teacher leader through a designated title or role (supervisor, instructional coach, data coach, etc.); or informal where the individual does not have a title but colleagues view the teacher as someone they can trust and learn from. Killion and Harrison (2006) defined ten roles of teacher leaders as:

- Resource Provider – shares professional journals, books, websites, etc.
- Instructional Specialist – helps to design and implement effective, research based instructional strategies.
- Curriculum Specialist – serves on curriculum committees, develops pacing guides, and leads initiatives in regard to curriculum.
- Classroom Supporter – observes lessons and gives feedback, co-teaches, models instructional strategies.
- Learning Facilitator – leads professional development workshops.
- Mentor – serves as a role model for others, advises new teachers as to school procedures.
- School Leader – chairs committees, serves as a liaison to the community.
- Data Coach – assists teachers in analyzing data.
- Catalyst for Change – researches current research in education, questions and makes research based proposals for improving the teaching/learning process.
- Learner – demonstrates a passion for acquiring new knowledge.

A glance at the roles will suggest that there is a great deal of overlap between roles and some roles require specialized preparation while others may be inherent.

Teacher leaders can assist supervisors and principals with curricular and instructional support. Traditionally, principals and supervisors are the observers of teachers and are expected to provide quality feedback and guidance. While many teacher leaders are not in a position to hold teachers accountable for their practice; teacher leaders can be very effective in setting the standard for instruction. Teacher leaders can visit classrooms and give their colleagues suggestions for improving the teaching learning process. Teacher leaders can model a variety of instructional strategies for others, provide professional development, offer support for struggling teachers or those in need of improvement, and serve as a sounding board for teacher concerns. Teacher leaders can advise new teachers in regard to effective instructional techniques, curriculum specific to grade levels, school procedures, and best practices. Teacher leaders can assist others in analyzing data to improve instruction and they can develop newsletters, blogs, and websites. Teacher leaders can bring about change through a common effort when supported by the principal.

Teacher leaders are in a position to determine what best meets the needs of the school due to their daily, close interactions with colleagues and students. School

districts often call in experts from outside the school or the school district to improve student performance. Yet, teachers have a pragmatic understanding of the needs of the school and the school community that outsiders frequently do not (Nappi, 2014). In addition, outside consultants and teaching experts often do not have experience in education or public schools (Leana, 2011). Having an understanding of the needs of the school and school community allows the teacher(s) to implement practices that target the specific needs of the students and the school. In addition, encouraging professionals to participate in school leadership alters the perception of ownership in that the feeling of ownership increases when teachers become part of the decision-making process.

The Role of the Principal in Fostering Teacher Leadership

In order for teacher leadership to be successful, principals must have a clear sense of purpose. Instruction should be a priority with curriculum aligned to state academic standards. District/school vision needs to be aligned with goals and initiatives. Most importantly, this information must be communicated clearly and frequently so that it becomes part of the acculturation of the school. Principals must also put their ego aside. Allowing for others to take on leadership roles does not diminish the role of the principal but will serve to enhance the principal's impact on the efficacy of the school as a whole because the principal will acquire time for conducting more walk throughs, observations, and conferencing. In essence, the principal will be the true educational leader of the school and set an example for others.

Building organizational capacity by implementing teacher leaders, will most likely take place through two venues. One means of selecting teacher leaders is by principals choosing individuals to take on leadership roles based on prior performance while another way teacher leaders will be recognized is through their relationship with others. Teachers who become leaders due to their relationship with stakeholders in the school community will generally emerge naturally. Regardless as to how a teacher became recognized as a leader, it is important that all leaders understand the philosophy and goals of the organization and work toward achievement of same. Principals need to observe and if a naturally emerging leader is not in line with the school's philosophy, he or she must redirect the teacher in a diplomatic manner so that the teacher is not discouraged or diminished in any way. Well-meaning individuals who are not on-board with the school/district mission can undo work that had been put in place earlier. This is particularly true if an initiative is found to be unpopular with teachers.

The competencies and knowledge required of teacher leaders are identified in The Teacher Leader Model Standards (Teacher Leadership Exploratory Consortium, 2011). For principals who are interested in expanding the leadership capacity within their schools, the Standards give some thoughts for implementing as well as strategies for supporting teacher leaders (Nappi, 2014). The diverse characteristics of teacher leadership are outlined in the seven domains of the Standards:

- Domain I: Fostering a collaborative culture to support educator development and student learning;
- Domain II: Accessing and using research to improve practice and student learning;
- Domain III: Promoting professional learning for continuous improvement;
- Domain IV: Facilitating improvements in instruction and student learning;
- Domain V: Promoting the use of assessments and data for school and district improvement;
- Domain VI: Improving outreach and collaboration with families and community;
- Domain VII: Advocating for student learning and the profession (p. 9).

When selecting teacher leaders, principals should identify strengths within faculty members and build upon these strengths in order to increase the organizational capacity of the school and/or district. For example, if an elementary teacher has developed a passion for writing, the principal should research professional development opportunities that match the school goals and invite the teacher to attend with the understanding that he/she will turnkey the information learned to the appropriate colleagues. Once professional development is provided by the teacher, administrative follow-through must take place. Administrative follow-through gives support to teacher leaders, promotes buy-in from others, and elevates the potential for change. Following up conveys to the faculty that the principal cares about the initiative and expects results. Without administrative follow-through, initiatives rarely become part of the fabric of the school.

Teacher leaders have professional learning needs and principals should not only recognize these needs but provide meaningful professional development to teacher leaders in order to meet these educational requirements. The top ten learning needs for teacher leaders as identified by Gordon, Jacobs, and Solis (2014) are:

- Interpersonal Skills
- Organizing
- Knowledge of Curriculum and Instructional Innovations
- Mentoring
- Group Process
- Technology
- Facilitating Change
- Training and Coaching
- Leading Reflective Inquiry and
- Addressing Diversity

It is the role of the principal to support teacher leaders and provide ample opportunities for teacher leaders to participate in their own professional learning so they can better understand the needs of their colleagues and be prepared to support them as they confront challenges. Case Study 1 illustrates one Principal's attempt to engage faculty in data driven decision making through collaboration, mutual respect and cooperation.

CASE STUDY 1

Marielle was hired as the principal of a small suburban high school. Prior to Marielle's hire, there had been two principals who were not offered tenure based on their performance. The socio-economic status of the district was on the higher end as income per capita was robust, housing in the district was expensive, and taxes were high. There was only one apartment building in the town. Most of the parents were blue collar workers who made their income through professions such as plumber, electrician, etc. Some parents were white collar workers but they were in the minority. There wasn't a great deal of diversity in the school as the majority of students in the district were Caucasian. The school board was very opinionated and had a good deal of influence on the superintendent.

The principal who preceded Marielle was hired to bring about change and did so within his first 18 months in the position. Although the changes brought about during his tenure were not harmful to the educational process, the changes infringed upon the traditions that had become part of the fabric of the school and district. Making changes rapidly brought about a great deal of unrest among the faculty. Teachers did not go into the principal's office without union representation and, with the exception of a few individuals, trust was non-existent. The authority in the building was held by a department supervisor, not the principal. Teachers went to the department supervisor when they had questions, needed to leave the building early, or had student concerns. In addition, parents called the department supervisor with questions and concerns as did the superintendent on occasion.

Marielle had acquired some background information from colleagues prior to joining the district and knew that in order to be successful, she would need to observe and support the faculty for a period of time before making any major decisions; Marielle also knew she would need to establish trust among the staff and, in particular, with the powerful department supervisor. Since the assistant principal, who had been in the district for over twenty years, had taken a position in another district, Marielle started the school year with the need to hire an assistant principal. Knowing that the teachers would be observing her actions when filling this important position, Marielle asked for stakeholders (staff, parents, students) to volunteer to be on a committee to interview candidates for the assistant principal position. Marielle also personally invited some faculty members who were particularly critical of the outgoing principal to be on the committee with the understanding that the interview committee would have some type of buy in and be less likely to talk critically of the process. Everyone had an equal say in the decision and Marielle brought the individual who had the most votes in the committee to the board as a recommendation. This was Marielle's first step in creating a culture of shared leadership.

Over the next two years, Marielle formed a close working relationship with the department supervisor and began to make critical decisions for the school. Teachers, parents, and community members addressed Marielle with concerns and she was viewed as the educational leader of the school. However, Marielle did not operate

in a vacuum. While she made critical decisions on her own (for example when the building needed to be evacuated or a faculty member's behavior needed to be addressed), most of the decisions that would have an impact on the educational process were made in conjunction with committees made up primarily of teachers (with parents, community members, and students invited when appropriate). Committee members were selected based on recognition by faculty and staff as a leader (natural leaders), recognition by the principal as having leadership potential, and volunteers.

Working with committees to make educational decisions was one way that Marielle worked within the school structure to develop a collaborative atmosphere. In addition, Marielle began to work with teams of teachers to engage in action research, analyze data, and make recommendations on a regular basis. One action research project that resulted in a number of changes within the school setting was that of guided inquiry.

During Marielle's second year as principal of the high school, the district implemented guided inquiry as a strategy for all teachers to be using within their classrooms. Guided inquiry is a teaching strategy that is designed to promote critical thinking. Teachers design learning experiences that will guide students in building a knowledge base that will result in deep understanding of the problem under study. Learning experiences are relevant to students and can be approached in a variety of ways. Students are actively engaged in the learning experience and learn to assess and evaluate information in order to form an opinion/solution to the problem or issue understudy. Assessment is ongoing and involves a wide range of methods such as; formative assessment, reflection, peer evaluation, etc.

Although guided inquiry was a district initiative, many of the teachers in the high school had not bought in to the concept of guided inquiry. Some teachers did not understand it, others believed that they had met with success in the past and were not willing to change; others were interested but uncertain as to how to proceed as the district directive was not clear and professional development was offered in the tradition form of a one day presentation without administration present and no follow-up.

Marielle applied for a small grant and after it was awarded, asked for volunteers as well as teacher leaders who had emerged naturally who would be interested in learning more about guided inquiry and implementing it in their classrooms. Eight teachers and building supervisors formed the first action research committee. All grade levels at the high school were represented as were all of the departments. Funding provided through the grant allowed Marielle to purchase books on guided inquiry for the teachers on the action research team, hire an educational consultant to work with the teachers on an ongoing basis, and pay for substitutes while teachers collaborated. The team of teachers implemented guided inquiry as a teaching strategy within their classrooms and collected data on student performance. The team analyzed the data and made the recommendation to expand the initiative within the high school. The teachers who were on the team

became the in-house "experts" and began to provide professional development for other teachers.

The initial action research on guided inquiry resulted in a shift from paper and pen assessments to more formative assessments and performance based assessments; eventually it was decided that teachers needed longer blocks of time to work with students. The teacher leaders explored different types of scheduling, visited schools, and developed a proposal to present to the Superintendent and Board of Education regarding a schedule where students could spend more time exploring topics. The guided inquiry action research team comprised the first cohort of informal teacher leaders within the high school.

Discussion

Marielle was attuned to the faculty/staff and did not make major changes immediately. Developing a collaborative culture based on trust, respect and common goals, Marielle was able to implement change over a period of time. Teachers began to take on leadership roles and professional development was based upon need and ongoing. Teachers collected data and make instructional decisions based on the data collected. Higher order thinking skills were encouraged through a variety of instructional strategies which eventually led to a change in assessment. While the high school had moved forward by developing teacher leaders and using guided inquiry within the school, the middle and elementary schools were not on board.

Teacher Leadership and Professional Development

School culture can be either positive or toxic. According to Peterson and Deal (2011), without a positive school culture that has been fostered over time, schools will falter. Positive school cultures are built by formal and informal leaders and based on strong values and tradition that is nurtured through reflection, a sense of purpose, and ongoing improvement. A positive school culture will focus on professional development as a form of collaboration. Contributions made by teachers are respected and accepted. Teachers are recognized for their expertise and play a role in the decision making process. A school culture that does not focus on these beliefs can impede the success of teacher leadership as well as student achievement.

A great deal of emphasis has been placed on restructuring schools. However, Fullan (2007) suggests re-culturing schools rather than restructuring. Re-culturing requires collaboration among school administration and faculty that results in trust, respect, professional satisfaction, improved instructional practices, increased achievement for all students, and change that is sustained over a period a time. High quality professional development is a critical component in the process of re-culturing.

Whether examining school restructuring or school re-culturing, improving teacher practices that will result in greater achievement for all students is the ultimate goal. Although high quality professional development has been the objective of a large

number of schools and districts, studies indicate that many schools still engage in unproductive, conventional professional development activities (Guskey, 2003). Established professional development practices are built upon the belief that teachers are passive recipients of knowledge that is imparted through an outside expert and once the information is presented to teachers, it will be used in classrooms without further instruction or follow up.

Research found that when unconventional types of professional development are presented in a collaborative environment both teacher practices and student achievement are impacted in a positive manner. Unconventional or collaborative types of professional development include teachers throughout the process. In collaborative professional development, teachers have a part in determining need and how information will be delivered. In addition, collaborative professional development ensures that the information provided is focused, aligned with district and state standards, job imbedded, long term, includes follow through and is supported by administration (Guskey, 2003; Vaughn & Coleman, 2004).

Professional development should be targeted and appropriate for the audience selected. All-inclusive professional development workshops generally leave some of the participants uninspired and consider the time to be wasted. As with any other teaching situation, when professional development is offered, participants should know why it is a valuable learning experience, how it can/will be applied to their teaching situation, and what the expectation is. In today's economic climate, most principals do not have unlimited resources available to promote teacher leadership and productive professional development programs. However, there are means that principals can employ to support teacher leadership and professional development programs that do not carry a large price tag.

Simply acknowledging teacher leaders as resources for others will intrinsically reward those who go above and beyond. Acknowledgment of teacher leaders and highlighting their expertise by suggesting that colleagues ask them for resources, visit their classrooms, or attend a workshop they are giving will also encourage faculty to look to them for guidance. Providing teacher leaders with flex time, classroom coverage, and scheduled time during staff meetings will also go a long way in recognizing their contributions to the school. Allowing teachers, especially teacher leaders, to play a role in the decision making process will affirm that their knowledge and skills are valued. However, this only holds true if the principal follows through with recommendations and proposals made by the individual or the committee.

Productive professional development programs can be designed by teachers who have an expertise in a particular content area or instructional strategy. It is important that administration become part of professional development offerings in order to send the message that the content area or strategy being presented is important. Setting up lab classrooms where teachers can view the strategy being implemented is another tactic that can be employed. It is essential that professional development be ongoing. Administrative follow through, where administrators conducting walk through or observations look for strategies to be put into practice in the classroom is

also critical to the success of the program. But not all attempts by administrators to implement curriculum change is successful:

Case study 2 expands the teacher leader model to the district level and attempts to engage faculty across a system in collaborative, data driven decision making. Unfortunately, the conditions for change were not appropriate as trust was lacking and motivation was low. The result was little to no impact on student achievement.

CASE STUDY 2

Samantha as a well-respected elementary school principal in a medium sized, suburban school district. The social economic status of the district was varied as some sections of the township had high income per capita and expensive homes while other sections were in poverty status. There were an increasing number of minority students moving into the district and the township had a large number of trailer parks and low income housing. The superintendent and Board of Education members were supportive of any change that would support students.

Samantha had over 25 years of experience as a teacher and principal at the elementary level and was ready for a new challenge. Therefore, when the position of assistant superintendent in charge of curriculum and assessment became available through a retirement, Samantha applied for the position and was selected as the successful candidate. The immediate problems that Samantha needed to tackle were the district's test scores and high school graduation rate as both were decreasing at an alarming rate.

One of Samantha's first decisions was to form a district assessment team comprised of a minimum of three teachers from all seven of the districts' schools to analyze the most recent test scores as well as the test scores from the previous three years. The teachers met for a week during the summer. Initially, the group met in school based teams to analyze the scores from their individual schools and then met as a larger group to discuss trends. It appeared as though students were meeting the requirements for math at the elementary level but falling short at the middle and high school level. In Language Arts, the students were not meeting with success at any level. However, it differed from grade level and from school to school as to where students were meeting with difficulties. In some cases, it appeared to be reading while in others writing was an issue.

Once the areas of concern were identified with specificity, Samantha provided professional development in the targeted areas for the teachers on the assessment team and invited principals to attend. The concept that was relayed to the assessment team members and their respective principals was that the professional development would be "turn-keyed" and provided to faculty members within the schools. It should be noted that in most cases principals reported that they were too busy to attend professional development sessions and only a few would occasionally stop by.

The teachers brought the information they gathered through analyzing the data back to their respective schools and worked with a school based team of teachers to

develop teaching strategies based on the data that had been collected and analyzed. The school based team of teachers then presented the strategies to their colleagues and provided professional development as to how strategies might be implemented. Teachers were given release time to observe colleagues as "critical friends" and a lesson plan data base was developed. The lesson plans were reviewed by Samantha and the supervisors prior to being put into the data base to ensure that the lessons were aligned to the standards.

The high school and middle schools met with a great deal of success following this plan as student scores increased significantly and at the high school level, the graduation rate improved. The four elementary schools remained stagnant and, in some cases, scores decreased.

Samantha began to investigate what took place at the middle and high schools as opposed to what took place at the elementary schools. She discovered that the principals at the middle school and high school recognized the problem(s) at hand. The principals in both schools encouraged and supported the initial members of the district assessment team and worked with the school based team to not only develop instructional strategies but also to improve the overall culture of the schools. Faculty meetings became more meaningful. Anything that could go out to the faculty and staff through a memo or email did so. Faculty meeting times was used for further analyzing student work and ongoing professional development. The teachers, students, parents, and staff were informed of the efforts that were being made to increase student success and updates were communicated frequently throughout the school year. Teachers who did not 'buy in' to the strategies that were presented during professional development meetings were met with individually and the need to comply was stressed. Both principals visited classrooms on a regular basis and looked for best practices. The principals became "cheerleaders" for the faculty and student body.

A look at the elementary schools yielded quite a different picture. The four principals met on a regular basis and determined that what had been taking place in the classrooms was already meeting the needs of their students. The members of the district assessment committee were given little time to present their findings to faculty and although the school based teams were meeting and producing lesson plans; it was merely an exercise as the lesson plans were not being accessed by the faculty at large. In some cases, the elementary principals disagreed with the instructional strategies that had been presented to the district assessment team members and put up roadblocks that prevented the material being shared. Faculty meetings remained principal centered and were primarily used to share information (upcoming assemblies, etc). Follow through did not take place.

Discussion

Samantha recognized the need for the faculty to engage in collaborative, data based, decision making that would impact instruction. Teachers selected to be on the district and school based teams were given ample time by district administration to

collaborate and follow through on their task. In this case, not all principals were on board and it had a negative impact on student achievement.

Fostering Critical Thinking

Assuming the school climate is conducive and open to change then a Teacher Leadership program focused on critical thinking about teaching and learning in schools would be an interesting challenge. How can teachers go about teaching critical thinking in their classrooms is an invitation to engage in critical thinking about how teachers teach.

A basic definition of critical thinking is the 'thinking about how we think'. A seminal study conducted by Glaser (1941) identified three elements of critical thinking as: (1) an attitude that allows one to approach problems and situations in a thoughtful manner, (2) understanding the methods of logical inquiry and reasoning and (3) skill in application of problem solving, logical inquiry and reasoning. Dewey (1933) stated that an individual must desire to think as simply acquiring knowledge did not guarantee the ability to think with proficiency. According to Dewey, individuals need to engage in reflective thinking which involves contemplating an idea with serious deliberation in order to solve problems. The Delphi Report (1990) was a ground breaking study that summarized the findings of a two year project designed to define critical thinking and the cognitive and sub-cognitive skills of critical thinking. The report also presents specific recommendations related to the teaching of critical thinking. The core cognitive skills and sub-skills identified are as follows:

Skill

1. Interpretation
   Sub-skills: Categorization, Decoding Significance, Clarifying Meaning
2. Analysis
   Sub-skills: Examining Ideas, Identifying Arguments, Analyzing arguments
3. Evaluation
   Sub-skills: Assessing Claims, Assessing Arguments
4. Inference
   Sub-skills: Querying Evidence, Conjecturing Alternative, Drawing Conclusions
5. Explanation
   Sub-skills: Stating Results, Justifying Procedures, Presenting Arguments
6. Self-Regulation
   Sub-skills: Self-examination, Self-correction

Everyday classroom practices when thoughtfully designed are what can provide the fuel for developing core cognitive skills as well as the sub-skills identified as factors of critical thinking.

Thinking critically about issues requires reflection and examination of widely held beliefs. The ability to think critically lets individuals investigate all aspects of an issue prior to making a judgment and accepting outcomes that may not coincide with their original beliefs. Reflection enables students to think about the knowledge they have attained so they can identify areas of confusion, what still needs to be learned, and new goals to be created. Today's educators often talk about the importance of having their students think critically however, rarely are thoughts put into action as many teachers view the state and district mandates as leaving little time for activities designed to help student hone their critical thinking skills. With test scores a priority, many students are entering post secondary schools and the work force without the critical thinking skills that are necessary to succeed (Smith & Szymanski, 2013) or the understanding as to what the concept of critical thinking means (Henderson-Hurley & Hurley, 2013).

A study by Tsai, Chen, Chang, and Chang (2013) found a positive relationship between focusing on the development of critical thinking skills and increased test scores as activities designed to develop critical thinking skills lead to students internalizing the subject matter. Internalizing the subject matter allows for students to employ higher order thinking skills and engage in metacognition or thinking about thinking. However, while students may possess a body of knowledge, the absence of critical thinking skills will thwart the analyzing and evaluation of issues.

Research conducted by Halx and Reybold (2005) ascertained that while learning entails energy, critical thinking requires a great deal of intellectual exertion as well as personal reflection which oftentimes is uncomfortable for both students and teachers. Due to the level of discomfort and lack of time critical thinking is often not addressed at the K-12 level. This is unfortunate as research indicates that focusing on critical thinking skills in K-12 education can increase academic grit as well as student test scores (McCollister & Sayler, 2010; Snodgrass, 2011; Tsai, Chen, Chang, & Chang, 2013). According to Tsai et al. (2013), when teachers implement activities that are designed to encourage thinking critically, students develop a deeper understanding as to why a phenomenon has occurred instead of being limited to understanding what has occurred. This concentrated understanding will enable students to evaluate the situation or occurrence and offer opposing views.

Reflective assessment can play a major role in critical thinking. Reflective assessment is a formative process where assessment is built into the learning process rather than a separate evaluation piece. Traditionally, assessment has been viewed as a summative evaluation of the students' learning. However, if the goal is to have students take ownership of their own learning and to improve student learning then assessment should be woven into the fabric of the teaching learning process. Reflective assessment grows out of the theories of Dewey (1933), Piaget (1976) and other Constructivist Theorists. Dewey (1933) considered reflection to be central to all learning experiences, enabling "us to act in a deliberate and intentional fashion" (p. 212) and that the art of reflecting "enables us to know what we are about when we act" (p. 17).

Public school teachers must adhere to state and district mandates and some might believe that the imposed mandates prevent implementing activities that will teach students how to think critically. Yet, there are numerous strategies that teachers can employ that will engage students in experiential learning, which focuses upon the experiences created for students, while meeting standards as well as state and district benchmarks. Critical thinking activities can be implemented within the instructional time allotted in each subject area with thoughtful planning of lessons. McCollister and Sayler (2010) suggest that teachers use questioning techniques that allow students to engage in metacognition and develop activities that require students to evaluate information through the collection and analyzing of data rather than memorizing and recalling facts. According to studies (McCollister & Sayler, 2010; Tsai et al., 2013), when students view the acquisition of information as a process they are developing skills that will assist with language arts development and problem solving skills which have been found to have an impact on student performance in relation to standardized assessments.

Teacher leaders can provide professional development designed to enhance critical thinking in the classroom by offering opportunities for ongoing adult learning in modeling, resource provider, curriculum specialist, classroom supporter, learning facilitator, mentor, data coach, catalyst for change, etc. in the following areas:

- Developing student learning activities authentic or relevant to students,
- Designing problems that are minds on as well as hands on or student centered,
- Increasing the repertoire of questioning techniques,
- Developing appropriate assessments that are woven into the class activities,
- Infusing technology,
- Collaborating with others.

Developing student learning activities that are authentic or relevant to students is paramount in developing critical thinking. Authentic learning focuses on making connections between what students learn in school to issues that occur in the real world. Authentic learning is routed in constructivist learning by nature. Authentic learning tasks provide students with the opportunity to apply concepts to new situations allowing for deeper understanding of topics under study. Teacher leaders can provide professional development to teachers in the form of modeling, resource provider, etc. when focusing on developing student learning tasks that are authentic.

Authentic learning activities are student centered and encourage students to be minds on as well as hands on. Activities that keep students busy but do not encourage reflection, analysis, discussion, etc. are of little value to students as they most likely will not retain what is learned. Authentic learning activities that are minds on provide for students to acquire foundational skills, knowledge, and understandings that professionals would use in the real world. Prior learning from a variety of disciplines (promoting interdisciplinary perspectives) is applied to new learning allowing for teachers to assess the level of knowledge attained. Designing activities that are

minds on drives students to contemplate issues with greater thought, broach difficult questions, take many forms of data into consideration, ponder opposing ideas, consider opposing viewpoints, and traverse complicated issues and circumstances. Teacher leaders can be instrumental in assisting teachers as they design learning activities that are authentic and minds on.

Increasing the repertoire of questioning techniques will promote critical thinking. How a question is presented will determine if the student will answer using recall or higher level thinking skills as identified by Bloom's Taxonomy originally published in 1956 and revised in 2001 (Anderson et al., 2001) to reflect 21st Century Learning (Figure 1) and Webb's Depth of Knowledge (1997) (Figure 2). Questions that require students to synthesize, evaluate, analyze, and apply will result in meaningful learning and frequently, a challenging of commonly held assumptions.

Socratic questionings involves presenting questions that will require students to explore a meaning, assertion, or belief. Paul (2009) identified six types of Socratic questions; clarification, probing assumptions, probing reasons and evidence, viewpoint and perspectives, probing implication and consequences, and questions about questions. The Socratic Method serves to clarify and, in some cases, challenge assumptions. Answers are not necessarily right or wrong as answers are based on the student's experiences.

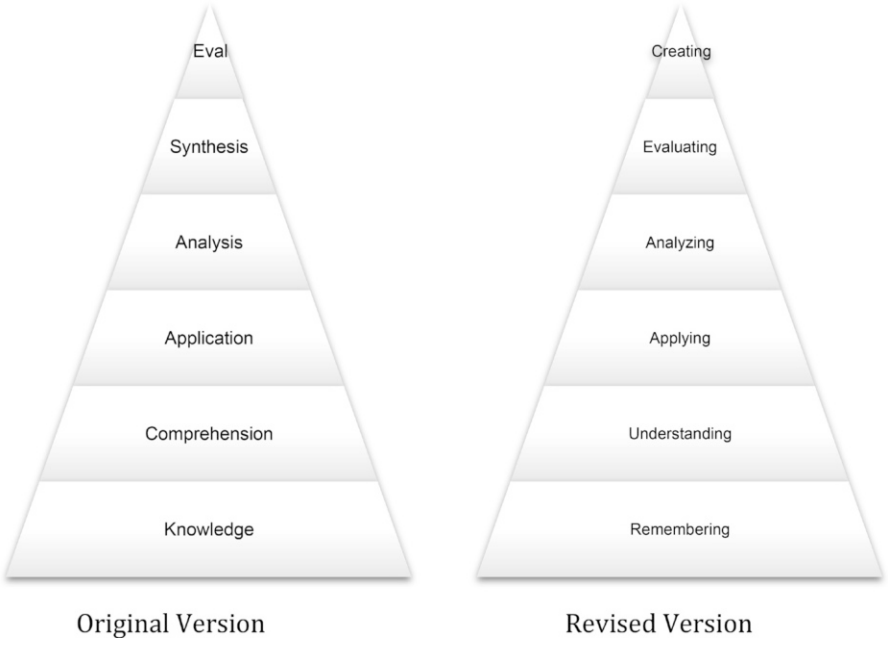

Figure 1. Bloom's Taxonomy original version and revised version

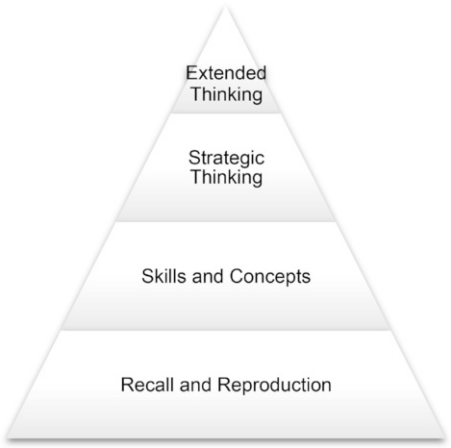

Figure 2. Webb's depth of knowledge

Effective teachers use a wide variety of questioning techniques, focus on questions that will elicit higher order thinking, and allow for appropriate wait time. However, these techniques are not innate to many and must be modeled in order to be implemented effectively; this is where teacher leaders can provide support.

Assessments should provide timely feedback as well as opportunities for students to reflect upon their learning. Assessments that are designed to assess student learning on authentic tasks that promote critical thinking differ from traditional pen and paper assessments as, oftentimes, there is no right or wrong answer. Solutions to problems are often complex and multifaceted. Assessments that assist in promoting critical thinking allows for students to self evaluate. The assessments that are designed and incorporated into the lesson ought to guide student learning and the teacher's lesson plans. Students are more apt to engage in reflection when utilizing rubrics that they assisted in developing. Teacher leaders can provide professional development on how to incorporate student input into the designing of rubrics and constructing assessments that target the standards under study.

Technology is a necessary tool for 21st Century learners and must be implemented in a thoughtful manner. Technology should be integrated into the learning experience and not viewed as an "add on". Planned student activities that promote critical thinking should require students to conduct meaningful research, share finds, make determinations, solve problems, create meaning, and communicate with others. A wide variety of technology is available to students and should be infused into lesson design as appropriate to the task or problem under study.

Technology is ever changing. It is difficult for teachers to keep up with the wide range of technology available and utilize the technology in a manner that will reap the greatest benefit in student learning. Teacher leaders can be classroom supporters, resource providers, and specialists that assist in the area of technology.

Lessons that are designed to promote critical thinking should have components that allow for collaboration. Planned tasks and activities should allow for students to share what they are learning to a wide variety of audiences. Some areas to plan for are; student to student collaboration, student to teacher collaboration, student to expert collaboration, etc. Teacher leaders can support teachers as they develop and implement techniques that give students the opportunity to navigate conversations within small and large groups.

It is important for teachers and administrators alike to understand that their role in helping students think critically is not business as usual. In order to engage students in evaluating and analyzing information, so they can make quality judgments, the teacher needs to provide opportunities for students to take ownership of their learning. This is a shift in pedagogy that has been much talked about but is often overlooked due to the constraints of the school day and amount of subject area content that teachers are required to expose students to. Allowing for students to take ownership of their learning requires skilled classroom management practices and solid lesson planning with a focus on student engagement. The teacher's role becomes one of facilitator rather than the point of information and lessons are planned so that students are actively engaged in higher order thinking. This type of learning environment, where students are engaged in discussion and uninhibited thought process is not always neat as the outcome might result in more questions or differing opinions. Teacher leaders can be instrumental in assisting teachers as they work through this process.

SUMMARY

Education can be the medium for empowering students to become critical, involved members of society in a world that is ever changing in many aspects. Educational policies have been put in place that recognize the importance of students having a core of knowledge. Yet it is important for students to understand the importance of their actions in a society that is not restricted but global in nature. Due to increased demands on teachers, core standards are "covered" in most classrooms but little attention is given to honing the skills that are required of a critical thinker.

Quality instruction has been identified as one of the most important school factors to impact student achievement (Darling-Hammond, 2010). Advancing teacher proficiency is a challenge faced by school leaders. In an attempt to improve instruction through teacher expertise, teacher effectiveness has been woven into mandates. However, mandates alone will not improve instruction. Traditional professional development presented with the intent of improving teaching is one approach that schools have used to improve the teaching/learning environment. Traditional professional development where teachers are presented with a teaching strategy without follow up has been found to be unproductive (Guskey, 2003). Presenting teaching strategies to teachers does not ensure that they (the strategies)

will be implemented and, if strategies are implemented, there is no guarantee that the techniques will be implemented appropriately and with fidelity.

Teacher leaders can be instrumental in the attempt to improve instruction. Teacher leaders can assist teachers in learning research based instructional strategies. Teacher leaders can also help teachers in applying strategies appropriately through ongoing professional development, modeling, setting up lab classrooms, providing resources, coaching, etc.

Leadership has been found to be another influential factor in building a positive school culture and improving student achievement (King & Bouchard, 2011). Increasing demands on school principals leave them in a position where they can no longer manage all aspects of the school alone. Therefore, sharing leadership responsibilities among the school faculty is more likely to have an effect on school improvement and student achievement. In schools where shared leadership is practiced, members of the school take responsibility for improved instruction and student learning. Members of shared leadership teams engage in collaborative efforts designed to increase student achievement through reflection, professional development, and goal setting. In order for shared leadership to be successful, principals must invest in faculty members and not only encourage them to take leadership roles but to support them in their efforts. It is the principal's role to develop a collaborative, support structure that will allow teachers to learn, analyze data, and reflect upon their practices.

Many professional organizations cite critical thinking as a key intellectual and practical skill (Rowles, Morgan, Burns, & Merchant, 2013). However, a number of studies have found that critical thinking is a skill that many entering higher education and the workforce do not possess (Rowles et al., 2013; Henderson Hurley & Hurley, 2013). Research indicates that focusing on developing critical thinking skills in grades K – 12 can improve academic rigor and student achievement (Tsai, Chen, Chang, & Chang, 2013). Teacher leaders can assist their colleagues as they implement activities designed to enhance the critical thinking process. Teacher leaders can present professional development on strategies and methods that will encourage critical thinking.

REFERENCES

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., Raths, J., & Wittrock, M. C. (Eds.). (2001). *Taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives* (Complete edition). New York, NY: Longman.

Bloom, B. S. (1956). *Taxonomy of educational objectives, Handbook I: The cognitive domain.* New York, NY: McKay.

Buchen, I. H. (2000, May 31). The myth of school leadership. *Education Week, 19*(38), 35–36.

Carnegie Forum on Education and the Economy. (1986). *A nation prepared: Teachers for the twenty-first century: The report of the Carnegie Forum on Education and The Economy's Task Force on teaching as a profession.* Washington, DC: Author.

Center on Education Policy. (2008). *Has student achievement increased since 2002?* Washington, DC: Author.

Chetty, R. F. (2013). Measuring the impacts of teachers II: Teacher value added and student outcomes in adulthood. *The American Economic Review*, 1–48.

Cummings, T. G., & Worley, C. G. (2009). *Organization development and change* (9th ed.). Mason, OH: South-Western.

Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Alexandria, VA: Association for Supervision and Curriculum Development.

Darling-Hammond, L. (2010, May). *Recognizing and developing effective teaching: What policy makers should know and do* (NEA Policy Brief). Washington, DC: National Education Assoctaion. Retrieved November 6, 2015, from http://www.nea.org/assets/docs/HE/Effective_Teaching_-_Linda_Darling-Hammond.pdf

Dewey, J. (1916). *Democracy and education*. New York, NY: The Free Press.

Dewey, J. (1933). *How we think* (2nd ed.). Boston, MA: DC Heath.

Dinham, S., & Crowther, F. (2011). Sustainable school capacity building – One step back, two steps forward? *Journal of Educational Administration, 49*(6), 616–623.

Facione, P. A. (1990). *Executive summary: Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction.* Millbrae, CA: The California Academic Press. Retrieved January 4, 2016, from http://www.insightassessment.com/pdf_files/DEXadobe.PDF

Fromm, E. (1968). *The revolution of hope: Toward a humanized technology*. New York, NY: Harper & Row.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York, NY: Teachers College Press.

Gawande, A. (2013). Slow ideas. *The New Yorker*. Retrieved January 11, 2016, from http://www.newyorker.com/magazine/2013/07/29/slow-ideas

Glaser, E. M. (1941). *An experiment in the development of critical thinking.* New York, NY: Teacher's College, Columbia University.

Glickman, C. D. (2002). The courage to lead. *Educational Leadership, 59*(8), 41–44.

Glazerman, S., Protik, A., Bruch, B. T., & Max, J. (2013). *Transfer incentives for high-performing teachers: Final results from a multisite randomized experiment.* Washington, DC: US Department of Education.

Gordon, R., Kane, T. J., & Staiger, D. O. (2006). *Identifying effective teachers using performance on the job* (The Hamilton Project White Paper 2006-01). Washington, DC: Brookings Institution Press.

Gordon, S. P., Jacobs, J., & Solis, R. (2014). *Top 10 learning needs for teacher leaders*. Retrieved January 11, 2016, from http://www.ndlead.org/cms/lib2/ND07001211/Centricity/Domain/173/top-10-learning-needs-for-teacher-leaders.pdf

Guskey, T. (2003). Analyzing lists of the characteristics of effective professional development to promote visionary leadership. *NASSP Bulletin, 87*(637), 4–20.

Halx, M., & Reybold, L. E. (2005). A pedagogy of force: Faculty perspectives of critical thinking capacity in undergraduate students. *The Journal of General Education*, *54*(4), 293–315.

Hanushek, E. A. (2009). Teacher deselection. In D. Goldhaber & J. Hannaway (Eds.), *Creating a new teaching profession* (pp. 165–180). Washington, DC: Urban Institute Press.

Hanushek, E. A., & Raymond, M. E. (2005). Does school accountability lead to improved student performance? *Journal of Policy Analysis and Management*, *24*(2), 297–327.

Harris, A., & Muijs, D. (2004). *Improving schools through teacher leadership*. Maidenhead, UK: Open University Press.

Henderson-Hurley, M., & Hurley, D. (2013). Enhancing critical thinking skills among authoritarian students. *International Journal of Teaching and Learning in Higher Education*, *25*(2), 248–261.

Hirsh, S., & Killion, J. (2007). *The learning educator: A new era in professional learning*. Oxford, OH: HSDC.

Hull, J. (2013). *Trends in teacher evaluation: How states are measuring teacher performance*. Alexandria, VA: Center for Public Education. Retrieved November 6, 2015, from http://www.centerforpubliceducation.org/Main-Menu/Evaluating-performance/Trends-in-Teacher-Evaluation-At-A-Glance/Trends-in-Teacher-Evaluation-Full-Report-PDF.pdf

Jefferson, T. (n.d.). *BrainyQuote.com*. Retrieved October 18, 2015, from BrainyQuote.com Web site:

http://www.brainyquote.com/quotes/quotes/t/thomasjeff136404.html
Killion, J., & Harrison, C. (2006). *Taking the lead: New roles for teachers and school-based coaches*. Oxford, OH: National Staff Development Council.
King, M. B., & Bouchard, K. (2011). The capacity to build organizational capacity in schools. *Journal of Educational Administration*, *49*(6), 653–669.
Lazear, E. P. (2003). Teacher incentives. *Swedish Economic Policy Review, 10*(3), 179–214.
Leana, C. (2011). The missing link in school reform. *Stanford Social Innovation Review.* Retrieved from http://www.ssireview.org/articles/entry/the_missing_link_in_school_reform/
McCollister, K., & Sayler, M. (2010). Lift the ceiling: Increase rigor with critical thinking skills. *Gifted Child Today, 33*(1), 41–47.
MET. (2013). *Gathering feedback; and MET Project, feedback for better teaching: Nine principles for using measures of effective teaching*. Seattle, WA: Bill & Melinda Gates Foundation. Retrieved November 4, 2015, from http://metproject.org/downloads/MET_Feedback%20for%20Better%20Teaching_Principles%20Paper.pdf
Murnane, R. J., Willett, J. B., Duhaldeborde, Y., & Tyler, J. H. (2000). How important are the cognitive skills of teenagers in predicting subsequent earnings? *Journal of Policy Analysis and Management, 19*(4), 547–568.
Nappi, J. S. (2014). The teacher leader: Improving schools by building social capital through shared leadership. *The Delta Kappa Gamma Bulletin International Journal for Professional Educators, 80*(4), 29–34.
National Conference of State Legislatures. (2015). *Summary of the every student succeeds act, legislation reauthorizing the elementary and secondary education act*. Retrieved January 25, 2016, from http://www.ncsl.org/documents/capitolforum/2015/onlineresources/summary_12_10.pdf
OECD. (2010). *PISA 2009 results: Executive summary*. Retrieved January 22, 2016, from http://www.oecd.org/pisa/pisaproducts/46619703.pdf
Paul, R., & Elder. L. (2009). *The miniature guide to critical thinking concepts and tools* (5th ed.). Dillon Beach, CA: Foundation for Critical Thinking.
Peterson, K. D., & Deal, T. E. (2011). *Shaping school culture fieldbook* (2nd ed.). San Francisco, CA: Jossey-Bass.
Piaget, J. (1976). *The grasp of consciousness: Action and concept in the young child* (S. Wedgwood, Trans.). Cambridge, MA: Harvard University Press.
Ramirez, J, A. (2008, January 1). *Co-constructing a nurturing and culturally relevant academic environment for struggling readers: (Dis)locating crisis and risk through strategic alignment* (Electronic Doctoral Dissertations). University of Massachusetts, Amherst, MA. Retrieved October 18, 2015, from http://scholarworks.umass.edu/dissertations/AAI3325279
Rowles, J., Morgan, C., Burns, S., & Merchant, C. (2013). Faculty perceptions of critical thinking at a health sciences university. *Journal of the Scholarship of Teaching and Learning*, *13*(4), 21–35.
Smith, V. G., & Szymanski, A. (2013). Critical thinking: More than test scores. *International Journal of Educational Leadership Preparation, 8*(2), 15–24.
Snodgrass, S. (2011). Wiki activities in blended learning for health professional students: Enhancing critical thinking and clinical reasoning skills. *Australasian Journal of Educational Technology*, *27*(4), 563–580.
Teacher Leadership Exploratory Consortium. (2011). *Teacher leader model standards*. Carrboro, NC: Author. Retrieved from www.teacherleaderstandards.org/downloads/TLS_Brochure.pdf
Tsai, P., Chen, S., Chang, H., & Chang, W. (2013). Effects of prompting critical reading of science news on seventh graders' cognitive achievement. *International Journal of Environmental & Science*, *8*(1), 85–107.
U.S. Department of Education. (1965). *Public Law 89-10*. Retrieved November 4, 2015, from http://www.gpo.gov/fdsys/pkg/STATUTE-79/pdf/STATUTE-79-Pg27.pdf
U.S. Department of Education. (2002). *Public Law 107-110*. Retrieved October 18, 2015, from http://www2.ed.gov/policy/elsec/leg/esea02/index.html
U.S. Department of Education. (2006). *Improving teacher quality state grants, ESEA Title II, Part A*.

Retrieved November 4, 2015, from www2.ed.gov/.../guidance.doc
U.S. Department of Education. (2013). *Continuing to expose and close achievement gaps*. Retrieved October 18, 2015, from http://www2.ed.gov/policy/elsec/guid/esea-flexibility/resources/close-achievement-gaps.pdf
U.S. Department of Education. (2015). *Every student succeeds act*. Retrieved January 12, 2016, from http://www.ed.gov/essaU.S. Department of Education, National Center for Education Statistics. (2015). *The condition of education 2015* (NCES 2015-144). Washington, DC: Author.
Vaughn, S., & Coleman, M. (2004). The role of mentoring in promoting use of research-based practices in reading. *Remedial and Special Education, 25*(1), 25–38.
Weller, L. D., Jr. (2001). Department heads: The most underutilized leadership position. *NASSP Bulletin, 85*(625), 73–81.
York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research*, *74*(3), 255–316.

Judith Stegmaier-Nappi
Rider University
USA

MICHAEL LIGHTFOOT

3. THE EMERGENCE OF DIGITAL SOCIAL CAPITAL IN EDUCATION

INTRODUCTION

The extent to which social media are becoming embedded into the very fabric of contemporary society is evident in the inexorable increase in the number of users of sites such as Facebook and Twitter. To date only a small amount of research has been undertaken, and few detailed accounts exist, as to the ways in which these Internet-based media relate to the development of social capital in education and, in particular, the utility of the digital and online environment in relation to teachers' initial education and their subsequent professional development. The social aspect of teachers' continuous professional development (CPD) is key to embedding the lessons learnt on a taught course into day to day practice, since through discussion and constructed discourse with fellow professionals, meaning is projected onto the CPD programme components. This chapter discusses recent research related to teachers interacting online for professional purposes. For example, research findings which demonstrate that the creation of online 'communities of practice and inquiry' enable the social elements of learning to become much more strongly and continuously reinforced before, during and after traditional CPD episodes.

SOCIAL CAPITAL IN THE INFORMATION AGE

The valuable concept of 'social capital' is seldom invoked when considering the ubiquity of social media in our increasingly connected societies. Indeed traditional ideas related to social capital formation saw the 'information age' as posing a threat to the social fabric of society. Robert Putnam (1996, 2000) documented a long-term decline, starting in the 1960s, in American civic involvement as people stayed at home and watched TV. He spoke, for example, of the threat this posed to good governance, as people moved away from active involvement in community life. By contrast, the plethora of virtual communities that have emerged with the advent of the World Wide Web and the dawning of the 21st Century is evidence that socialisation and the development of social capital formation is as important now as it has ever been, but that it is now taking a rather different form. Far from people retreating into their sitting rooms with closed window blinds living insular lives and consuming broadcast TV, as Putnam observed, nowadays billions of people are

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 43–66.

having a 'virtual existence' online as well as, in many cases, merging their online personae into their regular everyday lives.

Formal education touches the lives of everyone, in one way or another, yet schools and schooling in the digital age have been slower to embrace the opportunities afforded by the new information and communication technologies than many other professions. Nonetheless, teachers' continuing professional development is benefiting significantly through a blended learning approach that combines face-to-face sessions with online learning. This represents a particular aspect of social media that lends itself very successfully to the lives of busy education professionals.

This account reports upon recent research and provides a timely overview of the social aspects of digital and online learning for the extension and development of teachers' pedagogic skills. The social aspect of teachers' continuous professional development (CPD) has long been held to be one of the most important elements of programmes of in-service education and training (Cordingly et al, 2011). This narrative explores the contention that the creation of online communities of practice and inquiry enables some of the social elements of learning to become strongly and continuously reinforced in digital and online environment than is the case for traditional CPD methodologies. A growing body of evidence is forming which points to the success of education professional development initiatives within a digital and online environment. This evidence indicates the strengths and features of this new 'digital social capital' development and it presages the potential for significant reforms in the strategies for initial teacher preparation and their CPD, for schools both in the private and public sectors.

THE MARCH OF MACHINE MEDIATION

The exponential growth of Massive and Online Open Courses (MOOCs) coupled with the ubiquity of online social networking, including the use of YouTube for instructional purposes, challenges traditional conceptions of learning and teaching. Additionally, as artificial intelligence becomes more sophisticated, and machine-mediated online activities merge seamlessly with human interaction the traditional concepts of socialisation begin to become blurred. In their recent book, the Susskinds (2015) suggest that the rise of the robot and intelligent systems are as threatening to the collective wisdom exhibited through many of the revered professions, such as doctors teachers and lawyers, as mechanisation was to the skilled manual workers during the last century. They claim that as the work of these professions continues to evolve, and the collective wisdom upon which many of the practices are based becomes freely available online, as part of the 'collective commons', then this intellectual property is no longer the select preserve of the learned societies, but is freely shared. Knowledge wants to be free, the Susskinds assert, and market forces will drive it that way. In this scenario, the notion of intellectual property rights together with the collective wisdom of the learned professions continues to be challenged. There is, according to the Susskinds, a grave risk that these social

anchors could disappear all together. Yet this mechanised dystopia of technological determinism ignores the accumulated social capital upon which these professions are based. So much of this capital has developed and grown out of human interaction, and the rich diversity of the human experiences of bonding and bridging between different social groups. These will not disappear but they are likely, nonetheless, to emerge and continue in a different form in the decades to come.

Technology is strongly impacting upon education in ways that many early policymakers had simply not envisaged. The successful enactment of educational technology policies has been shown to be not simply a matter of placing computers in classrooms, flooding schools with interactive whiteboards and increasing the available bandwidth. In some ways it has been the technological developments outside schools that have been more strongly impacting on the lives of learners, quite aside from the official government educational policies. The very act of learning and instruction is being transformed by technology, but this is often happening outside of schools. The early promise of technology revolutionising school-based education has seldom been realised in the ways that had been anticipated, and in some cases the 'transformation' has been disappointingly mundane. To take just one instance, the advent of electronic interactive whiteboards has not been the catalyst for a great pedagogical leap forward. On the contrary, in so many cases, it has served merely to reinforce traditional models of didactic, frontal, teaching albeit with subtle flavours of edutainment (Selwyn, 2014).

Whereas, thanks to the initiatives such as that of the former Wall Street trader, Salman Kahn, and the establishment of his free online 'Kahn Academy', informal online learning via the internet has mushroomed. Such has been the success of the Kahn Academy and similar online learning experiences, for example through YouTube tutorials, that the 'Flipped Classroom' is now being taken seriously in some quarters as a new pedagogical paradigm. This paradigm being one in which the contents of upcoming lessons are previewed, online, by the learners in their homes. Then the lesson time in school is devoted to clarifying the content and helping and tutoring those learners who are not yet fully confident in understanding the concepts that they have consumed online. This is an attractive concept and one that has fired the enthusiasm of many commentators, but the idea of learners doing their homework in advance of the lesson is likely only to be effective with the more strongly motivated learners. Any teacher who has struggled to get a whole class to complete homework tasks will attest that it is those very learners who need most of the teacher's attention are the ones who are least likely to be sufficiently motivated to, of their own volition, preview tomorrow's learning online. The flipped classroom is a phenomenon that has probably been over-sold, but it is included here as an example to illustrate how, with the ubiquity of knowledge, or rather, information the medium can be truly transformational. Thanks to Google, technology outside schools is usually of much more significant in the lives of learners, than technology inside schools. Moreover, it is often the online socialisation related to 'communities of experience' that is the enactor that serves to cement the learning as it requires

some informational transactions to take place between the consumers of online instruction – such as YouTube videos or MOOCs.

The online environment can, nevertheless, have some regrettable 'anti-social' consequences for those whose lives are lived online, such as are evident in the periodic rashes of cyberbullying amongst school-age students. This is evident also in the harmful effects on professional reputations that can arise from the cloud-based chatter and casual maligning that can take place on such sites as 'ratemyteacher.com'.

Whilst these might be seen as expressions of the development of 'digital anti-social capital' they are evidence of the ways in which the world outside is creeping ever more into the custodial classroom. In ways that have little precedent in history, knowledge and learning are no longer the exclusive preserve of a learned 'priesthood' within the professions. For the online learner, away from the classroom, meaning and sense can often be projected upon the decontextualised results of Google searching through the online discussion groups and forums that are associated with particular informational sites. This is most surely evidence of the emergence of a new form of disembodied 'digital social capital' where friendships and self-help groups are formed online amongst people who may never have actually met face to face.

For teachers' professional development too, these online communities are becoming valuable sources of professional learning. The influence of the information and communication technologies upon teachers' initial education and preparation and their continuing professional development (CPD) is encouragingly positive as we shall see in the later sections of this chapter.

PROFESSIONAL NETWORKS – THE GENEROSITY OF STRANGERS

More than ten years ago, with reference to training for the legal profession, Wasko and Faraj (2005) observed the paradox of people helping strangers whilst gaining no apparent benefit themselves in 'computer mediated discussion forums'. The researchers were surprised that contributions were occurring without expectations of reciprocity from others and the authors formed the view that people contribute their knowledge when they perceive that it enhances their professional reputation, when they have experiences to share or when they are well-embedded in the structure of the network – in other words enjoying the reputation as being something of a 'guru'. The dynamics of these online forums, and the powerful social capital formation that is taking place by virtue of communications in cyberspace are transforming professional relationships at many levels. In this paper, Wasko and Faraj (ibid) were writing only shortly after the launch of the professional networking site LinkedIn in May 2003, followed by Facebook in February 2004, when the use of digital social networking was in its infancy. Their observations, at that time, led them to emphasise the role of structural social capital, consistent with theories of collective action. It has been noted that the development of a critical mass of active participants is important for sustaining electronic networks of practice (Marwell & Oliver, 1993)

because individuals who are central to the network and connected to a large number of others are more likely to sustain contributions to the collective (Burt, 1992).

The figure below indicates a typical topography of an online professional development community showing the nodes and social networking activities.

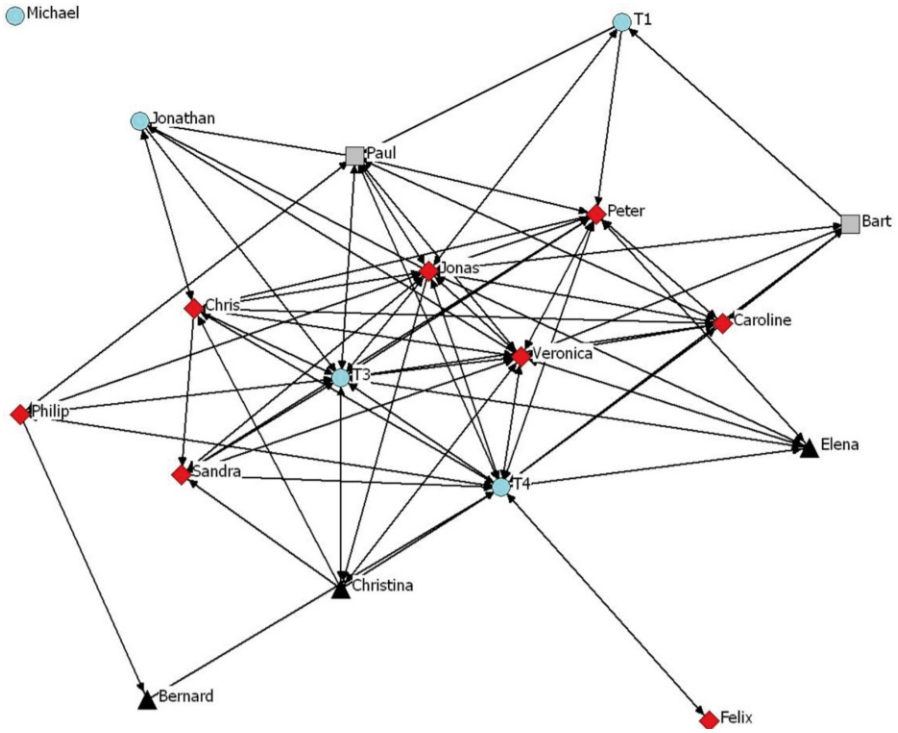

Figure 1. Active nodes and 'slumberers' in an online social network (Rientes, 2010)

In this figure, where T1,3 and 4 are the tutors, the other members of this online community are the professional learners. As is the case with many online communities at an early stage of maturity there is a small number of highly active social networkers, in this case Jonas, Peter, Caroline and Veronica and a larger number of individuals who are 'slumberers' or 'lurkers' on the edges of the community. This is a not unfamiliar reflection of how people behave in the offline material world, where certain, less gregarious or outgoing people will take their time, watch proceedings and get the measure of a community before diving in and exposing themselves through expressing an opinion. Rientes' (2010) analysis of this community points out that Phillippe and Bernard have, in the course of an online discussion been proposing views that are controversial or unacceptable to the majority of the online community and, as a consequence, have become somewhat

ostracised. Aside from this clear example, the reasons why certain individuals in online communities are more active than others, are unclear; also why some online community members become central to the communities, whilst others are more peripheral. What is clear from Rientes' researches is that the members' contributions and their participation in an on online community cannot be taken for granted. In fact, this online community represents somewhat of a reflection of learners' behaviours in conventional seminar room settings – where active discussion is often restricted to a vocal minority with a larger number of individuals who, whilst still being fully engaged in the discourse, lack confidence or feel that they do not have anything useful to contribute. As several researchers have found when learners are interacting using discussion forums, establishing a critical mass of interaction whereby all participants contribute actively to cognitive discourse can be troublesome (Caspi et al., 2006; Schellens & Valcke, 2005).

In this relatively new field of social science research a corpus of consistent and reliable findings has yet to emerge and, at present, little is known about the underlying mechanisms that explain why some learners like Veronica or Jonas in Figure 1 emerged as active contributors to the discourse, whilst others remained passive (Felix, Elena, and Jonathan) or even dropped out of the online course (Michael).

The management and mediation of online learning requires particular skill and expertise from the tutors, people with these skills are beginning to become more common in the educational community. In this instance, just as a tutor would seek to engage the interest of marginal members of a seminar discussion group through asking them direct questions to elicit a response, a skilful online mediator would use their full repertoire of tools at their disposal to engage the 'slumberers' and prevent people – like Michael in Figure 1 from dropping out of the community completely.

The sociology of online behaviour is only beginning to identify and analyse the reasons that underlie the contrasting responses and participation rates of individuals. What is clear, though, is the emergence of patterns of behaviour where, as Yochai Benkler puts it, 'co-operation triumphs over self-interest' (2011). This author goes on the explain how the Internet has revolutionised the production and transmission of information and how the knowledge foundations of society are sustained and developed… "(it) has allowed social, non-market behaviour to move from the periphery of the industrial economy to the very core of the global, networked information economy" (p. 23). In this way computer-mediated interactions now form the core of almost every aspect of people's lives – from the pursuit of democracy to a shift in the latest trends in business and media and the best innovations. The shift sees cyberspace as a place where, people contribute their time and effort, because they gain intrinsic satisfaction from the endeavour, it enhances their status and sense of identity and it is enjoyable.

Current research indicates that three types of online collaboration are now emerging – firstly there are 'communities of experience'. These communities are full of content derived from the experiences of the users, drawn from their own personal

experiences – successful and unsuccessful. Members of the communities get help from others in the community, such as tips and advice on solving irksome problems with computer programs. Such communities are common amongst, for example, users of office productivity software, but they are also becoming increasingly common as networks of fellow professionals – especially in healthcare, but increasingly amongst the educational community with sites like *Helpforteachers.com* and *sitesforteachers.com.* The second type is 'communities of practice' (Eckert, 2006); whereas communities of experience are populated by individuals at all levels of experience, including novices, and, occasionally masqueraders, communities of practice are populated by experienced professionals, with site like, *edutopia.org* and *ShareMyLesson.com* in education, allowing novices to learn freely at the online feet of the experts. There is a certain degree of overlapping between these two types of community and communities of experience will often mature into becoming communities of practice. A third type of online collaboration is 'crowdsourcing'. Here large numbers of people are asked to collaborate in solving a well-defined problem where the 'wisdom of crowds' (Surowiecki, 2004) provides the collective experience capable of creating a critical mass of collective wisdom to tackle the most intractable issues. OpenIdeo and Wikistrat in consulting have run crowdsourcing projects in this manner.

Central to this shift and the development of these virtual communities is universal connectivity. It is argued by leading social scientists that technology is not a neutral agent, since it has the power to amplify the trends rooted in social structure and institutions: oppressive societies become more so with the new surveillance tools, while democratic participatory societies have the opportunity to enhance their openness and representativeness by further distributing political power with and through technology (Castells, 1997). The nature of the online communities, that have emerged through mutual consent and participation, is that the members feel an ownership and a sense of belonging; they are truly democratic entities with an, essentially, flat hierarchy. The communities represent a natural foil to the dystopic social developments related to the creation of a surveillance society (Lyon, 2001).

GLOBALISATION IN THE NETWORKED SOCIETY

With an echo that resonates with the earlier visionary Marshal Macluan (1989), Manuel Castells (ibid) envisaged that a 'global city' would be not a place but a process. This would be a process through which centres of production and consumption of advanced services are connected via a global network where the global information flows and the development of digital social capital serve to downplay the importance of the immediate locale. The very essence of digital social capital is that it is disembodied and that it demonstrates that the information age is ushering in a new form of 'informational city' in cyberspace. In this new society, which is based upon knowledge, the organisation takes place around networks

through which information flows. Castells envisions a situation where high technology manufacturing is organized around two groups that do not necessarily have any geographical proximity to one another. One would be a highly skilled research and development facility and workforce in a core industrial high-tech area, the other would be a large assembly facility with semi-skilled workers which could well be located on another continent but which was linked to the innovation centre via global informational networks. Castells calls these "milieux of innovation". Professional and social capital building takes place highly effectively in the 'informational cities' through the self-evident recognition of mutual benefits from membership of the communities. The communities are weightless and only exist, in a deep sense, for as long as it is in the interests of all community members to retain their membership. Since the only capital invested in them is social capital, the returns from which are related to status and reputation, sophisticated community players can reinvest their capital many times, as reputations develop and grow.

THE PROFESSIONAL DEVELOPMENT OF EDUCATORS

The general availability of affordable internet bandwidth has enabled and encouraged the growth of social media and networking sites. Online communities are increasingly being used in formal education to augment collaboration between students, and amongst students and tutors, in a structured networked learning environment (McConnell, 2006; Luppicini, 2007). Research suggests that such networked learning helps to create autonomous learners, better suited for the challenges of a modern society (Steeples et al, 2002) and with the key competences needed for lifelong learning (Ala-Mutka, 2008). In 2015, the UCL Institute of Education in collaboration with Leeds University launched their first MOOC on the Open University FutureLearn site targeted at teachers of vocational and adult learners.[1] This marked a significant step towards the legitimising the on-line learning experience by two hallowed institutions of higher education with high social and reputational standing in a sector that has, hitherto been somewhat aloof to the validity of MOOCs and digital and online learning in universities (Van der Pere & Van Campenhout, 2015).

In the area of teachers' professional development, learning communities are seen as offering valuable opportunities for authentic and personalised learning (Duncan-Howell, 2010), together with the informal exchange of good practice and peer learning (Avalos, 2011). Moreover, rather than separating the formal knowledge and theory for teaching from the practical knowledge gained from applying ideas in action, learning communities can help teachers to take a more systemic view through critical inquiry with peers (Cochran-Smith & Lytle, 1999; Vescio, Ross, & Adams, 2008). In other words, they offer the longer-term, reflection in practice, of meta-cognitive learning that is associated with effective teachers' professional development (Boyle, While, & Boyle, 2004) and teacher change (Guskey, 2002).

Bolam et al. (2005) identified eight key characteristics necessary to create an effective professional learning community:

- shared values and vision;
- collective responsibility for pupils' learning;
- collaboration focused on learning;
- individual and collective professional learning;
- reflective professional enquiry;
- openness, networks and partnerships;
- inclusive membership;
- mutual trust, respect and support

The centrality of the social capital built up through the formation and sustenance of professional relationships, as opposed to the reproduction of processes, moves this form of CPD away from a transmissive information-giving activity to a potentially much more transformative process (Kennedy, 2005).

THE GLOBALLY STRUCTURED AGENDA FOR EDUCATION

In this age of globalisation with the consequent convergence of curricula in what Roger Dale (2000) has called the Globally Structured Agenda for Education (GSEA), the professional and societal demands that are placed upon teachers have never been greater. There is, as a consequence, a growing need for teachers to collaborate more widely outside and apart from their regular workplace colleagues.

Globalisation creates pressures for international convergence, but in so doing it exerts pressures on local actors to increase the autonomy with which schools can operate, free of direct control of national government. As a consequence, it has been argued that the effect of globalisation upon education creates forces acting in opposite directions; there is simultaneous centralisation and devolution of authority. This squeezes power from the middle levels of educational administration with a transition towards more central state control and target-setting, driven by international comparative performance tables derived from standardised testing, whilst at the same time devolving responsibility and accountability to local actors. Teachers are faced with twin challenges: – on the one hand is the challenge of performativity, whilst on the other is the more "Enlightenment view" of education which stresses the importance of education in the formation of character and the development of wisdom (Robinson, 2014). The standardised testing of students, regardless national, social or cultural backgrounds, is anathema to the beliefs and ideology of many education professionals; in these standardised tests, students are expected to perform against internationally recognised benchmarks established through the regimes such as TIMSS, PISA and PIRLS.[2] Seen in this light, education as a human endeavour imbued with affirmative social action, has become strangely disembodied from the very ideals and principles that had attracted the most ideological and principled

young people to become teachers in the first place. In this context, all too often education is now seen merely as a processes for improving the development of human capital for national economic benefit ie. the 'state theory of learning' (Brown et al., 2008). This theory stands in stark contrast to the Enlightenment view which sees teachers involved in a process akin to nation building through promoting the development of autonomous, critical and self-aware citizens who are able to engage in the democratic process as responsible, discerning and reflective individuals (Tinkly, 2004).

Teachers who find themselves working in conflicted conditions where they have to reconcile these conflicting demands increasingly are turning to online social networking communities for professional support and mentoring. These professional networks serve, additionally, as wellsprings of expertise, where community members can share issues and concerns and extend their repertoire of pedagogic skills. Online communities of educators serve as a bridge and a mediator between the twin tsunamis of both policy-and information overload. Teachers are required to make choices as to which of the, often conflicting and contradictory policies, to enact (Ball et al., 2012), and the rendering of sense and meaning to the growing volume of information flowing from the internet in order to generate new knowledge that is meaningfully contextualised for learners.

The pace of knowledge development and creation has never been faster, there are now reported to be approximately one billion websites in existence and these sites are constantly trawled by search engines, or "bots", that compile and index their content for rapid data retrieval. The Google corporation reports that it processes over one trillion research requests each year.

In order to teach the so-called "Wiki generation", where there is an inbuilt presumption that all knowledge is available through a Google search, teachers' repertoire of skills has had to expand. This repertoire, necessarily, needs to include the embedding of digital literacy. Digital literacy is an important skill for learners to develop as it provides them with the tools and strategies to be efficient and effective online investigators who are not be swayed, gulled or seduced into accepting the objective veracity of everything which is consumed through the internet. Moreover, in the late developing countries, with burgeoning youth populations and pressures to improve educational standards, the sheer scale of the task of initial teacher education and training (ITET), followed by the continuous professional development of the workforce, places severe strains upon the conventional models of ITET and CPD.

ADDRESSING THE NEEDS OF THE PROFESSION

Across the world at least 74 countries face an acute shortage of teachers. This results in millions of children being excluded from primary education and beyond.[3] The UN reports that in order to ensure that every child has access to a quality education by 2030, then an estimated 26 million new teachers will have to be trained. Currently Nigeria faces the biggest shortages with an additional 380,000 teachers needed. India

also faces shortages in excess of 350,000, while Indonesia needs nearly 190,000 more teachers.

Growing demands and shrinking aid budgets mean that traditional models of teacher training are simply not sustainable in many countries. A new paradigm for teacher education is needed, and the creation of online professional communities of practice could go a long way to realising this paradigm shift. Just as the Internet has provided new opportunities for informational tourism and knowledge grazing for students and the population at large, it also provides and excellent vehicle for social networking and professional growth for teachers.

When considering workforce preparation and development, it is useful to reflect upon its three key dimensions, these are: professional, social, and occupational (Bell & Gilbert, 1996). The traditional models of teachers' initial training and CPD have been effective in addressing all three, through, in many countries, colleges of education attached to universities and a network of publicly-funded continuous professional development centres that have been regionally or locally based.

The scale of the demand upon these traditional models, coupled with the ever-downward pressures upon public expenditure call into question the viability of continuing with this approach through the current millennium. Alternative approaches that maximise the benefits of distance and online learning for teachers have been relatively slow to develop, for technical reasons, such as limitations due to bandwidth, and through taking account of the social dimension of teachers' professional development. MOOCs have their place to play in seeking to find the optimal strategies for promoting lifelong learning, but their successful implementation is at a very early stage of development. The most significant single element that is lacking from many MOOC implementations is the social aspect of learning, though, as they are rapidly evolving, the existence of online forums for the development of communities of practice are beginning to become a sine qua non to ensure successful outcomes. For a participant to have the persistence and motivation to participate in a MOOC from beginning to end requires a degree of stamina, determination and staying-power. Without the professional dialogue and social capital development that is evident in a learning community, such staying-power is beyond the capacity of most users. Moreover, especially in such a sensitive social endeavour as learning and teaching, the social elements remain the key ingredients to the successful personal development programmes that lead to behavioural and cognitive changes.

A capacity to take part in lifelong learning is essential for those who are currently entering the jobs market, and for generations to come. Today's professional workers need to have an attitude, an approach and a capacity to benefit from modes of learning that do not fall into the traditional and comfortably-defined confines of regular attendance on formally taught courses at learned establishments

To be authentic and effective, online learning environments should promote genuine social interaction, intelligent collaboration and dynamic, active learning (Beatty & Allix, 2005; McElroy, 2003; Wick, 2000). As Semin and Smith (2002: p. 10) have observed, social groups "have the ability to facilitate social construction

of mental representations and information processing (socially and situated cognition), in ways that go beyond what isolated individuals are able to do". Seddon and Postlethwaite (2012) report that the social feature is crucial as it connects the theoretical modelling of learning online with the seminal and foundational theories of learning. These theories were formulated quite independently of, and some years prior to, the evolution of online learning environments and include Vygotsky's (1978) concept of social constructivism; Wenger's (1998) development of the theories related to communities of practice and Bourdieu's (1986) work on the social and cultural elements in learning.

In some ways the online environment can offer benefits that transcend the traditional classroom experience. Hassan (2003), for example, has noted that the online environment can provide a neutral and non-threatening space the helps students to overcome social and cultural barriers: for example in the context of traditional Islamic societies, where women, in an online environment, feel more free to interact in a more critical manner to ideas put forward by a man.

This characteristic identified by Hassan is a specific case but represents a special and unique feature of online social interaction notably the capacity online to represent oneself in ways that may be inauthentic, the most extreme example of which would be for a community to be disrupted through the deliberatively controversial or provocative behaviour of a 'troll'.[4] This serves to underline the risk that the social capital developed in the digital and online environment may be fragile and not sustainable in the way that traditional social capital development has been. That is to say that the trust, status and the reciprocity implicit in most narratives relating to conventional social capital accumulation may not, necessarily, be reproduced in a virtual meeting environment. Since, for the most part, the participants in professional development activities are part of a closed user group, the occurrence of negative or anti-social behaviour is likely to be minimal, it, nonetheless, exists as a risk, and, as such, is something that would detract considerably from the accumulation of digital social capital.

The risks of participants 'masking' or 'masquerading' online by providing a false or inauthentic persona are considerably outweighed by the unique opportunities afforded by an on line virtual professional development space. Since participants have the opportunity to interact with each, other as well as with the presenter in an online professional development episode, there is the chance to comment on the presentation as a session is proceeding – in a way that is often not possible, and is probably overly intrusive in a conventional face-to-face professional development episode. Moreover, an additional affordance, is the participants' capacity to interact with each other and co-construct new knowledge on the basis of the stimulus provided by the session leader. This is typically seen in a context where participants have grown to know, understand and trust the other members of the online group over a period of several weeks or online sessions.

Table 1 represents an analysis of the features present in a typical online learning community – in this case a group of school leaders taking part in a CPD programme.

Table 1. The typical types of interaction taking place online in a community of practice (adapted from Seddon & Postlethwaite, 2012)

Core category	*Grouping of categories*
Types of interaction	Social interaction
	Knowledge or information sharing
	Understanding
	Analysis
	Synthesis
Process factors	Multi-tasking
	Co-facilitation
	Extended learning opportunities (time/mental space)
Types of learning	Social learning
	Internalisation/reflection
	Co-construction
	Metacognition
	Multi-process learning

The social interactions are most evident at the beginning and the end of an online session, much as one might experience in a conventional CPD session. Over a relatively short time the participants get to know each other and sessions often begin with social chit chat and end with gestures of friendship and bonhomie. Within these social conventions, which are authentic representations of conventional social interactions, there is much understanding, analysis and synthesis taking place through the knowledge and information sharing. The process factors are interesting as they allow for elements of cognition and understanding that would be available only through behaviours that may be judged subversive during a conventional seminar room setting – such as the participants using instant messaging with each other during the course of a seminar, to comment on the content; or undertaking online searches to test the veracity of some assertions by the seminar leader. Since eye-contact between a seminar leader and the participants is expected as a form of conventional professional courtesy, the scope for multi-tasking in conventional small seminar situations is rather limited. Whereas, clearly, in the online seminar setting it is perfectly possible, and indeed, often encouraged, that participants will multi-task during a seminar. These processes provide for a depth of experience through this virtual online community that could not be reproduced in another setting or paradigm. The types of learning are of great significance here since new knowledge can be seen to be created through the participants commenting and contextualising the information being presented during the course of the a seminar.

The participants, after socialising in the early part of the session, demonstrate understanding through simple agreement; they then internalise through expressing a personal point of view in relation to their own professional experiences, before moving on to deeper socialisation through discussion and idea sharing. This leads to significant social capital formation through the mutual satisfaction of not only receiving some new information, but also having the capacity to synthesise new co-constructed knowledge, by way of the socialisation opportunities afforded by the online context. Tutors experienced in operating and facilitating their teaching in this virtual online environment report much higher levels of interaction and knowledge co-construction than in conventional face to face settings.

It is significant to note that, in the context of experienced educators interacting online, Seddon and Postlethwaite (ibid) found that prior knowledge of the other course participants, or skill in the use of technology were not significant factors in promoting productive interactions. This is highly relevant when considering the veracity and authenticity of digital social capital formation, since for the community members in this context, the technology itself can be regarded as being 'invisible' when the quality of the professional discourse is high and the content of the online session is engaging and captivating.

ONLINE COMMUNITIES AND NETWORKS OF PRACTICE

Communities of practice are a feature of all of the learned professions. The social capital contained within these communities is considerable, as members of the communities have the benefit of the social standing related to their association with a distinct community of individuals of high social status. Additionally membership of such a community affords opportunities for the professional sharing of ideas, opinions about policy directions and for maintaining the members' currency in respect of contemporary professional practice.

As a result of the very ubiquity of online communities the barriers to entry of a professional online community of practice are very low, and indeed, such communities wax and wane according to demand. From the perspective of teachers' communities of practice Duncan-Howell (2009) has reported on the success of such a network of like-minded colleagues as an antidote to the tyranny of teachers' development programmes that are neither timely nor relevant (Richardson, 1992). These online communities are peer-initiated and led, they are collaborative (Boyle et al., 2004) and their content is tailored to the needs of the learning community (Borko & Putnam, 1995). They enable just-in-time learning for busy teachers who are often unable to find a convenient and appropriate opportunity for their professional development and they provide a forum and ideas exchange that is vibrant and dynamic, not least due to the wide membership base. The bonding social capital that is established over the lifetime of these online communities is considerable. The communities enable teachers to develop both professionally and personally since they are able to provide

authentic and personalised opportunities for learning within a community of non-judgemental peers.

The rapid development of current technologies coupled, for example, with the use of social media, enable professionals to connect with their peers with greater ease, at a larger scale and on a continuing basis (De Laat, Schreurs, & Nijland, 2014). This leads to the development of the notion of Networks of Practice, as the online 21st Century equivalent to Wenger's (1998) 'Communities of Practice' (CoP). In these communities, as outlined by Wenger, professionals organise their lives together with colleagues, peers, and customers in CoPs to achieve shared goals and objectives. The communities also establish the rules of the working game in order to get jobs done efficiently and to maximum effect. Much of the research and practice around CoPs has focused on establishing the core of these communities and developing skills and competencies to participate in them (Admiraal, Lockhorst, & Van der Pol, 2012). Current technologies, and the use of social media for example, enable professionals to connect with their peers with greater ease, on a larger scale and on a continuing basis. By emphasising the tremendous dynamic flows of information in these 'networks of practice', which serve to build and strengthen relationships, and enhance the socialisation they are distinguished from CoPs and are recognised as a positive evolutionary development (Wenger, Trayner, & De Laat, 2011; Brown & Duguid, 2001). Others define networks of practice as 'nets', resulting from individual connections between people, with no explicit hierarchies or membership (Dron & Anderson, 2014). The absence of hierarchies and the strong personal commitment evident from the participants represent a democratisation of learning that would be a cause for celebration amongst such progressive educational thinkers of the 20th Century as John Dewey (1936, 2001) and Ivan Illich (1971).

Bottrup (2006) speaks of the potential of network-based learning to be as important as workplace learning and formal learning, and to play a complementary role in both. She claims that networks could be a special arena for learning because they give professionals the potential to take a necessary step away from their daily work practice to reflect and search for new perspectives amongst peers. At the same time network members share goals, which could make it easier to translate shared knowledge to their own working environment. Open networks of practice are collections of individuals who come together across organisational, spatial and disciplinary boundaries to create and share a body of knowledge (Pugh & Prusak, 2013). Beatty and Allix (2005) describe the power of online environments to connect people over space and time. In their research findings they indicate the impressive power of WebEx to assist in maintaining the social, emotional and intellectual connectedness among all members of a large dispersed learning group. They report that distant participants and on-campus student alike feel like they are all in the same space together. They state that, with WebEx, "being there – at a distance – is apparently quite achievable". They describe how "recapturing the missed 'learning' moment is possible" thanks to the recording/playback facility with online seminars

and presentations. They go on to describe an online seminar as "an educational teaching tool that assists learning, by transcending barriers of time and space". The ability to provide the continuity of connection is thought to enhance the group and individual's confidence for learning with each other, asking for help and challenging when appropriate. This connection can more easily cross linguistic barriers allowing a person whose English (for example) is not strong, to craft a reply in an online discussion which they would not have the time or the linguistic resource to construct in a face to face debate (Ku & Lohr, 2003).

Holmes and Sime (2012) have reflected on the importance of the social element in the creation and sustenance of online learning communities. In a piece of action research based upon an eTwinning exercise, which they conducted amongst teachers in several European partner countries, they found that it was only when they incorporated the social aspects of learning that participants really began to value the learning. Through creating a virtual 'staff room' where participants could post ideas, 'meet', and discuss their differing points of view they were able to enliven their project where initially the responses had been rather negative. This social interaction provided the 'glue' to hold the community together. The staff room was a place where informal social contact could take place and thus the socio-emotional aspects of learning served to reinforce the cognitive activities. The creation of such a space, which acknowledged the complexities of learning and professional development amongst peers, encouraged an openness and trust between colleagues as they co-constructed meaning and thereby developed some rich shared social capital. A growing number of educational practitioners are finding the value of online learning communities which serve to enhance a quality of learning evident through improved discourse and interactivity. Warner (2016) has reported that using the social media platform Yammer[6] (2015) to cultivate conversations outside regular school hours. The approach was effective through deepening and broadening participation as well as improving the quality of written work.

Although the factors influencing the development of social capital in online communities are nuanced by the subtle cultural characteristics and traditions of populations, especially in the Global South, there are, regardless of these characteristics and traditions, many areas of commonality and overlap across many of the cultures that have been the subject of academic study. In her study of the influence of social and cultural factors on the adoption of e-learning in higher education in Malaysia, Indonesia, Turkey, Singapore and Australia, Siew Mee Barton (2013) paid particular attention to factors relating to social capital, attitudes and patterns of behaviour in leadership, entrepreneurialism, and teaching. Consistent with other studies across the globe, the degree of confidence with which teachers adapted their work to encompass the new technologies depended upon the ways in which teachers were being encouraged, guided and assisted to innovate and adopt new technology. This was found only to occur when sufficient social capital had been accumulated. This social capital was mediated both online and through appropriate professional support networks, to build trust, overcome objections and anxieties,

and generally motivate staff to engage in challenging, time-consuming initiatives in e-learning that generally did not promise immediate rewards. In this study it was social capital played out through personal relationships and social networks that most strongly influenced individual teachers to be sufficiently motivated to add to an already busy schedule by taking on the additional burdens of pioneering e-learning technology and it was those social relationships that provided guidance and on-going encouragement. Although it is clear from this study that teachers' capacity and confidence in taking part in online communities is strongly shaped by cultural factors, the nature of the online communities and the quality and resilience of the virtual social capital that accumulated therein is complementary to the other more conventional forms of social capital – such as the "bamboo networking" where the analogy of subterranean, and therefore invisible, network of bamboo roots serves to reinforce and support geographically dispersed communities.

By their very nature, and often through a process of self-selection, online digital capital accumulation is strongly associated with users and advocates of eLearning. Nonetheless, as Seddon and Postlethwaite (ibid) found, strong technical competence and commitment to digital and online learning are not a pre-requisites, as teachers in a variety of disciplines and for a variety of purposes have been shown to benefit from the relationships established online with 'virtual strangers'. This is indicative of the tertiary, mature, stage of development that exists in social media and online working and living.

Such has been the speed of adoption and the improvements in connectivity and the functionality of devices that, for many users, of all generations that it would be unthinkable to try and operate professionally and socially in a world where universal connectivity was not assured – this universal connectivity leading to the seamless integration of lives both on and off line.

CONCLUSIONS

This chapter has outlined the significance of online social media and the associated communities and networks of practice as vehicles for the development "digital social capital". The coining, about 10 years ago, of the term 'Web 2.0' heralded a shift of the World Wide Web, and the internet upon which it is based, from being a medium wherein information was transmitted and consumed, to becoming one where content was created, shared, remixed, repurposed and passed along (Downes, 2005). This democratisation of the web, the creation of new 'social software' that emerged, and the new practices and expectations created were, in all, successful in generating an entirely new medium for both social and professional discourse (Chatti et al., 2007). Social software can be defined, therefore, as a tool that augments, in the digital environment, the social and collaborative capacities for humans; it is a medium that facilitates social connection and information interchange and as an ecology for enabling a system of people, practices, values and technologies in a particular local environment (Coates, 2003). Rapidly evolving examples of these social software

technologies include tweets, wikis, blogs, RSS, podcasts, media sharing and social tagging.

The rapid development of so-called 'Web 2.0' technologies was coincident with the widespread development promotion and adoption of social media, and this has meant that users' lives on- and off-line merge. Both are seen as natural and seamless adjuncts to the busy lives of working professionals, and indeed most citizens of the 21st Century. Teachers and education leaders more than any other professional group have a role – some see it as a duty and a calling – to facilitate the development the social and cognitive potential of the learners for whom they have accepted responsibility. The concept of 'Web 2.0' and social networking are seen as representations of a bottom-up, rather than top-down approach to technology adoption. This more user-driven approach, which is manifest in the everyday technology use in societies today, is a reflection of how the World Wide Web has evolved (and continues to do so) to become a more effective paradigm of people's 'lived experience'. It is this lived experience (Husserl, 1931) that is of value and interest both to practitioners and social science researchers rather speculative hypotheses about technology enriched futures.

It may helpful at this stage in the narrative to pause for a moment to reflect upon some accepted definitions of types of social capital – irrespective of the digital world. Grootaert, Narayan, Jones and Woolcock (2004) have outlined their definitions of three different definitions of social capital as follows:

- The first refers to the resources an individual can gain from relationships.
- The second is the more common form, which refers to the nature and extent of one's involvement in various informal networks and formal organisations.
- The third form, proposed more recently, is called 'linking' social capital, which refers to an individual's ties to people in positions of authority.

The authors further refined these definitions to consider six dimensions of social capital: groups and networks; trust and solidarity; collective action and cooperation; information and communication; social cohesion and inclusion; empowerment and political action (Grootaert et al., 2004).

In considering the evidence presented in this chapter it should be clear that the necessary conditions for the development of social capital are as present in a well constructed and consolidated online community as they are in people's offline worlds. The motivation of learners and information professionals to share valuable knowledge is based firstly on a culture that supports and encourages knowledge sharing and secondly on trust (Ellison et al., 2007). A key requirement for knowledge sharing is a culture that allows knowledge to flow and a major prerequisite for knowledge sharing is the development of the key element of social capital – trust. Relationships foster trust; a bottom- up approach and distributed control, evident in mature online communities of practice and inquiry, build a base for successful knowledge sharing and trust. People only tend to share their knowledge if they do not feel that they are forced to. Therefore, encouraging people to build their personal

social networks and join communities based on their needs helps to ensure trust and motivates them to share. Social software supports knowledge networking and community building. For example, wikis provide an opportunity for collaborative content creation and social interaction. Blogs are a good example of social software in action. Commenting on blog posts makes the interaction between blog-authors and readers possible and can lead to interesting discussions. New blog-readers can then join the discussion by commenting or writing a post on their own blog with a reference to the blog post that they want to comment on. Trackbacks detect these remote references and enable to establish a distributed discussion across multiple blogs.

The rapid evolution of people's confidence in developing social capital in online environments is evident from the reported research about the development of online communities of practice, without any physical meeting of the members of any given online community. In the early stages of development of social network sites, although exceptions existed, most social networking sites were primarily supporting pre-existing social relations (Ellison, Steinfield, & Lampe, 2007). Whereas now, with the ubiquity of portable computing – most notably through smartphones, and most users' 'always on' existence, the quality of the social capital that is developed on and offline is becoming of equal and equivalent value, albeit of subtly different quality. Slowinsky's early research (2000) found that that for online communities to operate effectively that the participants would have to have met face to face at some point during the collaboration period. But in the subsequent explosion of social media and online activities many people – especially 'the millennial' generation, are as comfortable online as they are in any other social setting. By contrast, Cordingley (2011) found that whilst collaborative activity can be successfully undertaken electronically, many older teachers prefer face-to-face meetings due to negative experiences with electronic collaborative activity. In addition, it was noted that, for many teachers, the 'informal' element (networking with other teachers) within 'formal' learning experiences (courses) is seen as part of the attraction of attending organised learning activities. Schreurs et al. (2014) echo these findings – that being part of a community with a shared practice and identity might necessitate the periodic organisation of face-to-face encounters. In their study they reported that co-production seemed easier to achieve by institutional teams and the constitution of open, trusting, and collaborative relations was, for many, still a challenge in totally electronically mediated environments

In the early years of the development of online communities, there was some evidence that online communities were shown to mirror particular cultural norms in the sorts of social capital that are built up (Hjorth, 2009). The platform, Cyworld, was launched in Korea in 1999 and became the first to reach effective ubiquity among the young people of a significant population. By 2005 almost all young Koreans used Cyworld. One of the characteristics of Cyworld was that it operated its categories of friendship as a series of concentric circles. Hjorth (ibid) noted that this was analogous to the way in which kinship systems traditionally operated in

that country If one agreed to be a Cy- ilchon – a very close relation – then a social bond was created based upon the principles of reciprocity, in the same way as kin relationships. In other words a specific cultural alignment existed between the particular society and the particular platform. Hjorth suggested this may have been why Cyworld was so successful in Korea, and not particularly successful anywhere else. There is something of an irony in the fact that by 2015 Cyworld had been replaced by Facebook as the social media platform of choice, rather in the same way that the forces of globalisation, that tend to impose international cultural norms, are challenging the integrity of traditional Korean culture.

The blurring of the boundaries between on and off-line behaviours is further evident in the way that many users find that their material 'real world' lives are enhanced by the chat and event planning that takes place on social media (Weller, 2013). Miller (2011) suggests a positive correlation exists between the use of Facebook and increased social capital, trust and civic engagement. Also, Boase and Wellman (2006) have conducted systematic research which demonstrated that social media do not represent a 'virtual world', but are simply a further dimension of everyday existence. In particular they have shown that relationships online were not forming and developing at the expense of relationships offline: if anything, people who were more connected online had more connections offline.

In their comprehensive research into the different expressions of on and offline behaviours through field studies in eight different parts of the world[7] Miller et al. (2016), found that in most places people now expect consistency between the two domains (on and off-line). If Brazilians have cordial relations offline, they are likely also to have genial relationships on social media. For a good friend social media is likely to help cultivate and enhance that friendship, whereas, if there is no bonding in the first place, being friends on Facebook may make little or no difference to the offline relationship. Most commonly social media may also be a space where friends of friends/relatives transform into one's own friends. This seemed particularly important in the regions of Latin America and Trinidad, and most likely reflects the way in which friendship there was previously understood.

This chapter has presented some arguments to support an understanding of the term 'digital social capital'. This digital social capital does not exist as discrete and separate entity from the classical concept of social capital. Rather, it is a sub-set of conventional social capital, albeit one that has its own features and characteristics. In some ways the relative anonymity of an online presence can be an advantage to the development of social capital, as for instance in the example of Islamic women interacting online with men; the online environment can also facilitate new forms of learning as participants have the capacity to comment upon the content of a seminar in real time, as it is being presented by an instructor, in ways that would not be possible offline. The chapter has considered the dangers of inauthentic personae being created and interacting online and the sometimes vitriolic exchanges that can take place in an online environment that would be completely socially unacceptable

face to face, yet how mature online communities have ways of dealing with such deviant behaviour.

From the perspective of educationalists, the online environment offers unparalleled opportunities for interaction and professional growth. Earlier research, which indicated that face-to-face meetings were important in the creation and cementing of friendships and social capital formations taking place online, has recently been superseded by findings that show high quality social capital generation being achieved through wholly online relationships. As universal connectivity becomes the accepted norm in all parts of the world so the barriers and distinctions between on and offline communities begin to blur and then disappear. In this context digital social capital formation in education becomes just one more element to consider in the learning process. For example, just as we now consider the preferred modes of learning – auditory, visual kinesthetic – for different individuals, so we will find that certain learners' social capital formation will be optimal in the digital and online environment, whilst for others it will be in the face to face format, whilst for a third type, they may function best through a combination of both modes. What is very evident from recent anthropological research is that far from information technology changing the world, it is now the world that is changing social media (Miller et al., 2016).

NOTES

1 https://www.futurelearn.com/courses/blended-learning-getting-started
2 TIMSS: Trends in International Mathematics and Science Studies; PISA: Programme for International Student Assessment; PIRLS: Progress in International Reading and Literacy.
3 http://www.weforum.org/agenda/2015/12/where-are-the-worst-teacher-shortages/
4 internet troll: A person whose sole purpose in life is to seek out people to argue with on the internet over extremely trivial issues http://www.urbandictionary.com/define.php?term=Internet%20Troll
5 WebEx Communications Inc. is a company that provides on-demand collaboration, online meeting, web conferencing and videoconferencing applications.
6 Yammer is a private enterprise social networking platform that resembles Facebook in appearance and interaction and thus has the benefit of being familiar to most users. Yammer as a start-up firm was acquired by Microsoft in 2012 and is the most widely used system in business.
7 The researchers had field sites in Southeast Turkey, South Italy, Northern Chile, Trinidad, China, Brazil, an English village, and South India.

REFERENCES

Admiraal, W., Lockhorst, D., & van der Pol, J. (2012). An expert study of a descriptive model of teacher communities. *Learning Environments Research, 15*(3), 345–361.

Ala-Mutka, K. (2008). *Review of learning in ICT-enabled networks and communities*. Joint Research Center (JRC) Institute for Prospective Technological Studies (IPTS), European Commission, Luxembourg. Retrieved from ftp://s-jrcsvqpx101p.jrc.es/pub/EURdoc/JRC52394.pdf

Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education, 27*(1), 10–20.

Ball, S. J., Maguire, M., & Braun, A. (2012). *How schools do policy: Policy enactments in secondary schools*. London: Routledge.
Barton, S. M. (2013). Social capital framework in the adoption of e-learning. *International Journal on E-Learning, 12*(2), 115–137 (Chesapeake, VA: Association for the Advancement of Computing in Education (AACE)). Retrieved February 4, 2016, from http://www.editlib.org/p/39145
Beatty, B., & Allix, N. (2005). Being there: Exploring extending and enriching distance education in real time with WebEx. In *17th Biennial Conference of the Open and Distance Learning Association of Australia* (ODLAA and the University of South Australia 9 November 2005 to 11 November 2005) (pp. 1–13). Adelaide: ODLAA and the University of South Australia.
Bell, B., & Gilbert, J. (1996). *Teacher development: A model from science education.* London: Falmer Press.
Benkler, Y. (2011). *The Penguin and Leviathan*. New York, NY: Crown Business.
Boase, J., & Wellman, B. (2006). Personal relationships: On and off the internet. In D. Perlman & A. Vangelisti (Eds.), *Handbook of personal relations*. Cambridge: Cambridge University Press.
Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (2005). *Creating and sustaining effective learning communities.* Bristol: University of Bristol.
Borko, H., & Putnam, R. T. (1995). Expanding a teacher's knowledge base: A cognitive psychological perspective on professional development. In T. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 35–65). New York, NY: Teachers College Press.
Bottrup, P. (2006). Learning in a network: A "third way" between school learning and workplace learning? *Journal of Workplace Learning, 17*(8), 508–520.
Bourdieu, P. (1986). The forms of social capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Westport, CT: Greenwood Press.
Boyle, B., Lamprianou, I., & Boyle, T. (2005). A longitudinal study of teacher change: What makes professional development effective? Report of the second year of the study. *School Effectiveness and School Improvement*, *16*(1), 1–27
Brown, J. S., & Duguid, P. (2001). Knowledge and organization: A social practice perspective. *Organization Science, 12*(2), 198–213.
Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
Caspi, A., Chajut, E., Saporta, K., & Beyth-Marom, R. (2006). The influence of personality on social participation in learning environments. *Learning and Individual Differences, 16*(2), 129–144.
Castells, M. (1997). *The power of identity*. Oxford: Blackwell Publishing.
Chatti, M. A., Jarke, M., & Frosch-Wilke, D. (2007). The future of e-learning: A shift to knowledge networking and social software. *International Journal of Knowledge and Learning, 3*(4/5), 404–420.
Coates, T. (2003). *My working definition of social software* [Blog]. Retrieved from Plasticbag.org
Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249–305.
Cordingley, P., Bell, M., Rundell, B., Evans, D., & Kennedy, A. (2011). *The impact of collaborative Continuing Professional Development (CPD) on classroom teaching and learning.* London: European Journal of Teacher Education.
Dahlgren, P. (2000). The internet and the democratization of civic culture. *Political Communication, 17*(4), 335–340.
Dale, R. (2000). Globalisation and education: Demonstrating a "common world education culture" or a "globally structrured agenda for education"? *Education Theory, 50*(4), 427–448.
Dewey, J. (1936, 2001). *Democracy and education*. Retrieved February 25, 2016, from http://digilib.um.ac.id/images/stories/ebooks/Juni10/democracy%20and%20education%20-%20john%20dewey.pdf
Downes, S. (2005). E-learning 2.0. *ACM eLearn Magazine*.
Dron, J., & Anderson, T. (2007). *Collectives, networks, and groups in social software for e-learning*. World Conference on ELearning in Corporate, Government, Healthcare, and Higher Education (ELEARN) 2007, Quebec City, Quebec, Canada.

Duncan-Howell, J. (2010). Teachers making connections: Online communities as a source of professional learning. *British Journal of Educational Technology, 41*(2), 324–340.

Eckert, P. (2006). Communities of practice. In K. Brown (Ed.), *The encyclopaedia of language and linguistics*. Amsterdam: Elsiever Science.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168.

Frey, C. B., & Osborne, M. (2013). The future of employment: How susceptible are jobs to computerisation.

Gannon-Leary, P., & Fontainha, E. (2007). Communities of practice and virtual learning communities: Benefits, barriers and success factors. *eLearning Papers*. Retrieved from www.elearningpapers.eu

Grootaert, C., Narayan, D., Jones, V. N., & Woolcock, M. (2004). *Measuring social capital: An integrated questionnaire.* Washington, DC: World Bank.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice, 8*(3), 381–391.

Hassan, A. Z. (2003). *An action research study in an Arab context of the application of social constructivism and information communications technology in supporting learning of pre-service teacher on a technology of education course*. Exeter: University of Exeter.

Hjorth, L. (2009). Gifts of presence: A case study of a South Korean virtual community, Cyworld's Mini-Hompy. In G. Goggin & M. McLelland (Eds.), *Internationalising the internet anthology* (pp. 237–251). London: Routledge.

Holmes, B., & Sime, J.-A. (2012). Online learning communities for teachers' continuous professional development: Case study of an eTwinning learning event. In V. Hodgson, C. Jones, M. de Laat, D. McConnell, T. Ryberg, & P. Sloep (Eds.), *Proceedings of the 8th International Conference on Networked Learning 2012* (p. 131). Lancaster: Lancaster University.

Husserl, E. (1931). *Cartesian meditations: An introduction to phenomenology*. The Hague, Netherlands: Martinus Nijhoff.

Illich, I. (1971). *Deschooling society* (p. 56). New York, NY: Harper & Row.

Kennedy, A. (2005). Models of continuing professional development (CPD): A framework for analysis. *Journal of In-Service Education, 31*(2), 235–250.

Luppicini, R. (2007). *Online learning communities*. Charlotte, NC: Information Age Publishing.

Lyon, D. (2001). *Surveillance society: Monitoring everyday life*. Oxford: McGraw-Hill Education (UK).

Marwell, G., & Oliver, P. (1993). *The critical mass in collective action: A micro-social theory.* New York, NY: Cambridge University Press.

McConnell, D. (2006). *E-learning groups and communities*. Maidenhead: Open University Press.

McElroy, M. W. (2003). *The new knowledge management: Complexity, learning and sustainable innovation*. Oxford: Butterworth-Heinemann

McLuhan, M., & Powers, B. R. (1989). *The global village: Transformations in world life and media in the 21st century*. New York, NY: Oxford University Press.

Miller, D. (2011). *Tales from Facebook*. Cambridge: Polity Press.

Miller, D. (2016). *How the world changed social media*. London: UCL Press. Retrieved from www.ucl.ac.uk/ucl- press

Pugh, K., & Prusak, L. (2013). Designing effective knowledge networks. *MIT Sloan Review*. Retrieved from http://sloanreview.mit.edu/article/designingeffectiveknowledgenetworks/

Putnam, R. D. (1996). The strange disappearance of civic America. *American Prospect, 24*, 34–48.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.

Richardson, V. (1992). The agenda-setting dilemma in a constructivist staff development process. *Teaching and Teacher Educaiton, 8*(3), 287–300.

Rientes, B. C. (2010). *Understanding social interaction in Computer-Supported Collaborative Learning.* Maastricht, The Netherlands: Océ Business Services.

Robinson, S. (2014). High Stakes! Abandoning educational values for performance technologies? In A. Rasmussen, J. Gufstafsson, & B. Jeffrey (Eds.), *Performativity in education*. Washington, DC: E&E Publishing.

Schellens, T., & Valcke, M. (2005). Collaborative learning in asynchronous discussion groups: What about the impact on cognitive processing? *Computers in Human Behavior, 21*(6), 957–975.
Schreurs, B., Van den Beemt, A., Prinsen, F., Witthaus, G., Conole,G., & de Laat, M. (2014). An investigation into social learning activities by practitioners in open educational practices. *The International Review of Research in Open and Distributed Learning*, *15*(4).
Seddon, K., Postlethwaite, K., James, M., & Mulryne, K. (2012). Towards an understanding of the learning processes that occur in synchronous online seminars for the professional development of experiences educators. *Education Information Technology, 17*, 431–449. doi:10.1007/s10639-011-9166-8
Selwyn, N. (2014). *Distrusting educational technology*. Abingdon: Routledge.
Semin, G. R., & Smith, E. R. (2002). Interfaces of social psychology with situated and embodied cognition. *Cognitive Systems Research*, 3. Retrieved February 1, 2016, from http://www.cratylus.org/people/uploadedFiles/1118486135642-3656.pdf
Slowinski, J. (2000). Promoting virtual collaboration via the WWW.TechKnowLogia, septiembre-octubre.
Steeples, C., Jones, C., & Goodyear, P. (2002). *Beyond e-learning: A future for networked learning* (pp. 323–341). London: Springer.
Surowiecki, J. (2004). *The wisdom of crowds*. London: Abacus.
Susskind, D., & Susskind, R. (2015). *The future of the professions: How technology will transform the work of human experts*. Oxford: Oxford University Press.
Van der Perre, G., & Van Campenhout, J. (2015). *Higher education in the digital era. A thinking exercise in Flanders. KVAB Thinkers in residence program*. Brussels: KVAB Press.
Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91.
Vygotsky, L. (1978). *Mind in society: The development of higher psychnological processes*. Cambridge, MA: Harvard University Press
Warner, A. G. (2016). Developing a community of inquiry in a face-to-face class: How an online learning framework can enrich traditional classroom practice. *Journal of Management Education,* 1–21. doi:10.1177/1052562916629515
Wasko, M., & Faraj, S. (2005). Why should I care ? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly, 29*(1), 35–57.
Web 2.0, Social Media, and Online Games. *Iowa Journal of Communication*, *42*(1), 73–92.
Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
Wenger, E., Trayner, B., & de Laat, M. (2011). *Promoting and assessing value creation in communities and networks: A conceptual framework.* The Netherlands: Ruud de Moor Centrum.
Wick, C. (2000). Knowledge management and leadership opportunities for technical communicators. *Technical Communication, Fourth Quarter*, 515–529.
Yammer. (2015). *About Yammer*. Retrieved from https://about.yammer.com/who-we-are

Michael Lightfoot
International Education Consultant
Malta

LARRY C. AUDET AND SHEREE A. JEDERBERG

4. LEADING FOR COLLECTIVE CREATIVITY BY MANAGING THE SOCIAL ENVIRONMENT IN SCHOOLS

INTRODUCTION

This chapter looks at creativity from the school leader's perspective and examines leader behaviors that help shape social influences on teacher creativity. Our intention in this chapter is to present images of an integrated approach to group learning and we argue for leadership that helps shape social influences on work-climates that produce two important outcomes, replicating best practice and generating creative solutions for organizational problems. However, the body of knowledge on leading for creativity is slim. Therefore, to better understand creativity, we provide real work-life experiences (vignettes) for both, traditional group learning and for creative group-work. By integrating distinctly different outcomes of group-work, these vignettes can help leaders understand and situate important differences on how to mobilize teachers toward collective efforts that scale precise, predetermined teaching strategies and teacher creativity. Theory – linked to practice – is important because creativity is suddenly and fortunately a new educational focus in countries around the world, yet still today many educational leaders are not quite sure how to introduce it to their teachers and move it to the top of their leadership agenda. Creativity is now the new hallmark of learning and teaching in the Twenty First Century classroom and defining creativity early on in this paper seems like a natural place to begin. For the past decade, scholars have generally come to agree on the definition of creativity as a novel idea, one that is appropriate for the task at hand (Runco, 2004). Creativity involves the generation of high quality, novel and elegant solutions concerning procedures and processes appropriate to organizational problems and goals (Mumford, Hester, & Robleo, 2011; Puccio & Cabra, 2010). A creative idea must be original and it must be useful and it must actually be put to some use (Beghetto, Kaufman, & Baer, 2014; Hennessey & Amabile, 2010).

Traditionally, school leaders believed creativity was meant for naturally creative teachers who were left alone in pockets throughout the school and for curriculum considerations in humanities, art, music, and creative writing. However, leaders of creativity must intentionally influence conditions that stimulate creativity and nurture inspired and imaginative work of both teachers and students. School leaders who have an interest in leading for creativity need to have domain specific knowledge of

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 67–95.

creativity (Sternberg, 2006), are able to shape work-climates that stimulate creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996), and are able to shape social influences of people working together for a common cause (Hennessey, 1995). Individual creative teachers often teach for creativity because they have "… the drive to do something for the sheer enjoyment, interest, and personal challenge of the task itself" (Hennessey & Amabile, 2010, p. 581). However, most creative work that gets done in an organization is accomplished by two or more people (Hennessey & Amabile, 2010) and once the individual becomes part of a group, social influences become one of the most important determinates of how successful or not the group will generate creative ideas (Woodman, Sawyer, & Griffin, 1993). The focus here will be on how to shape those social influences and enable collective creativity so that the primary actor, the school leader, can construct those conditions necessary to craft a culture where teachers are free to express ideas that inspire their students and their colleagues.

The central issue at hand is the psychology of behaviors, feelings, and attitudes that distinguish life in an organization. Successful leaders understand how their behaviors, regardless of their intentions, produce perceptual and affective employee responses. When teachers share similar responses, their social behavior is a reflection of their work-climate, one that is largely created by the leader. Ekvall (1983, p. 2) explains, "Each organization member perceives that climate, and can describe it in light of his or her own perceptions." At the individual level of analysis, the concept is called psychological climate. At this level, the concept of climate refers to the individual perceptions of the patterns of behavior. When aggregated, the concept is called organizational climate (Ekvall, 1996). Another psychological response that has been largely ignored by scholars is an employee's affective response to a leader's behavior. Amabile and Kramer (2007) suggest that the affective response of the boss paying attention to their individual psychological needs stimulated their creativity and helped them persevere through challenging work. All this implies that when effective school leaders pay attention to creating conditions that are perceived by teachers as supportive, teachers are willing to take risks and contribute their ideas, which will increase novel approaches that improve productivity.

SITUATED GROUP CREATIVITY

Vignette: Group Creativity for Project Based Learning

> It is so exciting – that our students' projects are exhibited in her gallows below, I feel inspired and proud. I spent months of creative planning with four other teachers, we worked collaboratively so that our students could embark on a voyage of the imagination and to engage with our maritime instructors, raising sails and loading cargo while navigating their way across the Pacific Ocean. We sailed in San Diego Bay as our students worked the halyards and helm. During the three-day sailing trip, students snorkeled and collected plankton for

> the city biologists "it was amazing". We became so excited about this project that many of us spent our weekends on site, preparing for our voyage. The art teacher spent a lot of time with our students in conducting research on the era, style of the period-it was a phenomenal exhibit, and the kids were so, so proud of it. Because of our creative ideas, our students were immersed intellectually, physically and emotionally in all the shipboard activities.
> As teachers, we gather the collective wisdom of each other's ideas, and we can try new ideas-every time we do a new project.

This vignette is an excerpt from an actual interview with a high school teacher (Audet, 2012).

Clearly, each teacher positively influenced the other members in their work-group and generated a creative outcome Woodman et al. (1993) described a creative work-group in a way that is demonstrated in the vignette. These teachers worked together in such a manner by linking ideas from multiple sources, delving into unknown areas, found better or unique approaches to an educational problem, and generated novel ways of performing a task. This leader enabled their creativity. The potential when an "enabling leader champions emerging ideas, adaptive behaviors, and learning initiatives" (Mumford, Hester, Robledo, 2012, p. 473) is when teachers have the freedom and feel the trust to discover wildly divergent ideas in lesson delivery, design, and learning pedagogy.

Leaders must learn to develop the skills to support work-group creativity and understand that the outcomes depend on teachers' contributions because they are the ones closest to students. In addition, teachers are the very ones whom are best equipped to help shape a system to increase student learning, but only if they themselves are personally committed and believe they can make a difference to its success (Amabile & Khaire, 2008). The first vignette linked creativity and positive social influences within a creative group-work environment that nurtures the seeds of novel ideas for teachers to explore, design, and inspire imaginative and innovative learning outcomes for students. In addition, leaders must recognize those negative social influences, which are a natural organizational phenomenon, so that they can minimize the kinds of interactions that can serve as impediments to creativity.

Vignette: Negative Social Influences

> Austin, I call him the Whip. You know, he's really good at what he does, he doesn't have much of a filter and he lets people know when their stuff is good and when it's not and he carries the weight; less so than perhaps Jacob (boss). Jacob still makes the hiring and firing decisions. However, like Austin is the school, um I don't want to say bully because that has weird connotations, but you know, if he doesn't like your work, you're in trouble. (Audet, 2012, p. 169)

This excerpt provides further insight for leaders to recognize the need to minimize a myriad of behaviors that can typically take place while the boss is away. Once a leader creates the climate for creative innovation, they must be diligent and persistent in making sure negativity doesn't stall or combust into a storm of resentment or anger as ugly behavior's will surface and can shred the fabric of the social creative work group climate that the leader has diligently nurtured. One such behavior is work place bullying.

In the school case study, teachers reported the need to protect their teaching territory and refrained from offering feedback on creative ideas because they felt bullied (Audet, 2012) which threatened their own self-efficacy. Bullying may be difficult to define but it might take on the form of excessive monitoring, persistent criticism, verbal abuse, overt threats, or more subversive acts like exclusion or isolation, and gossip or rumors (Isaksen & Ekvall, 2010; Riley, Duncan, & Edwards, 2011). While staff bullying may be the exception in schools, Riley et al. (2011) found that 99.6 percent of faculty members (teachers and support staff) experienced some sort of bullying during their employment; 50 percent indicated experiencing bullying by a colleague. Moreover, the statistical results revealed a "disturbingly high 50 percent of people indicated their health was affected and suffered in the form of mental health and physical wellbeing and expressing a strong desire to leave their employment" (Riley et al., 2011, p. 14). All this implies is that schools need to manage negative behaviors in order for teachers to feel safe and secure when collaborating with colleagues.

Social Context for Creativity

Creativity has always been a social phenomenon. Often, the peer community, family, and work environment, through shared histories and norm behaviors and standards (Csikszentmihalyi, 1988) often judge the creativity of a single personal act. In recent years, there has been increasing acknowledgment of the importance of social and contextual factors in creativity. Amabile (1983, 1996) observed that the role of a range of social factors such as mentoring, modeling, family influences, and social reward contexts had a huge influence on creating a climate that is supportive for creativity to emerge. She and her colleagues designed a model of creativity that accentuated the pivotal role of intrinsic motivation and the effect of organizational contexts on this type of motivation (Amabile, Conti, Coon, Lazenby, & Herron, 1996). In addition, Csikszentmihalyi (1999) promoted a systems perspective that included the interactive effects of personal background, society, and culture. Additionally, Kasof (1995) highlighted the social factors that are important in the evaluation of creativity.

Further research added to these social factors such as an edited volume by Purser and Montuori (1999) which focused on various aspects of social creativity in various organizations. Several books on highly creative individuals also recognized the importance of social factors such as mentoring and support from family and

colleagues in creative achievement (Gardner, 1993; John-Steiner, 2000). Although there has been increased appreciation of the importance of social, cultural, contextual, and organizational factors in creativity, there has been much less systematic focus on the group processes related to creativity and how leaders can shape those groups.

This is an important area, as we believe that there is a serious void as increasingly, creative achievements require the collaboration of groups or teams (Paulus & Nijstad, 2003). One cannot simply assume that groups will pool their collective knowledge in search of better decisions. If it was that easy most school districts in the USA would give teachers the time to work together and to learn from one another (Jederberg, 2006). Similarly, leaders would have the training in how to lead teachers through the process in collective group creativity. As school districts struggle with accountability testing (Common Core) with insufficient resources for professional development and training, one needs to consider carefully the culture of effective information sharing. Recently, there have been a number of significant contributions in the area of group creativity and to the context (i.e., organizations, culture) in which group work exists (Paulus & Nijstad, 2003). Within both individual and group creativity there needs to be leader support and professional development targeted at behaviors conducive to multifunctional teacher teams and creative problem solving.

As well, leaders need to recognize how to create a psychologically safe work climate, which is important for teacher creativity. When school leaders create a safe work climate and rely on teacher contributions for generating original ideas, breakthroughs become commonplace. Creativity is a conscious choice; one that responds positively to good work-group support; wise leaders respond to human needs by influencing social interactions because trust is a major determinant in teachers choosing to engage or not.

ACCOUNTABILITY AND CREATIVITY-NOT AN OXYMORON

Teaching for creativity is now in many educational policies and curriculum frameworks, which is demanding on school leaders as they now need to seek original ways to fulfill and meet these new school-wide accountable measures without the benefit of prescribed leadership models or theories to rely upon for reference. Group creativity is becoming increasingly salient and desired because "most creative work that gets done in organizations is accomplished by two or more individuals working closely together" (Hennessey & Amabile, 2010, p. 580). The difference may therefore rest on several factors that can create conditions conducive to highly successful creative group efforts (Sternberg, 2006).

The responsibilities of the school leader are vast and often seems unfathomable-with a myriad of responsibilities that require many qualities including the ability to accept risk, adapt to situations, sort through details and data, and solve problems quickly and efficiently, all the while assuming leadership of the organization. If the school fails to meet the accountability measurement, they fail, and if they succeed, they have a job until the next round of testing results come up. It is no coincidence if

you interview school leaders that most would agree that their largest concern is how they and their school(s) will measure on accountability standards (Jederberg, 2006). Today, education reform policies have never been more acute. Learning standards and assessments that measure students' abilities to understand, analyze, and connect information, skills, and expertise across curriculum domains with cogent lines of reasoning are paramount. Because of these new accountability standards in school systems across the world, teachers will need to work more closely together. So too must leaders learn how to create a work climate that nurtures and enriches the conditions that allow for creativity to flourish. Although most leaders have never worked in an organization or school environment that operates contrarily, many educators may have trouble envisaging a different way of working.

School leaders imagine that they may have only a few opportunities open to them as they face new accountability and testing demands: either to maintain working the way they always have and pray that the testing and accountability (Common Core or other measurement) is just another education fad, and may soon fade away, or to gauge the system by participating in practices that increase student success. In doing so they may narrowly "teach to the test" while completely ignoring those essential non-tested subjects, like art and music, all the while manipulating the numbers, or they may even encourage those students that perform poorly on tests, or those that are always absent, or those that are new to the school site or school district, to stay home. The authors have personal knowledge and experience that this does happen, as new administrators we were asked to "drop" students and to suggest to students to stay home the days of testing, or the school "dropped" or transferred students to alternative education just before testing-this was a common practice at this time. We are hopeful though that a third option is far more viable and enticing. One may think this seems fairly straight forward but we agree with Karl Marx's aphorism that "Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past" (Derrida, 2012, p. 108). Successful leaders of creativity are mindful of the intended and unintended consequences of prior reform policies as they build a new bridge between the side effects from the past with the uncertainty of tomorrow. With turbulent and unknown changes that seem to occur every year, school leaders must understand that "The new problem of change … is what would it take to make the educational system a learning organization—expert at dealing with change as a normal part of its work, not just in relation to the latest policy, but as a way of life" (Fullan, 1993, p. 4).

Educators generally believe creativity is desirable and warranted, yet there is little doubt that teacher creativity is subdued more often than supported. For the most part, it is not that governance teams want to inhibit creativity because it lacks relevance in public schools. Interestingly, two thousand California school board members cheered and praised Yong Zhao during his keynote address to the California School Board Association where he made it abundantly clear that creativity, innovation, and entrepreneurship were essential educational outcomes (Zhao, 2013).

NEED FOR TOP-DOWN LEADERSHIP IN CREATIVITY

Vignette on California School Board Association Conference (Zhao, 2013)

> Sitting with other administrators, I sat in the large conference grand ballroom chatting casually, waiting for the keynote speaker's speech on America's student scores vs China, Finland, Singapore and other countries worldwide. The lights dimmed and the guest speaker approached the podium. He was of Chinese descent, and I was taken off guard when he started the speech talking how the concept of School Board members was like Communist China, only that here in the US board members are elected. Since this was the annual California School Boards conference, I was taken aback by his candor, and looked around at school board members obviously either chuckling about the remark, or miffed at his accusation. Then he said "As an immigrant I am very concerned about the children in the United States" and he continued to talk how America is the lowest scoring country in the world in English and math on PISA scores. He stated, "That our (US) educational system was designed to educate our children in our past society…it no longer exists today." He elaborated the need to change our educational system to allow for creativity, to teach creativity in our schools, to change our educational goals to allow for creativity-because that is where the global focus is if our children/nation will survive in the future, and if we don't, then we will continually be passed by, and outsourced by other countries. Across the floor of the conference room you could hear affirmations, acknowledgement of what he said was true, when one school board member across the table from me said "YES-finally someone is telling the truth-we don't just need more programs, but we need to have our teachers engage the students in creative learning." (S. Jederberg, personal communication, 2013)

The reasons why creativity in the past had a vague and circuitous relationship with education institutions and practices are abundant and complex. The creation of novel ideas has a history fraught with resistance in the educational community because creative endeavors often appear risky, frivolous, and disruptive to traditional learning outcomes. Educators might appreciate certain creative manifestations such as student divergent thinking, while problem solving and creativity is a foreign concept and is often not encouraged in schools. Yong Zhou's keynote address highlighted the fact that our educational system discourages creativity, from age five when students are rated as high as 98 percent gifted and creative, by age fifteen students have lost their creative dispositions down to 8% (Yong, 2013). Along with the unintended consequences of No Child Left Behind (NCLB), which provided many schools with a step in the wrong direction when considering the impact on teacher morale and their intrinsic motivation which prevented teachers to design learning opportunities for students that might be a bit atypical than the prescribed scope and sequence curriculum. This put an abrupt and final stop for many teachers'

desire and motivation to create multiple exploratory lessons that eventually eliminated creativity in our students (Ryan & Deci, 2000).

Another example of an unintended consequence from NCLB was educators' responses to a top-down, reform policy, one with lasting residuals, was that the job of teaching became challenging, tiring, and burdensome, and teachers lost their own passion for teaching. In one study with art teachers, only 11% agreed that NCLB had an encouraging or constructive effect on faculty morale (Sabol, 2010). In addition, NCLB goals were prescribed for both public and charter schools and teachers and their leaders were held accountable, with threats of sanctions, to close the achievement gaps between minority and majority populations. Fear took hold and soon replaced passion in the classroom, understandably so. Shaker and Heilman (2008) suggest that often there were heavy-handed levels of surveillance on individual educators' performances that included reports being published in newspapers on individual school buildings and on district performance. If you were a school principal, you could wake up one morning and find your school, and even your name, on the front local page of your newspaper with the heading "Lowest Performing Schools-Beware, Don't Let Your Children Attend These Schools". Due to the fact that now individual school sites and teachers were being held under a microscope, teachers stopped taking risks and paced their teaching to ensure all the required test criteria was covered, fear took the precedent of passion in teaching.

This psychological impact resulted in teachers withdrawing from each other and withholding their care and affection from their students (Brooks, Hughes, & Brooks, 2008). This resulted in the loss of autonomy, connectedness, competence, efficacy, and their interest was thwarted, so much so that the teachers' attention and effort in working together to attain educational goals diminished (Moller & Deci, 2010) and their sole effort was on their student's scoring high on the state standardized tests. Through this trial of accountability emerged a call for teachers to work together through the Professional Learning Communities (PLC) model. In this model teachers meet frequently by grade level or content areas to collaborate on strategies, set goals, and analyze data so students could meet the proficiency and mastery levels of the new content standards in the state standardized tests (Schneider, 2015).

A Time for Non-Creative Group Work

Many educators believe teaching content standards and creativity are at odds with one another (Beghetto, Kaufman, & Baer, 2014). When thinking about group work, similarly, many believe improving pedagogy such as direct instruction in Professional Learning Communities (PLC's) is at odds with creativity. We argue that there is a time to scale best pedagogical practice from room to room and across the district and there is a time to be creative. School leaders assign teachers by grade span or by curriculum domains into PLC's in order to give and receive feedback on a certain practice. Further, leaders of creativity invite teachers to teach for creativity in core classrooms, which naturally feels the same as traditional PLC

practice. The significant difference between PLC group work and creative group work is when the leader invites cross functional teams from diverse areas of the school or district to discuss current departmental borders or delineations of job descriptions, and workflows. Trusting teachers and other colleagues to participate in organizational change is crucial and at first, may feel risky. Leaders of creativity act on the belief that teachers are willing and capable of providing self-leadership and are intrinsically motivated and committed to organizational goals (Bandura, 1997). Without denying the need for (PLC's), group creativity is new, important, and complimentary. In other words, future oriented schools will find the need for both.

THE GROUP WORK OF PROFESSIONAL LEARNING COMMUNITIES: A TIME FOR REPLICATION

Vignette on PLC Work Around Direct Instruction

> A group of twenty- third grade teachers sat around the round beige tables in the auditorium drinking coffee and talking about their new assignments. Fifteen of the teachers were new to the school, and most were new teachers. The school just had a large number of teachers take the "Golden handshake" so many of the veteran teachers retired. As the presenter for this group of teachers this day for Explicit Direct Instruction, I had my handouts, PowerPoint slides, videos, popsicle sticks, jumping jacks, balloons, crayons, markers, notepads, pens and pencils, and fish bowl. Turning on my projector, I read aloud the heading on my first slide "What is Explicit Direct Instruction-and why should you know this teaching strategy?" I waited ten seconds (wait time) and pulling out one my popsicle sticks (random checking for understanding) I pulled one out of the jar (picking a random non-volunteer) and said "Karen-could you tell us what you think Explicit Direct Instruction is and why should you learn this strategy as a teacher? A "ask the question; "P" pick a random non-volunteer; "P" pause to allow everyone to hear the question and think of their answer; "L" listen to the answer; "E" explain, elaborate, exchange ideas or clarify answer- "APPLE". So I followed the "APPLE", Karen replied with an incorrect answer, I repeated her answer, giving further explanation and clarification, and picked another popsicle stick, "Manual, could you help in further clarification of why you should know this strategy? "We talked about the need for checking for understanding (CFU), having a clear learning objective, activation of prior knowledge, providing multiple teaching of the concept, importance, skill, of the learning objective, giving students guided practice, continually CFU, modeling, implementing English Learner strategies, moving into independent practice and assessment." It was a two-day workshop that easily should have been five days, with much needed time for modeling and reflection. Teachers wanted more time to practice, to collaborate and discuss, to learn more. (Jederberg, personal communication, 2004)

This vignette highlights what both researchers and educational leaders acknowledge – that there is value in the professional development of new methods needed for reforming schools and raising teacher quality. This vignette illustrates that teachers need to have the content knowledge of not only their discipline, but also the teaching methods to deliver that content. The federal government, states, and school districts are spending much of their allocated budget on professional development, more so today than at any other time in history. Much of that professional development has been used in creating "Professional Learning Communities (PLC)".

Senge (1990:4) asserted some years ago that "The most successful corporation of the future will be a learning organization". Drucker (1992) qualifies that to move beyond the 21st Century skills "Every enterprise has to become a learning institution [and] a teaching institution." The Partnership for 21st Century Skills (2015:21) has stated that there is a need for schools to become self functioning, and to work as a cohesive and collaborative learning community in order to model and teach the skills students will need. The best environment for teaching 21st century skills are "professional learning communities that enable educators to collaborate, share best practices, and integrate 21st century skills into classroom practice". Educators need to embed continuous learning in all aspects of education, from science, art, social studies, and physical education, the skills necessary for future employees to be successful as these future jobs will dominate the 21st century" (p. 108). There is continuous and mounting evidence in support of professional learning communities and their positive affect on student success (Vescio, Ross, & Adams, 2008). The American Educational Research Association (2005) concluded that teachers need to spend time teaching, modeling, and engage in reflection on their practice and that "participating in professional learning communities-it optimizes the time spent on professional development" (pp. 2, 4).

The term Professional Learning Communities (PLC) emulates the supportive and collaborative relationship between both administrators and the entire staff within a school who work together collaboratively to ensure that all students learn. Hord (1997) stated, "As an organizational arrangement, the professional learning community is seen as a powerful staff development approach" (p. 54). DuFour, DuFour and Eaker (2006) said, that it is important to realize that the PLC model is more than merely a "program" it is a precise and dedicated process where an assortment of diverse stakeholders, like students, teachers, principals, parents, assessment, and school programs could affect and improve student learning considerably. If schools want to enrich their organizational capacity to increase student learning, educators should pay closer attention in how to build an effective professional community that is characterized by everyone having a shared vision and goal(s), engage in collaborative activity, and synthesis a collective mission and shared purpose among all staff (Newmann & Wehlage, 1995). Darling-Hammond, (1996) went even further to say that schools should be restructured so that genuine learning can take place. Many and Sparks-Many (2015) added that it is only when teachers are working together on group collaborative teams, that they can then improve their practice in

distinct different ways: first, teachers will sharpen their pedagogy by sharing explicit instructional strategies for teaching more effectively, and second, they expand their own content knowledge by identifying the specific standards students must master "In other words, when teachers work together, they become better teachers" (p. 83).

Therefore, it is important for school leaders to consider that the whole community must work collaboratively in order to achieve learning for all students. It is also necessary for the school leader to ensure that structures are in place to help promote a collaborative school culture which will encourage the effective implementation of a (PLC) "Preferred organizations will be learning organizations… It has been said that people who stop learning stop living. This is also true of organizations" (Handy, 1995, p. 55).

Encouraging the whole school staff to work collaboratively requires supportive and knowledgeable leaders who know how to lead a group through this learning process (DuFour, 2004). Before school leaders could begin to design professional learning communities within their schools, they must first build effective strategies to allow for the collaboration of teachers to be meaningful and ensure that there are certain guidelines that must to be met. These guidelines should include providing meeting time for teachers to share their ideas and knowledge regarding students' assessment, planning and discussing curriculum design, offering training programs and considering the differentiation among teams, evaluating teachers' work and students' performance based on high and clear expectations and informing teams' work via being able to access to valuable templates and models (DuFour, 2006). Reeves (2005) summed it nicely when he clarified that "The framework of a professional learning community is inextricably linked to the effective integration of standards, assessment, and accountability … the leaders of professional learning communities balance the desire for professional autonomy with the fundamental principles and values that drive collaboration and mutual accountability" (pp. 47–48).

A TIME FOR CREATIVE GROUP WORK

Composition

Just about everyone has heard the African saying "It Takes a Village to Raise a Child" which means the people that surround a child must take the responsibility of not only influencing him/her, but being advocates for meeting the child's needs. Another proverb from the 12th century "Standing on the shoulders of giants" is to discover the truth by building on the previous discoveries of those that came before enhancing to their own discoveries. Those that are the advocates for a child and those that stand on the shoulders of previous learning and knowledge must know how to work together before they can "see beyond" previous discoveries. Eillen Aviss-Spedding from the New Jersey Department of Education said it was time that teachers stopped working in isolation, from the old one room schoolhouse, to the individual classroom, that teachers are not meant to work in isolation, but that they need to

be part of a team of other professionals, working together in solving a multitude of curriculum issues, teaching pedagogy and strategies best to help individual students in achieving beyond the basic proficiency level. To do that teachers need to stretch their own domain knowledge, to reach across other content domains to learn from one another and other teachers in other districts and across the country. The major road block is "to help convince the public of the value that can come from giving teachers a chance to work and grow together in new ways" (Mizell, 2007, p. 20) and then to find the resources and funding to support this initiative effort.

The group composition of how teachers form into one group, by either grade span, content domain, or grade level, is critical to the success of the group. PLCs function well by collaboration with one another in defined curriculum domains or by grade level. Yet to create a cohesive creative work group, the leader must coalesce a multitude of individual characteristics with a vast palate of emotional traits that can be either harmonious or destructive within a group. The idea that diversity can stimulate both creative and innovative outcomes in groups is widely recognized (Austin, 1997; Bantel & Jackson, 1989; McLeod, Lobel, & Cox, 1996), yet the actual practice of being in a group with members who have different backgrounds and perspectives can become very melodramatic-with the result being chaotic and challenging. School leaders need to understand that a balance needs to occur between groups with members who differ from each other on one or more salient characteristics, that this group composition may experience higher levels of conflict (Jehn, Chadwick, & Thatcher, 1997) and lower levels of cohesiveness (Jackson et al., 1991). "Diversity, thus, appears to be a double-edged sword, increasing the opportunity for creativity as well as the likelihood that group members will be dissatisfied and fail to identify with the group" (Milliken & Martins, 1996, p. 403). PLC work groups should consist of a diverse cross section of the school community.

Leader Led Creative Group Work

Vignette:

Entering this rural community as the new Superintendent, after a two-year absence of any superintendent, was a challenge-teacher morale was low, there was mistrust, staff were absent of care and pride in their district, and anger and resentment flourished toward those in administration. Each time I stepped onto school grounds, or entered a staff room, the air was charged with negative vibrations, shuffling of voices permeated the atmosphere and no one ventured to raise their eyes to meet yours, or to smile and share a simple "Hello". No wonder. The previous Superintendent was told to resign due to his hostile relationship with staff. I took a risk in designing a new evaluation model for teachers-a sure way to get fired-not a task most new superintendents would even think about, let alone getting staff to talk about or try to tackle their first year on the job. Nevertheless, this new evaluation model was built with the

> teachers-not as a stand-alone policy. All teachers were invited to participate in the design of this new evaluation model-25 percent of the teaching body volunteered, and of those 25 percent, five teachers were chosen to represent all the teachers in this process. Some of the five were new to the profession and others were either tenured or would be tenured that year. There was a range of race (Caucasian, Asian, and Hispanic) as well as a mix of male/female. The teachers that opted in produced a new Clinical Supervision model. This new Clinical Supervision model encompassed a myriad of teacher behaviors, from what a new teacher should show evidenced, and where a master teacher should have evidence in teaching for creativity in the Common Core classroom, along with knowing and demonstrating motivational theory. Along with the classroom observation(s), the teachers that opted in engaged in action research and wrote their research findings as their narrative portion of the evaluation model. A year later, all staff except one opted in on the new Clinical Supervision model that encompassed not only levels of teaching and learning strategies, but creativity and motivational strategies. In addition, leaders learned from the teachers and became more reflective and more effective mentors. (Audet, personal communication, 2015)

The reality is that leaders already contribute to the work-climate, whether deliberately or not (Shalley & Gilson, 2004). Those leaders that deliberately create a climate that is conducive to creativity will face a number of challenges in the organization, and must prepare how they will handle these situations, such as whether or not to provide rewards and/or recognition; being cautious in providing too much direction; reducing stress and ambiguity while simultaneously maximizing challenge and risk taking; encouraging exploration while ensuring timely production of a viable product; and, encouraging individual initiative, while promoting integration of group activities (Mumford et al., 2002). The first challenge leaders grapple with is how to get teachers involved and interested.

It is important that the leader actively recruit members who have diverse perspectives and skills which can encourage critical thinking (i.e., active sense-making and problem finding) and facilitate creative behavior and innovation. In small groups, teachers' experiences can facilitate creativity, improving the use of knowledge upon which innovations may be based and creative goals are established (Ford, 1996). Having a diverse set of skills, individuals and teams can then approach problem solving in particular ways that will facilitate their creativity – they can explore multiple options, challenge assumptions, seek different perspectives, combine different viewpoints, and actively evaluate different options (Shalley & Smith, 2008).

When a leader understands how to bring individuals together to work and produce innovative projects and come up with creative ideas, then the production of group creativity is born (Hackman & Wageman, 2005). Others have elaborated that group creativity occurs when a recognizable collection of individuals work interdependently toward the shared goal of developing output that is both novel

and useful (Amabile, 1988; Woodman, Sawyer, & Griffin, 1993). Creative outputs can range from incremental improvements to radical ideas for breakthrough new products, services, or processes (Madjar, Greenberg, & Chen, 2011; Singh & Fleming, 2010). Research on group creativity has generally drawn on an evolutionary model in which random variation underlies the production of a range of creative outputs, resulting in ideas that fall along the continuum from incremental to breakthrough (Staw, 2009). A breakthrough idea falls into the right-hand tail of the distribution of a group's ideas. Researchers have theorized that the chance of a breakthrough improves when a greater variety of resources enters the process, because diverse inputs stimulate variety in output. Sarah Harvey (2014) argues that the combination of resources through a process of creative synthesis can increase the likelihood that a certain idea will become a unique breakthrough idea/solution to a given situation. She adds, "Synthesis develops through a process in which groups focus their collective attention, enact ideas, and build on similarities within their diverse perspectives. I propose that this process is more likely to result in a breakthrough idea" (p. 325). For example, groups tend to be more creative when they fully access members' cognitive resources (e.g., Gallupe, Bastianutti, & Cooper, 1991; Shin, Kim, Lee, & Bian, 2012), have diverse social resources based on group composition and interaction (e.g., Muira & Hida, 2004; Watson, Kumar, & Michaelson, 1993), and are supported by environmental resources that motivate members to generate and share ideas (Eisenbeiss, van Knippenberg, & Boerner, 2008; Taggar, 2002; Tsai, Chi, Grandey, & Fung, 2012). Studies of creative collaborations reveal that creativity occurs through a dialectic negotiation and integration of stakeholders' opinions and perspectives (Hargadon & Bechky, 2006; Long-Lingo & O'Mahony, 2010; Murnighan & Conlon, 1991; Sawyer, 2004). A similar process of reorganizing and integrating divergent understandings has been elaborated for individual (e.g., Koestler, 1964) and organizational (e.g., Drazin et al., 1999; Hargadon, 2002) creativity. Work groups have the potential to develop what Moran and John-Steiner refer to as 'creative collaboration' where both the 'complementarity' and the 'tensions' within groups help create the right conditions for creativity to occur (John-Steiner, 2000; Moran & John-Steiner, 2003; Moran & John-Steiner, 2004).

Developing teacher work group creativity in school requires a synthesis of the content knowledge of each teacher and the diversity of the group, so that group tensions caused by differences in opinion and thought processes produces novel solutions to difficult problems (Catmull, 2008). The movie industry is a good example where this happens; take George Lucas who is an American filmmaker and entrepreneur, founder of Industrial Light & Magic where some of his most famous films were created, such as Star Wars and Indiana Jones. Group work in creating these movies come about only with a purpose and when a diversity of talents and people come together and synthesize diverse ideas into a shared goal; teachers engage with one another that changes their understanding and allows new ideas to develop (Bartunek, 1984; Benson, 1977). A school leader initially first helps the

group in identifying and then collaborating in the process to end up with shared goal features before generating ideas-this helps individual teachers to structure their creative thinking which will result in more original and higher quality ideas (Mobley, Doares, & Mumford, 1992; Mumford, Baughman, & Sager, 2003). Similarly, a school creative group-work involves a synthesis of ideas from different areas of expertise, thus having teachers from different content areas and grade levels working together (which might be different than the PLC grouping of teachers), is critical in the composition of a work group (Gilson & Shalley, 2004; Hargadon, 2002; West, 2002).

In the previous vignette, teachers arrived at the table with clear expectations of the goal. Group members need effective goals, clear expectations in order for the organization to realize a reasonable level of performance and quality (Anderson & West, 1998). Goals motivate employees by increasing attention and effort by providing clear targets toward which to direct energy. Goals affect what people pay attention to, how hard they work, and how long they persist on a task (Brophy, 2004). Setting goals cues employees to what is needed for their job and what is valued by the organization (Shalley & Gilson, 2004). For example, Amabile and Gryskiewicz (1987) suggest that having clear organizational goals was a critical factor for high levels of organizational creativity. In contrast, when no clear goals were given, lower levels of creativity resulted (Amabile & Kramer, 2007).

Pink (2011) explains that people are intrinsically motivated when they find purpose and they become more willing to spend time mastering their craft. Teachers in the vignette wanted to improve their relationship with their supervisor from one as an inspector of performance to one as a facilitator of continuous teacher growth (Gall & Acheson, 2010). Purpose motivation is important in creative ideation and seems to contradict old organizational motivation models where the boss rewards desired behavior and minimizes unwanted behavior (Pink, 2011). Extrinsic motivation such as pay and rewards are only effective when the boss expects mechanical skills such as the work on an assembly line. Once a diverse group was selected from the list of volunteers, the next challenge was to find the problem, which is commonly referred to as problem finding.

Creative Group Work-Teacher Inspired

Problem finding is an important component of the creative process (Okuda et al., 1991). It demonstrates the group's ability to construct its own problems that relate to organizational problems. A simple example for problem construction and its effect on problem solving:

> An automobile is traveling on a deserted country road and blows a tire. The occupants of the automobile go to the trunk and discover that there is no jack. They define their dilemma by posing the problem: "Where can we get a jack? They look about, see some empty barns but no habitation, and recall that,

> several miles back they had passed a service station. They decide to walk back to the station to get a jack. While they are gone, an automobile coming from the other direction also blows a tire. The occupants of this automobile go to the trunk and discover that there is no jack. They define their dilemma by posing the problem: "How can we raise the automobile?" They look around and see, adjacent to the road, a barn with a pulley for lifting bales of hay to the loft. They move the automobile to the barn, raise it on the pulley, change the tire, and drive off. (Getzels, 1982, p. 38)

The group of teachers in the vignette identified traditional supervision as their problem. They perceived teacher evaluation as part of the system that existed and which no longer was relevant or played an important role in their professional lives, almost like an organizational ritual that was no longer relevant (Gall & Acheson, 2010). Moreover, given the current evaluation model, the principal was viewed as an inspector, therefore teachers negatively perceived their leader's behavior (Amabile & Khaire, 2008) and their affective response from feeling like they were under surveillance killed their creativity (Shaker & Heilman, 2008). The leaders' role was to facilitate divergent and convergent processes as the minds of many contributed to a novel and appropriate solution. These teachers saw the "barn" and drew resources together, built a cohesive and collaborative team, and sought divergent problem solving ideation to create a new supervision model that radically reflected what they perceived now as a tool that would promote their professional expertise and which was a growth model vs an accountable one.

Teachers in the vignette were ready to take a leap into the unknown (new Clinical Supervision Evaluation model) because they believed their contributions would serve an important purpose and this was one critical area they could have a voice in their own evaluation. This vignette highlighted that these teachers were given the freedom to not only choose their problem, then they collaborated with their school leader(s) in coming up with a viable solution that they all vetted, designed, took pride in, and held each other accountable in implementation.

Creative Work Group Dimensions

These are some highly effective indicators that leaders can help to mold to encourage groups to work together. Amabile (1993, 1996) describe a work environment as the result of the personalities, styles, policies, and interactions of a great many people, from top management to individual employees in work groups. Innovation within the organization depends upon a number of critical variables: Organizational Motivation, which she describes as the basic orientation of the organization toward innovation; shared vision; providing rewards and recognition; lack of internal politics, and lack of overemphasis on the status quo; Resources, which is everything the organization has available to aid in the area targeted for innovation, including time, funding, information and materials; Management Practices which is allowing

freedom and autonomy in the practice of work; providing challenge; specifying clear strategic goals and forming work teams comprised of individuals with diverse skills and perspectives.

A particularly powerful creative enhancing force comes from the provision of employee freedom to decide what to do or how to accomplish a task. Closely related to freedom is autonomy, which is described as having a sense of control over one's own work and ideas, has received the most attention from researchers and theorists (e.g., Abbey & Dickson, 1983; Albrecht & Hall, 1991; Amabile & Gryskiewicz, 1987; Andrews & Farris, 1967; Bailyn, 1985; Ekvall, 1983; Monge & Cozzens, 1992; Pelz & Andrews, 1966; Paolillo & Brown, 1978; Siegel & Kaernrnerer, 1978). Woodman et al. (1993) cited that the creative performance of individuals in a complex social setting is a function of the sense of autonomy of individuals and the social influences that enhance or constrain individual creativity (e.g., group norms), along with the contextual influences that enhance or constrain individual creativity (e.g., organizational reward structure). According to Deci and Ryan (2000), autonomous motivation is described as allowing people to participate in their own goal pursuit, which concerns peoples' ability to satisfy their basic psychological needs as they pursue and attain their valued outcomes. However, it does not appear that freedom and autonomy are necessarily a universal good thing in each situation. Pelz and Andrews (1966, 1976) used survey techniques to assess the degree of ''looseness versus tightness'' exhibited by the managers of scientists. They found that both overly loose and overly tight control tended to inhibit innovation with productivity and caused motivation to peak at moderate levels of control (Mumford et al., 2002). A delicate balancing act is needed by school leaders in leading for group creativity to allow for enough freedom, but not enough to "strangle" the group on too much freedom and autonomy.

When teachers are tasked with working hard on challenging and important projects, then their individual sense of self-efficacy has a direct influence on how well they will perform on any task and level of effective completion. In addition, the level of teacher's self-efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. A stronger perception of self-efficacy leads to more active efforts (Bandura, 2010; Bandura et al., 1975). Psychological procedures, whatever their form, alter the level and strength of self-efficacy. The challenge becomes one of fear of failure. School systems are designed to promote achievement and avoid failure. But, in moments of failure, this can be the space and time where sparks fly and ingenuity and creativity is often born (Creativity and Reason in Cognitive Development, 2006), yet many won't take the risk to fail to discover this "side effect".

It is critical that teachers feel safe so that they can freely pitch their ideas, and in return, feel safe in receiving feedback on their ideas from their school leader even if their ideas "fail"-learning from failure is a critical part of organizational learning. A creative climate allows teachers to learn and feel comfortable in missteps that are part of experimentation with new ideas. A willingness to take risks, trying

new things and implementing and empowering policies are tangible behaviors that have shown to increase efficacy (Edmondson, 1999). Even leader behaviors that seem odd, such as standing on desks while speaking with employees, can increase efficacy and stimulate risk taking and creativity. Jaussi and Dionne (2003) examined these unconventional leader behaviors and further research along these lines may likely prove beneficial to understanding the impact leader behaviors have when modeling the learning process, including the willingness to experiment with new ideas. However, pitching ideas and receiving feedback requires trust and open communication on both parts: the teacher and the leader, it does not work if it is one way only.

Isaksen (2007) describes trust in terms of degree of emotional safety in relationships. West and Sacramento (2012) describe trust as intra-group safety; the sense of psychological or psychosocial safety, which group members feel in the presence of their fellow group members, particularly during the whole group interactions. Kohn, Paulus, and Choi (2011) define trust as the extent to which team members have confidence that their fellow group members will act in accordance with accepted standards of conduct and fairness. Reiter-Palman, Wigert, and Vreede (2012) explain that trust is based on the team member's belief that the team is competent, can accomplish its task, and will not harm the individual. Edmondson (1999) uses the phrase "team psychological safety," which is defined as a shared belief that the team is safe for interpersonal risk taking. The concept of trust in work groups is important and has a high association with creativity in highly creative organization (Ekvall, 1996), therefore the interaction between teacher and leader must first form and embody that trust before a nurturing climate can exist.

Unfortunately, groups do not always function well. When employees perceive mistrust with other group members as well as low levels of commitment to project goals, engagement in constructive feedback is often missing. When goals of the group are not salient, or an individual does not agree with the group's goal(s) or ways to implement them, creative outcomes also suffer (Hirst et al., 2009). "Where trust is missing, people are suspicious of each other, and therefore they closely guard themselves and their ideas. In these situations, people find it extremely difficult to openly communicate with each other" (Isaksen, 2007, p. 6). Brophy (2006) identified several causes for a lack of trust in groups as having differences in perceptual sets, conformity pressure, social loafing, fear of evaluation, and distractions from members wasting time.

The same is true for the lack of openness to other's ideas, which can lead to a negative group climate. If individuals within the group do not feel safe within the environment, then people will gossip and slander one another. Other research suggests that group dissent may compromise group performance by undermining solidarity and commitment, thus generating a climate of apprehension in groups when constructive feedback and evaluation targets the individual and not the group. The negative evaluation of ideas (as opposed to idea sources) leads to fewer ideas, but these are vastly more innovative (Troyer & Youngreen, 2009); this implies that

the leader must know how to work with people and how to create a work climate conducive for creativity to flourish.

Leaders of innovation serve as the gatekeepers of ideas – backing those ideas that are most advantageous for the team and organization (Mumford et al., 2003). Isaksen (2007) suggests that idea-support determines the way new ideas are treated. In the idea-supportive climate, ideas and suggestions are welcomed in an authentically caring way. When leaders and their employees encourage ideas and listen to each other, more potentiality exists for creative ideation because employees perceive support. When idea-support is low, people expect the automatic "no" from others in the group, especially the boss.

Role modeling by supervisors can influence employee creativity (Shalley & Gilson, 2004). Over time, genuine and repeated leader behavior within the organization is more likely to enhance creativity (Gong et al., 2009). Modeling by the leader also strengthens group cohesion (Jaussi & Dionne, 2003). Leading for creativity is a matter of talking the talk and walking the walk because teachers, like employees in other types of organizations, are unlikely to follow a leader who says one thing and does another (Puccio & Cabra, 2010). Influencing employees by walking the walk, however, requires leaders to have substantial knowledge and technical expertise along with creative problem-solving skills (Mumford et al., 2002). One of the most important skills is to invite and inspire teachers to become involved.

Teachers become involved in school activities for a number of reasons. On one hand, some teachers become intrinsically motivated to choose work projects that could also align with organizational goals, hopefully this is not happenstance but planned. On the other hand, teachers become extrinsically motivated and involve themselves in activities because they fear what will happen if they do not, for fear of not given tenure, or just losing favor with those they perceive as being "important" to their career. According to contextual theories of organizational creativity, the psychological meaning of environmental events and social interactions largely influence intrinsically motivated creative behavior when employees work in groups (Woodman et al., 1993). Therefore, for leaders to become highly effective in creating conditions that encourage teachers to make a conscious choice to engage in creative ideation; an act that requires a leap from the known to alternatives (Pickard, 1990) is the responsibility of the school leader. All this suggests is that school leaders must have substantial knowledge about creativity in the area in which they work and will need technical expertise, but they also need expertise in creative problem solving to effectively represent participating teachers in creative efforts (Byrne et al., 2009).

CONCLUSION

Being a teacher is more than working inside the confines of four walls and engaging in particular behaviors that increases the probability of learning. A teacher executes a myriad of tasks, ranging from supervising playgrounds and hallways, to calling

parents to report progress and problems with their child, to creating multiple assessments, conducting research, and designing engaging lesson plans. A great teacher willingly performs all these duties and adapts specific lesson objectives to provide every student with the opportunity to clearly express the critical and creative relationships between the learning standard outcomes. The challenge for leaders lies in having the ability to shape and enhance those social influences on the many capable teachers so they can perform as well as the creative, smart, and ambitious teachers. Because recent reform policy holds the entire school accountable for increasing targeted educational outcomes, educators now have an interest in two important outcomes: increasing productivity of student knowledge, yet far more importantly, increasing student creative potential. Moreover, leaders must know when to scale precise practice and when to seek novel and useful solutions within diverse teacher work groups.

The body of knowledge on PLC group-work is robust, yet what is known about leading for creativity in a group-work environment is slim. However, many scholars agree that innovation in schools lives or dies on the ability to create a supportive work-environment (Byrne, Mumford, Barrett, & Vessey, 2009; Puccio, Murdock, & Mance, 2006; Sternberg, 2007). Collaborative group creativity occurs in numerous domains and venues, although it is not often found in schools. But in fact schools do have a high level of human and social capital which is fertile ground for creative collaborations. This can lead to creative improvisation and experimentation in lesson creation and help in solving school problems. It may be time for instructional leaders to have more confidence in their staff's ability to lead the school from the middle and to take ownership of student success. We encourage school leadership to lead for creative group work that scales best practice that leads to teacher and student creativity, imagination, and innovation.

Audet (2012) suggests leaders to learn how to create those social work group environments that promote and spark creativity within a nested set of expectations; providing and facilitating adult learning communities in ways that are coherent with classroom learning activities. What ever the organization expects from its students, the same expectations should be applied for its teachers. Teachers who prepare complex questions and carefully designed learning experiences should first create models and solve the same problems themselves. When teachers struggle as they solve these kinds of problems, they naturally create a classroom climate that stimulates student creativity and remove unnecessary obstacles that slow down the learning process.

Another problem in leading for creativity is the lack of knowledge by instructional leaders on motivational theory and creativity in the work place. A creative instructional leadership style could be key to unlocking the potential of the school based work-group and the professional learning community. Knowing when to take control of the group and when to allow the group to manage itself depends entirely on the motivation, the experience, skills, personalities and dispositions of teachers within the work-group. Deciphering what is known from the private sector

in leading for group creativity and finding creative paths to the public school sector may be useful as well.

Researchers have found correlations among Transformational Leadership, motivational theory, and creativity in private businesses. Their research suggests that employees have found that those characteristics of leaders defined within the Transformational Leadership model can help similar leaders with similar characteristics in creating a culture of empowerment, trust and collegiality conducive to creative thought and innovation (Gong, Huang, & Farh, 2009b; Gumusluoglu & Ilsev, 2009; Strauss, Griffin, & Rafferty, 2009). Shalley and Gilson (2004) and the authors go as far as to suggest the need for a completely new leadership model, one that moves from leader initiated transactions to follower initiated transactions, with an emphasis on exploration and creativity. This new model will distinguish that the leader's job is not to be the sole source of dreams, designs, or concepts but to encourage and enable multiple ideas across the organization. To help accomplish this, leaders must tap into the imagination of employees at all levels and ask inspiring and inquiring questions that delve deeper to awaken unique and fresh solutions to school problems (Amabile & Khaire, 2008).

Collaborative creativity can do just this, although it is found in numerous other domains and venues, such as scientific, business, medical, and technology, it is not often found in schools. But in fact schools are the perfect catalysts for creative change, yet before this can take place it may require reducing organizational hierarchies and leading from the middle (not top-down or bottom-up) and finding a new balance by controlling less and increasing all staff participation. Schools have come a long way, and there is a plethora of research to prove that many effective schools do provide for distributed leadership, and many allow teachers to control sub-units in the organization and many are teacher self-leadership centered. Although this may scare some leaders, note that giving up control does not mean that the leader surrenders setting high expectations. Effective leaders continuously communicate high expectations for multiple outcomes because they know that high expectations actually stimulate creativity (Amabile et al., 1996). Finally, effective educational leaders should create a new mindset on limiting their options, shifting from "either-or" to "both-and" and include multi-dimensional and dimensionless problem solving.

Creative outcomes and content mastery are not necessarily in conflict with each other. When teachers perceive their work-climate as supportive to their creativity, they will naturally produce both outcomes. The authors encourage school leadership to lead for two types of teacher work group outcomes: group-work that scales best practice and creative group-work that leads to teacher and student creativity and innovation. Leaders who can lead through these tough times of accountability and whose focus is on the passion of their work (children) must learn how to spark and ignite that passion in those they lead by creating a work environment that enriches and nurtures those stimulants that breathe life into innovation and creativity that will go well beyond the classroom walls.

REFERENCES

Abbey, A., & Dickson, J. W. (1983). R&D work climate and innovation in semiconductors. *Academy of Management Journal*, *26*(2), 362–368.

Albrecht, T. L., & Hall, B. J. (1991). Facilitating talk about new ideas: The role of personal relationships in organizational innovation. *Communications Monographs*, *58*(3), 273–288.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, *45*(2), 357.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, *10*(1), 123–167.

Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, *3*(3), 185–201.

Amabile, T. M. (1996). *Creativity in context: Update to "the social psychology of creativity"*. Boulder, CO: Westview Press.

Amabile, T. M., & Gryskiewicz, S. S. (1987). *Creativity in the R&D laboratory*. Greensboro, NC: Center for Creative Leadership.

Amabile, T. M., & Hennessey, B. A. (2010). Creativity. *Annual Review of Psychology*, *61*, 569–598.

Amabile, T. M., & Khaire, M. (2008). Creativity and the role of the leader. *Harvard Business Review, 86*(10), 100–109.

Amabile, T. M., & Kramer, S. J. (2007). Inner work life. *Harvard Business Review*, *85*(5), 72–83.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*(5), 1154–1184.

American Educational Research Association. (2005, Summer). Teaching teachers: Professional development to improve student achievement. *Research Points: Essential Information for Educational Policy, 3*(1), 1–4.

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior*, *19*(3), 235–258.

Andrews, F. M., & Farris, G. F. (1967). Supervisory practices and innovation in scientific teams. *Personnel Psychology*, *20*(4), 497–515.

Audet, L. C. (2012). Perceptions of stimulants and barriers to creativity in the work environment within a school building. *Dissertation Abstracts International Section A*, 74.

Austin, J. R. (1997). A cognitive framework for understanding demographic influences in groups. *International Journal of Organizational Analysis, 5*, 342–359.

Bailyn, L. (1985). Autonomy in the industrial R&D lab. *Human Resource Management*, *24*(2), 129–146.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.

Bandura, A. (2010). Self-efficacy. In I. B. Weiner & W. E. Craighard (Eds.), *Corsini encyclopedia of psychology*. Hoboken, NJ: John Wiley & Sons.

Bandura, A., Underwood, B., & Fromson, M. E. (1975). Disinhibition of aggression through diffusion of responsibility and dehumanization of victims. *Journal of Research in Personality*, *9*(4), 253–269.

Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal, 10*, 107–124.

Bartunek, J. M. (1984). Changing interpretive schemes and organizational restructuring: The example of a religious order. *Administrative Science Quarterly*, *29*(3), 355–372.

Beghetto, R. A., Kaufman, J. C., & Baer, J. (2014). *Teaching for creativity in the common core classroom*. New York, NY: Teachers College Press.

Benson, J. K. (1977). Innovation and crisis in organizational analysis. *The Sociological Quarterly*, *18*(1), 3–16.

Brandt, R. S. (1986). On creativity and thinking skills: A conversation with David Perkins. *Educational Leadership, 43*(8), 12–18.

Brooks, J. S., Hughes, R. M., & Brooks, M. C. (2008). Fear and trembling in the American high school educational reform and teacher alienation. *Educational Policy, 22*(1), 45–62.

Brophy, J. E. (2006). History of research in classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 3–43). Mahwah, NJ: Lawrence Erlbaum.

Brophy, J. E. (2013). *Motivating students to learn*. New York, NY: Routledge.

Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010). *Organizing schools for improvement: Lessons from Chicago*. Chicago, IL: University of Chicago Press.

Byrne, C. L., Mumford, M. D., Barrett, J. D., & Vessey, W. B. (2009). Examining the leaders of creative efforts: What do they do, and what do they think about? *Creativity and Innovation Management*, *18*(4), 256–268.

Catmull, E. (2008). *How Pixar fosters collective creativity*. Cambridge, MA: Harvard Business School Publishing.

Covey, S., Merrill, A., & Merrill, R. (1996). *First things first: To live, to love, to learn, to leave a legacy*. New York, NY: Fireside.

Creativity and Reason in Cognitive Development. (2006). (1st ed.). Cambridge & New York, NY: Cambridge University Press.

Csikszentmihalyi, M. (1988). The flow experience and its significance for human psychology. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.), *Optimal experience. Psychological studies of flow in consciousness* (pp. 15–35). New York, NY: Cambridge University Press.

Csikszentmihalyi, M. (1999). 16 implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 313–335). New York, NY: Cambridge University Press.

Darling-Hammond, L. (1996). What matters most: A competent teacher for every child? *Phi Delta Kappan, 78*(3), 193–200.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268.

Derrida, J. (2012). *Specters of Marx: The state of the debt, the work of mourning and the new international*. London: Routledge.

Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organizations: A sensemaking perspective. *Academy of Management Review*, *24*(2), 286–307.

Drucker, P. (1992). *Managing for the future: The 1990s and beyond*. New York, NY: Truman Talley Books.

DuFour, R. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: National Educational Service.

DuFour, R. (2006). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing: A handbook for building professional learning communities*. Bloomington, IN: Solution Tree Press.

DuFour, R. B., DuFour, R., & Eaker, R. E. (2006). *Professional learning communities at work: Plan book*. Bloomington, IN: Solution Tree.

Dunbar, K. (1997). How scientists think: On-line creativity and conceptual change in science. In T. B. Ward, S. M. Smith, & J. Vaid (Eds.), *Creative thought: An investigation of conceptual structures and processes* (pp. 461–494). Washington, DC: American Psychological Association.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383.

Ekvall, G. (1983). *Climate, structure and innovativeness of organizations: A theoretical framework and an experiment*. Stockholm: FArådet, the Swedish Council for Management and Organizational Behavior.

Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*, *5*(1), 105–123.

Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. *Journal of Applied Psychology*, *93*(6), 1438.

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review*, *21*(4), 1112–1142.

Friedman, R., Deci, E. L., Elliot, A. J., Moller, A. C., & Aarts, H. (2010). Motivational synchronicity: Priming motivational orientations with observations of others' behaviors. *Motivation and Emotion*, *34*(1), 34–38.

Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London: Falmer Press.
Fulton, K., Yoon, I., & Lee, C. (2005). *Induction into learning communities*. Retrieved November 4, 2015, from http://files.eric.ed.gov/fulltext/ED494581.pdf
Gall, M. D., & Acheson, K. A. (2010). *Clinical supervision and teacher development* (6th ed.). Hoboken, NJ: Wiley.
Gallupe, R. B., Bastianutti, L. M., & Cooper, W. H. (1991). Unblocking brainstorms. *Journal of Applied Psychology*, *76*(1), 137.
Gardner, H. (1993). Educating for understanding. *American School Board Journal*, *180*(7), 20–24.
Getzels, J. W. (1982). The problem of the problem. In H. Hogarth (Ed.), *New directions for methodology of social and behavioral science: Question framing and response consistency* (Vol. 11, pp. 37–49). San Francisco, CA: Jossey Bass.
Goddard, Y. L., Goddard, R. D., & Tschannen-Moran, M. (2007). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. *Teachers College Record, 109*(4), 877–896.
Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal*, *52*(4), 765–778.
Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of Business Research*, *62*(4), 461–473.
Hackman, J. R., & Wageman, R. (2005). A theory of team coaching. *Academy of Management Review*, *30*(2), 269–287.
Hadar, L. L., & Brody, D. L. (2013, March/April). The interaction between group processes and personal professional trajectories in a professional development community for teacher educators. *Journal of Teacher Education, 64*(2), 145–161.
Halverson, R., Grigg, J., Pritchett, R., & Thomas, C. (2007). The new instructional leadership: Creating data-driven instructional systems in school. *Journal of School Leadership, 17*(2), 159–194.
Handy, C. (1995). *The age of paradox*. Boston, MA: Harvard Business Press.
Hargadon, A. B. (2002). Brokering knowledge: Linking learning and innovation. *Research in Organizational Behavior*, *24*, 41–85.
Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science*, *17*(4), 484–500.
Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. New York, NY: Teachers College Press.
Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving Schools*, *13*(2), 172–181. Retrieved from http://www.almaharris.co.uk/files/improving-schools-article.pdf
Harris, A., & Jones, M. (2011). *Professional learning communities in action*. London: Leannta Publishing.
Harvey, S. (2014). Creative synthesis: Exploring the process of extraordinary group creativity. *Academy of Management Review*, *39*(3), 324–343.
Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to student achievement*. New York, NY: Routledge.
Hattie, J. (2011). *Visible learning for teachers: Maximizing impact on learning*. New York, NY: Routledge.
Hattie, J. (2015, June). *What works best in education: The politics of collaborative expertise?* Retrieved September 30, 2015, from www.pearson.com/content/dam/corporate/global/pearson-dotcom/files/Hattie/150526_ExpertiseWEB_V1.pdf
Hennessey, B., & Amabile, T. (1998), Reward, intrinsic motivation, and creativity. *American Psychologist*, *53*(6), 674–675.
Hennessey, B. A. (1995). Social, environmental, and developmental issues and creativity. *Educational Psychology Review*, *7*(2), 163–183.
Hennessey, B. A., & Amabile, T. (2010). The creativity-motivation connection. In J. C. Kaufman & R. L. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 342–365). New York, NY: Cambridge University Press.

Hirsh, S. (2012). A professional learning community's power lies in its intentions. *Journal of Staff Development, 33*(3), 64.

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of Management Journal*, *52*(2), 280–293.

Hong, H., Lee, D., Lee, W., & Tay, W. (2013). Professional learning communities in Singapore schools. *Journal of Co-operative Studies, 46*(2), 53–56. Retrieved from http://www.thenews.coop/wp-content/uploads/S9-LeeEtAl-138.pdf

Hopkins, L. (2007). *No child left behind: US education act in simple terms*. Retrieved July 19, 2010, from http://educationalissues.suite101.com/article.cfm/no_child_left_behind

Hord, S. M., & Educational Resources I information Center (U.S.). (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory. Retrieved from http://www.sedl.org/pubs/change34/plc-cha34.pdf

Isaksen, S. G. (2007). The climate for transformation: Lessons for leaders. *Creativity and Innovation Management*, *16*(1), 3–15.

Isaksen, S. G., & Ekvall, G. (2010). Managing for innovation: The two faces of tension in creative climates. *Creativity and Innovation Management*, *19*(2), 73–88.

Jackson, S. E., Brett, F., Sessa, V. I., Cooper, D. M., Julin, A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology, 76*, 675–689.

Jaussi, K. S., & Dionne, S. D. (2003). Leading for creativity: The role of unconventional leader behavior. *The Leadership Quarterly*, *14*(4), 475–498.

Jederberg, S. A. (2006). *Teacher and administration perceptions of California teacher evaluation process*. ProQuest.

Jehn, K. A., Chadwick, C., & Thatcher, S. M. (1997). To agree or not to agree: The effects of value congruence, individual demographic dissimilarity, and conflict on workgroup outcomes. *International Journal of Conflict Management, 8*, 287–305.

John-Steiner, V. (2000). *Creative collaboration*. Oxford: Oxford University Press.

Joyce, B., & Showers, B. (1995, May). *Learning experiences in staff development. The Developer*. Oxford, OH: National Staff Development Council.

Jones, L., Stall, G., & Yarbrough, D. (2013). The importance of professional learning communities for school improvement. *Creative Education, 4*(5), 357–361.

Kasof, J. (1995). Explaining creativity: The attributional perspective. *Creativity Research Journal*, *8*(4), 311–366.

Katzenbach, J., R. & Khan, Z. (2010). *Leading outside the lines: How to mobilize the (in) formal organization, energize your team, and get better results*. San Francisco, CA: Jossey-Bass.

Koestler, A. (1964). *The act of creation.* London: Hutchinson.

Kohn, N. W., Paulus, P. B., & Choi, Y. (2011). Building on the ideas of others: An examination of the idea combination process. *Journal of Experimental Social Psychology*, *47*(3), 554–561.

Lingo, E. L., & O'Mahony, S. (2010). Nexus work: Brokerage on creative projects. *Administrative Science Quarterly*, *55*(1), 47–81.

Louis, K. S., Leithwood, K, Wahlstrom, K. L., & Anderson, S. E. (2010). *Learning from leadership project: Investigating the links to improved student learning—Final report of research findings*. Retrieved October 26, 2015, from www.wallacefoundation.org/knowledge-center/school-leadership/key-research/Documents/Investigating-the-Links-to-Improved-Student-Learning.pdf

Madjar, N., Greenberg, E., & Chen, Z. (2011). Factors for radical creativity, incremental creativity, and routine, noncreative performance. *Journal of Applied Psychology*, *96*(4), 730.

Many, T. W., & Sparks-Many, S. K. (2015). *Leverage: Using PLCs to promote lasting improvement in schools*. Thousand Oaks, CA: Corwin Press.

Marzano, R. J. (2013). *Becoming a high reliability school: The next step in school reform*. Centennial, CO: Marzano Research.

McLeod, P. L., Lobel, S. A., & Cox, T. H. (1996). Ethnic diversity and creativity in small groups. *Small Group Research, 27*, 248–264.
Milliken, F., & Martins, L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review, 21*, 402–433.
Miura, A., & Hida, M. (2004). Synergy between diversity and similarity in group-idea generation. *Small Group Research*, *35*(5), 540–564.
Mizell, H. (2007). Narrow the focus, expand the possibilities: Educate teachers, administrators, policy makers, and system leaders on what high-quality professional learning is–and isn't. *Journal of Staff Development, 28*(3), 18–22.
Mobley, M. I., Doares, L. M., & Mumford, M. D. (1992). Process analytic models of creative capacities: Evidence for the combination and reorganization process. *Creativity Research Journal*, *5*(2), 125–155.
Moller, A. C., Deci, E. L., & Elliot, A. J. (2010). Person-level relatedness and the incremental value of relating. *Personality and Social Psychology Bulletin, 36*(6), 754–767.
Monge, P. R., Cozzens, M. D., & Contractor, N. S. (1992). Communication and motivational predictors of the dynamics of organizational innovation. *Organization Science*, *3*(2), 250–274.
Montuori, A., & Purser, R. E. (1999). *Social creativity* (Vol. 1). Cresskill, NJ: Hampton Press.
Moran, S., & Steiner, J. (2003). Creativity in the making: Vygotsky's contemporary contribution to the dialectic of development and creativity. In R. K. Sawyer, V. John-Steiner, S. Moran, R. J. Sternberg, D. H. Feldman, J. Nakamura, & M. Csikszentmihalyi (Eds.), *Creativity and development* (pp. 61–90). Oxford: Oxford University Press.
Moran, S., & Steiner, J. (2004). How collaboration in creative work impacts identity and motivation. In D. Miell & K. Littleton (Eds.), *Collaborative creativity: Contemporary perspectives* (pp. 11–25). London: Free Association Books.
Morrissey, M. S. (2000). *Professional learning communities: An ongoing exploration*. Retrieved November 3, 2015, from www.sedl.org/pubs/catalog/cha45.html
Mourshed, M., Chijioke, C., & Barber, M. (2010). *How the world's most improved school systems keep getting better*. Retrieved November 4, 2015, from www.mckinsey.com/client_service/social_sector/latest_thinking/worlds_most_improved_schools
Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, *13*(6), 705–750.
Mumford, M. D., Baughman, W. A., & Sager, C. E. (2003). Picking the right material: Cognitive processing skills and their role in creative thought. In M. A. Runco (Ed.), *Critical creative processes* (pp. 19–68). Cresskill, NJ: Hampton Press.
Mumford, M. D., Robledo, I. C., & Hester, K. S. (2011). Creativity, innovation, and leadership: Models and findings. In A. Bryman, D. Collinson, K. Grant, B. Jackson, & M. Uhl-Bien (Eds.), *The sage handbook of leadership* (pp. 405–421). London: Sage Publications Ltd.
Mumford, M. D., Hester, K. S., & Robledo, I. C. (2012). Creativity in organizations: Importance and approaches. In M. D. Mumford (Ed.), *Handbook of organizational creativity* (pp. 3–16). San Diego, CA: Academic Press.
Murnighan, J. K., & Conlon, D. E. (1991). The dynamics of intense work groups: A study of British string quartets. *Administrative Science Quarterly*, *36*, 165–186.
National Board for Professional Teaching Standards. (2007). *Five core propositions*. Retrieved November 3, 2015, from www.boardcertifiedteachers.org/about-certification/five-core-propositions
National Commission on Teaching and America's Future. (2012, July 2). *One-year anniversary: From good teachers to great teaching*. Retrieved November 4, 2015, from http://nctaf.org/featured-home/one-year-anniversary-from-good-teachers-to-great-teaching/
National Staff Development Council. (2001). *The NSDC standards: Collaboration skills*. Retrieved March 17, 2008, from www.nsdc.org/standards/collaborationskills.cfm
Newmann, F., & Wehlage, G. (1995). *Successful school restructuring: A report to the public and educators by the center for restructuring schools*. Madison, WI: University of Wisconsin Press.
Okuda, S. M., Runco, M. A., & Berger, D. E. (1991). Creativity and the finding and solving of real-world problems. *Journal of Psychoeducational Assessment*, *9*(1), 45–53.

Paolillo, J. G., & Brown, W. B. (1978). How organizational factors affect R & D innovation. *Research Management*, *21*, 12–15.

Partnership for 21st Century Skills. (2015). *Framework for 21st century learning*. Retrieved November 4, 2015, from www.p21.org/our-work/p21-framework

Paulus, P. B., & Nijstad, B. A. (Eds.). (2003). *Group creativity: Innovation through collaboration*. Oxford: Oxford University Press.

Pelz, D. C., & Andrews, F. M. (1966). *Scientists in organizations: Productive climates for research and development*. New York, NY: John Wiley and Sons.

Pickard, E. (1990). Toward a theory of creative potential. *The Journal of Creative Behavior*, *24*(1), 1–9.

Pink, D. H. (2011). *Drive: The surprising truth about what motivates us*. New York, NY: Riverhead Books.

Puccio, G. J., & Cabra, J. F. (2010). Organizational creativity. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 145–173). New York, NY: Cambridge University Press.

Puccio, G. J., Murdock, M., & Mance, M. (2006). *Creativity principles and procedures for change leaders: Developing a core competence*. London: Sage.

Reeves, D. (2002). *The leader's guide to standards: A blueprint for educational equity and excellence*. San Francisco, CA: Jossey-Bass.

Reeves, D. (2005). Putting it all together: Standards, assessment, and accountability in successful professional learning communities. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. 45–63). Bloomington, IN: Solution Tree Press.

Reeves, D. (2006). *The learning leader*. Alexandria, VA: Association for Supervision and Curriculum Development.

Reiter-Palmon, R., Wigert, B., & Vreede, T. D. (2012). Team creativity and innovation: The effect of group composition, social processes, and cognition. *Handbook of organizational creativity*, *1*, 295–326.

Riley, D., Duncan, D. J., & Edwards, J. (2011). Staff bullying in Australian schools. *Journal of Educational Administration*, *49*(1), 7–30.

Ruebel, K. K. (2011). *Professional learning communities: Research summary*. Retrieved November 3, 2015, from www.amle.org/TabId/198/ArtMID/696/ArticleID/310/Research-Summary-ProfessionaLearning-Communities.aspx

Runco, M., & Chand, I. (1995). Cognition and creativity. *Educational Psychology Review, 7*(3), 243–267.

Runco, M. A. (1994). *Problem finding, problem solving, and creativity*. Westport, CT: Ablex Publishing. Retrieved from http://search.proquest.com.proxy2.cl.msu.edu/psycinfo/docview/618574225/12E5903487723334FFD/167?accountid=12598

Runco, M. A. (2004). Creativity. *Annual Review of Psychology, 55*(1), 657–687.

Runco, M. A. (2006). Introduction to the special issue: Divergent thinking. *Creativity Research Journal, 18*(3), 249. doi:10.1207/s15326934crj1803_1

Runco, M. A. (2007a). Achievement sometimes requires creativity. *High Ability Studies*, *18*(1), 75–77.

Runco, M. A. (2007b). Comments and corrections: Chance and intentionality in creative performance. *Creativity Research Journal*, *19*(4), 395. doi:10.1080/10400410701756781

Runco, M. A. (2008). Commentary: Divergent thinking is not synonymous with creativity. *Psychology of Aesthetics*, (2), 93–96.

Runco, M. A., & Pritzker, S. R. (1999). *Encyclopedia of creativity*. London: Academic Press.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67.

Sabol, F. R. (2010). *No child left behind: A study of its impact on art education*. West Lafayette, IN: Purdue University.

Sawyer, R. K. (2004). Creative teaching: Collaborative discussion as disciplined improvisation. *Educational Researcher*, *33*(2), 12–20.

Schmoker, M. (1999). *Results: The key to continuous school improvement* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Schmoker, M. (2005a). Here and now: Improving teaching and learning. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. xi–xvi). Bloomington, IN: Solution Tree Press.

Schmoker, M. (2005b). No turning back: The ironclad case for professional learning communities. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. 135–154). Bloomington, IN: Solution Tree Press.

Schneider, J. (2015). A national strategy to improve the teaching profession. *Education Week*. Retrieved October 17, 2015, from www.edweek.org/ew/articles/2015/04/15/a-national-strategy-to-improve-the-teaching.html?qs=professional+learning+community+

Senge, P. (1990). *The fifth discipline: The art & practice of the learning organization*. New York, NY: Currency Doubleday.

Shaker, P., & Heilman, E. E. (2008). *Reclaiming education for democracy: Thinking beyond no child left behind* (1st ed.). New York, NY: Routledge.

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, *15*(1), 33–53.

Shalley, C. E., & Perry-Smith, J. E. (2008). The emergence of team creative cognition: The role of diverse outside ties, sociocognitive network centrality, and team evolution. *Strategic Entrepreneurship Journal*, *2*(1), 23–41.

Shin, S. J., Kim, T. Y., Lee, J. Y., & Bian, L. (2012). Cognitive team diversity and individual team member creativity: A cross-level interaction. *Academy of Management Journal*, *55*(1), 197–212.

Siegel, S. M., & Kaemmerer, W. F. (1978). Measuring the perceived support for innovation in organizations. *Journal of Applied Psychology*, *63*(5), 553.

Singh, J., & Fleming, L. (2010). Lone inventors as sources of breakthroughs: Myth or reality? *Management Science*, *56*(1), 41–56.

Sparks, D. (2005). Leading for transformation in teaching, learning, and relationships. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. 155–175). Bloomington, IN: Solution Tree Press.

Staw, B. M. (2009). Is group creativity really an oxymoron? Some thoughts on bridging the cohesion-creativity divide. *Research on Managing Groups and Teams: Creativity in Groups*, *12*, 311–323.

Sternberg, R. J. (2006). Creating a vision of creativity: The first 25 years. *Psychology of Aesthetics, Creativity, and the Arts*, (1), 2.

Stoll, L., Bolam, R., McMahon, A., Thomas, S., Wallace, M., Greenwood, A., & Hawkey, K. (2006). *Professional learning communities: Source materials for school leaders and other leaders of professional learning—User guide: Getting started and thinking about your journey*. London: DfES Innovation Unit. Retrieved November 3, 2015, from www.lcll.org.uk/professionallearning-communities.html

Strauss, K., Griffin, M. A., & Rafferty, A. E. (2009). Proactivity directed toward the team and organization: The role of leadership, commitment and role-breadth self-efficacy. *British Journal of Management*, *20*(3), 279–291.

Taggar, S. (2002). Individual creativity and group ability to utilize individual creative resources: A multilevel model. *Academy of Management Journal*, *45*(2), 315–330.

Thompson, S. C., Gregg, L., & Niska, J. M. (2004). Professional learning communities, leadership, and student learning. *Rmle Online: Research in Middle Level Education, 28*(1), 1–15.

Troyer, L., & Youngreen, R. (2009). Conflict and creativity in groups. *Journal of Social Issues*, *65*(2), 409–427.

Tsai, W. C., Chi, N. W., Grandey, A. A., & Fung, S. C. (2012). Positive group affective tone and team creativity: Negative group affective tone and team trust as boundary conditions. *Journal of Organizational Behavior*, *33*(5), 638–656.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91.

Watson, W. E., Kumar, K., & Michaelsen, L. K. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *Academy of Management Journal*, *36*(3), 590–602.

West, M., & Sacramento, C. (2012). Creativity and innovation: The role of team and organizational climate. In M. D. Mumford (Ed.), *Handbook of organizational creativity* (pp. 359–386). San Diego, CA: Academic Press.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology*, *51*(3), 355–387.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*(2), 293–321.

Zhao, Y. (2013, December 15). *Who's afraid of the big bad dragon: Why China has the best (and worst) education system in the world*. Presentation to California School Boards Association, San Diego, CA.

Larry C. Audet
Laton Unified School District
California
USA

Sheree A. Jederberg
Emirates College for Advanced Education
United Arab Emirates

KATHERINE MAIN

5. AUSTRALIAN MIDDLE YEARS REFORM

A Focus on Teachers and Leaders as the Subjects and Agents of Change

INTRODUCTION

The middle years of schooling focuses on young adolescent learners from approximately 10–15 years of age (Pendergast & Bahr, 2010). During these years, young adolescents experience major developmental changes as they transition from childhood to young adulthood. Indeed, this stage of development is only second to infancy in terms of rapidity of change (Bahr & Pendergast, 2007; Cumming, 1998). Although all young adolescents experience physical, social, emotional and intellectual change, the onset and rapidity of change in each of these areas differs from person to person causing diversity to be greatest among young adolescents. At the same time, these early adolescents are also experiencing a rapidly changing world that is vastly different from that of their parents. The Department of Education and Training, Northern Territory (Cobbold, 2005) reported two main factors which were causing major differences in the world that today's young adolescents are experiencing and must be considered. First is the increased instability in the economic and social contexts in which these young people are growing up. Economic instability has implications for the types of employment and the future employment prospects for young people. Social instability is a result of changes in family structures, increasing cultural and language diversity due to an increasingly mobile global population creating the potential for many young adolescents to be 'at risk' due to language barriers and the family's socio-economic status. The second factor results from other societal changes that were highlighted by Luke et al. (2003) in their major study of literacy and numeracy in the middle years in Australia. In their report, Luke et al. (2003) noted that "childhood and adolescence have become the sites for large scale engagement with multinational consumer culture … [and] are the direct target market of advertising and mass media." In today's society we see young adolescence as a target market of consumers … These are not temporary shifts" (pp. 14, 15).

For education, these changes have significant implications on the fundamentals of schooling, namely, curriculum, pedagogy and the organisation of schools. At all levels of education, the historical paradigms of teaching and learning are being

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 97–113.

challenged. Prensky (2001) argued that there is a large discontinuity between today's students and the incremental differences such as clothing or styles of music or entertainment of generations in the past. Today's students are digital natives who have been immersed from birth in the digital age. Computers and video games, iPods, iPads, eReaders, video cams, mobile phones and a range of other tools and toys of the digital age are part of their world within and outside of the home. Collectively, these changes mean that young adolescents are experiencing diverse cultures and rapidly changing technologies in a far more complex and uncertain world (Luke et al., 2003).

NEED FOR REFORM

With an awareness of the contemporary understanding of the preadolescent period of development at the turn of the twentieth century, the notion of a "junior high school" was first conceptualised. However, this conceptualisation of a unique learner requiring a different approach to teaching was consumed and overrun with the rapid expansion of public education during the 1910–1930s. A resurfacing of the idea of junior high schools occurred in the 1960s and brought with it the emergence of "middle schooling". Since the 1960s, middle schooling has been described in educational literature as a fundamental reform that is characterised by a range of changes that include structural, organisational, curriculum and pedagogical changes designed to meet the educational needs of early adolescents. There have continued to be inconsistencies in how groups and individuals view this age-group of students and the resultant theories of "best practice". However, the recognition that traditional organisations and practices have marginalised young adolescents has not been sufficient to drive policies which demand broad sweeping changes that challenge long held historical training, organisational configurations and practices for this age-group.

Following on from the experiences in the United States of America (US) and the United Kingdom (UK), Australia has seen an unprecedented focus on the middle years of schooling over the last two decades. As a result, Australia has shown a commitment to addressing student disengagement, alienation and resultant early school attrition (Hill & Russell, 1999). However, within the Australian context, middle schooling is still in its infancy with reports and documents only dating back to the early 1990s. Earliest reports included the Schools Council (1992, 1993), Cumming (1998), Eyers, Cormack and Barratt (1992), Queensland Board of Teacher Registration (1996) which focused on the teaching of young adolescents, Victorian Years 5–8 Research Project (see, Hill, Holmes-Smith, & Rowe, 1993); and Barratt, 1998 which focused on the young adolescent in The South Australian Report Junior Secondary Review. These papers pulled together promising evidence of a number of common responses and reform initiatives that have attempted to address the increasing concerns around student disengagement and alienation and the reported negative social consequences.

In the late 1990s, the Commonwealth Government commissioned and funded an initiative that focused on the middle years of schooling. The remit of this initiative was to try and understand the needs of young people and to identify strategies to improve educational outcomes. The result of this initiative was the *Shaping of Middle Schooling in Australia* (Barratt, 1998). This document, together with the national statement of middle schooling (Australian Curriculum Studies Association, 1997), has provided a common approach to middle schooling in Australia. However, despite slow beginnings, the concept of the middle years of schooling has gained momentum in Australia as educators and policy makers attempt to provide an educational experience that is more responsive to the changing needs of young adolescents (Bryer & Main, 2005).

A number of these Australian reports have also highlighted middle schooling reform as way of providing a socially just education through the curriculum and pedagogy advocated for middle years learners. As such, there has been an increased call to engage middle years learners as active participants in their learning as opposed to passive recipients. *From Alienation to Engagement* (Cormack & Cumming, 1996) clearly showed that many young adolescents were being marginalised in the learning environment as a direct consequence of unsuitable pedagogies. New ways of "doing" included holistic approaches to curriculum through flexible school structures and programming and through teachers working in teams as opposed to working within the isolation of their own classroom. Other themes to emerge from these reports and papers concur with experiences in the US and the UK by advocating for an integrated curriculum (Brennan & Sachs, 1998) that is delivered in a challenging and engaging manner (Lingard, Martino, Mills, & Bahr, 2002) and is assessed in an authentic context (Cormack & Cumming, 1996).

With growing acceptance that the middle years of schooling are an important period of learning and yet is also the time when students are at the greatest risk of disengagement from learning (MCEETYA 2008), the philosophy underpinning the introduction of middle schooling is that it has the potential to create a synergy between the developmental needs of young adolescents and a curriculum and pedagogy that engages and motivates students. However, the focus on the developmental differences in young adolescents as the fundamental barrier to realising effective middle school reform is unproven with very little empirical evidence to support this argument. Rather, the empirical evidence points to the teacher as the key determinant of student engagement, motivation and progress during these critical years (Dinham & Rowe, 2007). As such, the introduction of middle schooling should primarily be as a pedagogical reform.

Need for Acceptance upon Implementation

Main and Bryer (2005) identified acceptance, effectiveness, and sustainability as research-based criteria for the systematic study of Australian middle school initiatives and reform efforts. They noted that the aims of this research agenda should address

four areas, namely: First, increased informed acceptance by all stakeholders including administrators (local, district, State, National), teachers, students and the wider community as part of the planning process. Second, strengthen the effectiveness of recommended teacher practice in local contexts as part of implementing alternative practice through changes to pre-service training that provides specialist training for teachers intending to work in this area and continuing and targeted in-service training (professional development) for experienced teachers working in this area. Third, clarify policy issues such as training, certification, placement, and staffing that affect sustainability, as part of evaluating alternative practice and, finally to enhance and broaden stakeholders' theoretical understanding of the middle schooling alternative(s) as a developmental approach to building student engagement and outcomes. In each of the recommended areas for research focus, teachers are at the centre of the solution for sustainable reform. Teachers' acceptance, effective practice, training and enhanced theoretical understanding highlight the need to focus on building the human capital as the subject of change. Acceptance and assumed responsibility for the reform among all stakeholders could be viewed as the single most important factor for the success of a new middle school (Jackson & Davis, 2000; Main & Bryer, 2005).

Recommended Practice for Middle School

Turning Points 2000 (Jackson & Davis, 2000) has explained and expanded the seven guiding principles identified by the Carnegie Corporation (1989) that provide a logical and systematic framework for any school implementing a middle school program. The seven recommendations outlined by the Carnegie Corporation include identified practices in curriculum, pedagogy, staff, relationships, democratic government, safe environment, and community partnerships, respectively. These guiding principles account for the reform features published, rearranged, and republished by a range of professional organisations in the USA and, more recently, in Australia. Through implementing these principles simultaneously and holistically, a school can plan and implement practices in its local context. In turn, schools and researchers can directly investigate their own participation by using these seven practice topics as an audit tool (see, for example, Pendergast & Main, 2011).

Stevens (2004, p. 389) noted that 'teachers tend to implement in their classrooms what they know and understand, in spite of whatever innovation may be adopted by the school'. With this in mind, for a middle school reform to be accepted, effective and sustained, means that teachers working in this area must "know and understand" middle schooling practices. For teachers, signature middle schooling practices refer to the following:

1. Curriculum: Teach a curriculum grounded in rigorous, public academic standards for what students should know and be able to do, relevant to the concerns of young adolescents. The curriculum should be challenging, relevant, integrated and interdisciplinary, and negotiated.

2. Pedagogy: Use instructional methods designed to prepare all students to achieve higher standards and become lifelong learners. A range of pedagogical approaches should be clustered to engage and motivate students including higher order thinking strategies, heterogeneous and flexible student groupings, cooperative learning and collaborative teaching, and authentic and reflective assessment.
3. Staff: Staff middle grades schools with teachers who have a desire to work with this age-group and are expert at teaching young adolescents. Teachers must also be engaged in ongoing, targeted professional development opportunities.
4. Relationships: Strong teacher-student relationships are paramount. Organise relationships for learning to create a climate of intellectual development and a caring community of shared educational purpose through small communities of learners with a small number of teachers being responsible for the same cohort of students.
5. Democratic governance: Govern democratically, through direct or representative participation by all stakeholders in the students' education. That is, the adults who know the students best.
6. Safe and supportive environment: Provide a safe and healthy environment as part of improving academic performance and developing caring and ethical citizens.
7. Community involvement: Involve parents and communities in supporting student learning and healthy development.

Note. Recommendations have been regrouped in order to cluster teacher-centred practices (1–4) and community-centred practices (4–7), with some overlap in Recommendation 4.

However, for many teachers in Australia currently working with this age-group, many middle schooling practices are foreign to their training that has largely occurred based on the traditional two-tiered model of education (i.e., primary: years P-6/7 and secondary: Years 6/7–12). For example, the expectation that teachers will work collaboratively to create small learning communities and work in teacher teams is in contrast to the historical work lives of many teachers who have worked in the isolation of their own classroom. Teacher teams underpin a number of the other signature practices of middle schooling including relationships (building small learning communities); curriculum (engaging, challenging, integrated and relevant); and pedagogy (instructional methods designed to meet the needs of all students). The transition towards collaborative practices where schools have adopted a middle schooling philosophy has significantly altered the day-to-day functioning of teachers. As such, the introduction of teamwork has affected the conventional understanding of teachers' professional practice just as the philosophy of middle schooling has challenged the historical and traditional pedagogy for young adolescents.

Training in middle years practices includes a specific focus on pedagogical practices that include explicit training in working in teams. With the limited number of middle years specialist trained teachers in Australia, many teachers working in teacher teams in middle schools are untrained in the "art and science" of collaborative

work. Further, many teachers are unsure what collaborative practices and teaching teams should "look like" and individuals have different ideas about what they should be doing, adding to the created ambiguity and ambivalence attached to collaborative work. With teacher teams seen as a non negotiable part of middle schooling practices (Clark, 1997; Main, 2007), team practices are being administratively imposed on teachers through the introduction of either macropolicy changes through national or state policy changes or micropolicy changes such as the creation of teaching teams for subject integration. These imposed collaborative practices have created what Hargraves and Dawe (1990) described as a "contrived collegiality" (p. 239). That is, teachers and administrators have been expected to automatically work in harmony toward a common goal. In a generation, the capacity to collaborate came to be seen as a personal quality that teachers either have or need to develop (Lawn, 1991). The ability to work collaboratively has become a "technical" requirement of many teaching and nonteaching tasks in middle schools.

A large body of literature on collaborative practices, such as in teaching teams within middle schools, has provided support for the argument that these practices not only alter but enhance work practices for teachers (Bush, 2003; Carlson, 1996; Erb & Doda, 1989; Felner et al., 1997; Gideon, 2002; Horner, 1999; Kain, 2001; Main, 2007; Pugach & Johnson, 1995). However, a number of more cautious researchers have warned of the difficulties that are a very real part of implementing collaborative practices amongst teachers (Achinstein, 2002; Hargraves & Dawe, 1990; Jarzabkowski, 1999; Pounder, 1998). This contrast in views may be attributed to the methodological difficulty in demonstrating cause-effect links in an area as complex as human relationships as well as the difficulty in quantifying the effectiveness of team practices compared to individual efforts. Difficulties may also be attributed to a practical reluctance by teachers to take the "time" out of their already busy schedules to implement another reform. However, just as in business, this increase in collaborative practices in education has intensified the need to understand the dynamics of collaborative practices such as team diversity and team functioning and how to effectively build the human capital necessary to create effective middle school teams and reap the benefits of the resultant social capital claimed through such interactions.

Main (2007) reported some teachers who had found the change from working within a single classroom to working in a team too stressful and were taking early retirement. Other experienced teachers who remain in the profession and are untrained in collaborative practices are divided into two groups: (a) those that are reluctant to deviate from the old traditions and organisational structures of teaching and (b) those that are either readily or grudgingly attempting to create a more collaborative culture based on new reform agendas (Hargreaves, 1994; Main, 2007). Furthermore, individuals can perceive that, rather than gaining individual support and help through combined efforts, collaborative work has undermined some individuals' ability to "get on with the job." This added pressure can result in inducing stress as teachers attempt to collaborate (Hargreaves, 1994). Pre-service

programs that introduce a middle years specialisation need to embed teaming practices within individual courses to explicitly teach individual teaming skills.

Teaching in the Middle Years

The major challenge to the sustainability of middle schooling in the US and UK education systems has been a lack of universal acceptance of what is "best practice" for effectively educating middle school students. A lack of a clear understanding around practices, together with the piecemeal implementation of middle schooling practices (Bean, 2001; Swaim, 2004; Taylor & Garson, 1982), and the uncoordinated evaluation of practices has resulted in calls in some areas for middle schooling practices in the US to be abandoned. Yet this reform's increasing visibility as an alternative approach to schooling preadolescent and early adolescent students in Australia has made the need for targeted in-service and pre-service training for teachers and the need for local research on teacher practice working in this area more urgent.

Main and Bryer (2005) argued that it is necessary to invest in the teacher-centric (human capital) practices of middle schooling to drive the implementation of a middle years reform. The breadth of teachers' knowledge of the curriculum, effective pedagogical skills, and interpersonal and communication skills affect other practice indicators for effective middle schools such as building small communities of learners and delivery of a challenging, integrated and negotiated curriculum. Teachers' knowledge and understanding of middle schooling practice and resultant sense of efficacy on these indicators are directly related to curriculum delivery for students and whether the program is authentically responsive to students' needs and achieves the intended result (i.e., improved student outcomes). Ongoing training on the "how" of middle years practices may improve teachers' acceptance and sense of efficacy in implementing middle schooling practices. This in turn may augment their practice effectiveness and may increase its sustainability from one year to the next. As the expectant agents of change, there is also a need for teachers to be the subjects of change.

Building Human Capital through Training Organisations

In Australia, the middle school reform has been seen as an opportunity for school improvement that has the potential to transform the curriculum and pedagogy to better meet the needs of the middle years learner and improve their learning outcomes (Lingard et al., 2001; Carrington, 2006; Pendergast & Bahr, 2010). However, the extent to which schools are able to implement a middle schooling philosophy (regardless of structural considerations) is, in the most part, dependent upon the teacher. In a major review of literature on teaching and learning in the middle years, Dinham and Rowe (2007) reported that there is strong evidence to indicate that the quality of teaching is of major importance in influencing student achievement

outcomes (see also Hattie, 2003; Sanders, Wright, & Horn, 1997). Teachers have further indirect influence on student outcomes through the organization of schools (e.g., small class sizes, see Ehrenberg, Brewer, & Willms, 2002) and school systems (Barber & Mourshed, 2007). Yet, with the exception of a relatively small number of innovative teacher education providers (Pendergast & Bahr, 2010) few programs exist nationally to prepare specialist teachers for the middle years.

The rising number of middle school initiatives in Australia has made staffing a critical issue. There has been a reported trend among teachers, particularly in the secondary school environment, to avoid teaching in the middle years (Carter & Carter, 2000). This trend highlights teacher reluctance and lack of personal efficacy to teach in these challenging years. Yet, student motivation and engagement and resulting outcomes are dependent on how responsive teachers are to the needs of young adolescents. Furthermore, the extent to which they provide the conditions under which learning can take place is "influenced by tailoring approaches to teaching with learning activities and learning environments that specifically consider the needs of middle years' students" (MCEETYA, 2008, p. 10). Building the human capital to both implement and sustain the reform is seen as an integral part of the middle years story in Australia. Lessons need to be learned from the experience of the US where researchers have reported that inadequate preparation in specific "middle school" training has caused many staffing problems including rapid staff turnover (Useem, 2001). For effective and sustainable middle school reform in Australia, the building of both social and human capital must occur concurrently. However, even with the move towards a national curriculum, there still are very generalised views of the middle years and middle schooling across Australia. As such, there is insufficient pressure on teacher training programs or teacher registration bodies to demand specific training for teachers working with this age-group.

In response to the growing acceptance of middle schooling practices in schools, preservice training organisations across Australia have begun to offer specialist training programs for those wanting to teach in the middle years. Across Australia there are currently 19 middle years teacher education specialist programs; 7 programs with a specialisation in middle years; and 8 that include the term "middle years" in some way. The first dedicated middle years teacher education program in Australia was developed and introduced in Queensland through the University of Queensland. Its program was designed specifically to prepare teachers to meet the unique needs of learners in their middle years of school and included courses on adolescent development, middle schooling principles, pedagogy and curriculum that were seen as lacking in other teacher education programs. The program set a national standard that has been used as a model in many universities across Australia. It is interesting to note (at the time of writing) that the majority of these programs (82.3%) are in two states (Queensland and South Australia), while the remaining 17.7% are in three states with one state and two territories not offering any middle years programs at all.

In a national study on literacy and numeracy in the middle years, Luke et al. (2003) found that very few teachers in Australia were specifically trained to teach in the middle years. Almost a decade on, specialist trained teacher numbers have not kept pace with the increasing acceptance of middle schooling as an intentional approach to teaching for this age group. As such, many teachers working within the middle years must "learn on the job" using trial and error techniques or rely on "gut feelings" of effective practice. Furthermore, without formal recognition, the limited number of teachers with specialised training in the middle years are not able to be registered as "middle years" teachers in most states but must default to registering as either a primary or secondary trained teacher and must then market their skills. Without formal recognition through registration or the need to have formal qualifications to teach this age-group, the few middle years specialists that have graduated from Australian universities are not always being placed in middle schools where their expertise can be utilised. Placement of middle school teacher graduates is unlikely to be prioritised for middle school vacancies until policymakers have clear evidence for selective placement (Luke et al., 2003).

Implementing the Reform

As middle schooling is not exclusively an Australian initiative, it can now build on decades of international research surrounding the implementation of middle years reforms. Indeed, the hope of a middle years reform in Australia is to mirror the claims by Lounsbury (1997) that ''the face of … education [can be] remade'' (p. xi). What has been learned is that the implementation of a middle years reform requires attention and changes to a number of areas including the program (curriculum), the physical space (structure), the students entering the program and the human resources (teachers). As discussed, research has challenged the traditional teaching methods, curriculum, assessment and student support provided for students in this stage of schooling. In terms of middle school structures, for those schools in Australia that have already embarked on this journey, there is considerable diversity in the structural arrangements ranging from designated middle years schools, through purpose built middle schools, to the traditional primary/secondary schools that engage middle schooling practices. Compared to the United States, there are relatively few designated middle schools in Australia. There has also been a focus on transition programs between primary and secondary schools to facilitate the adjustment of students to the different organisational and program arrangements that may be encountered during the middle years. Schools as organizations need to routinise and build in social norms that develop the social capital capacity of schools as well as providing the training to continue to develop and build the human capital of the teachers working within this "new" setting. More attention needs to be focused on staff training. Up to now, there has been inadequate pre-service and in-service training for teachers in middle years education in Australia. A lack of trained specialists in this field has the potential to hold back effective change.

To date, many schools adopting a middle schooling approach have begun with structural/organisational and administrative changes. This approach has come about by the misunderstanding that undertaking a middle years' reform is a "process" requiring a technological approach "whereby a facilitator works through a series of predictable stages and the end result will be the successful implementation of the reform" (Main, 2009, p. 458). However, the very essence of middle schooling is grounded in a philosophy of teaching and learning that is developed to build a culture of small communities of learners around pedagogy that engages and challenges and connects the learner to the world in which they live. A preoccupation with implementing the "physical" aspects of an innovation have been shown to be much easier to establish than to change historically held and valued approaches to teaching and learning. As such, many newly formed middle schools have begun the process with structural reforms (i.e., establishing a separate "middle school" and administrative team), teaching teams (i.e., configuring the human mix into smaller communities of learners), and program changes (i.e., the introduction of block timetables). However, the establishment of these physical elements of a middle school "does not guarantee that middle schooling will take place" (Chadbourne, 2001, p. iii). This technological approach to school reform may overlook the importance of developing a new middle years' culture within the school. Thus, the use of a technological approach to middle years reform may apply new middle years "layers" to a school's existing culture without having any lasting effect on the entrenched norms and values of the organization or working towards developing the school's human or social capital.

Social capital theory places value on the interactions between individuals or groups of individuals and gives value to the collective. It can be described as a sense of respect or trust that builds over time through continued and positive interactions which then amass to create a value (Axelrod, 1986). All parties concerned gain confidence from the prospect that future exchanges will be positive. The critical role of social capital within a middle schooling environment can be seen as it builds and thrives on the complex web of interrelationships that occur in middle schools. According to social capital theory, a range of benefits can be secured from relationships with others. Different to human capital which encompasses the knowledge, skills and personality attributes of an individual, social capital is located in the structure and context of relationships that a person has with others. Although social capital is intangible, it can be converted into other forms of capital such as human capital (i.e., through supporting and building one's sense of efficacy) or economic capital (i.e., the collective social capital can be used to gain competitive social advantage). The very nature of a middle schooling philosophy promotes the development of human capital (teachers with the specific skills to meet the educational and developmental needs of this age group) and through the implementation of middle schooling practices (teams and small communities of learners) facilitates the building of the social capital within the school.

Leading the Reform

In any reform, the role of leadership is recognised as being critical to the effective implementation and sustainability of the reform (Fullan, 1993; Jackson & Davis, 2000). The Association for Middle Level Education (AMLE) (formerly, NMSA) published a position paper, *This We Believe: Keys to Educating Young Adolescents*. This publication represents the association's vision for a successful middle school. The document includes an outline of the 16 characteristics that are interdependent and, when implemented collectively over time, have been shown to lead to improved student outcomes. Under the subsection "Leadership and Organisation" two characteristics are specifically related to leadership, namely, leaders must be "committed to and knowledgeable about this age group, education research and best practice" and be "courageous and collaborative" (AMLE, 2010, p. 28). Courageousness for a leader in a middle school can mean being willing to break the strongly held historical traditions of education for this age group and implement programs that are effective, evidence-based and defensible. Being a collaborative leader positions them as one who is inclusive of all stakeholders (i.e., teachers, administrators, parents and community) in the decision making relating to the school.

Leithwood, Louis, Anderson and Wahlstrom,(2004) agued that effective school leadership is about helping those who could or would be leaders develop the skills and knowledge (human capital) to then advocate and implement programs that can improve student outcomes. Courageous leadership requires leaders who understand the underpinning philosophy of middle schooling practices (i.e., researched best practice), understand young adolescents and their unique developmental needs and understand how to make the links between these two factors. These leaders are then confident and innovative and translate this understanding into curriculum, pedagogy and assessment within the organisational structures of a middle school (i.e., small learning communities, block scheduling, common planning time, advisory groups, and teacher teams). Courageous leaders advocate for developmentally responsive programs that are learner-centric and promote social equity through democratic governance. However, collaborative leadership also involves building the leadership capabilities in others. Developing the leadership capacity in others through a shared vision, teams, and shared responsibility can safeguard against the new reform "dying" if the "champion" of the reform leaves the school. This is achieved through the development of the social capital within the organisation (Main, 2009).

Enhancing Middle Years Development: Changes to Policy

The most recent Australian education national policy framework, The Melbourne Declaration (MCEETYA, 2008), has attempted to introduce major changes to education policy in Australia. This declaration represents the combined commitment of educational goals for Australian students by the Australian State, Territory and

Commonwealth Education ministers. This is the third such declaration with the first being the Hobart Declaration in 1989. A decade later the Adelaide Declaration was developed with the Melbourne Declaration being the third. However, the Melbourne Declaration was the first to make reference to the middle years of schooling and to call for

> Australian governments [to] commit to working with all school sectors to ensure that schools provide programs that are responsive to students' developmental and learning needs in the middle years, and which are challenging, engaging and rewarding. (MCEETYA, 2008, p. 12)

While there is general agreement across education sectors for the need for a renewed focus on students in their middle years of learning (10–15 years age group), there is inconsistent agreement as to what this might mean or look like in practice.

The Australian Curriculum, Assessment and Reporting Authority (ACARA) has used the Melbourne Declaration (MCEETYA, 2008) as a foundation document to shape the new Australian Curriculum. This new national curriculum will replace each State's curriculums and be rolled out in three phases with the first phase (English, Mathematics, Science and History) currently in trial. Yet, there is no mention of the "middle years" in the ACARA curriculum policy or documents. Rather, the curriculum documents have been developed in four stages: foundation to Year 2; Years 3 through to Year 8; Years 9 and 10; and Years 11 and 12. The demarcation of these stages within national curriculum documents has further muddied the waters for middle schooling across Australia. Each State and education system within each state (i.e., state and independent sectors) are able to draw on different views of middle schooling in terms of year levels that should be included within the middle years and developmentally appropriate practices.

The Middle Years of Schooling Position Paper (MYSA, 2010) argues that middle schooling in an "intentional" approach to meet the educational needs of young adolescents. This statement is supported by Luke et al. (2003) who noted that the success of middle schools in Australia appears to be reliant on whether the structural, organisational and professional autonomy is accompanied by a distinct educational philosophy, ethos and identity. A range of State policy initiatives are reflecting this approach. Since the 1990s, Australian State education systems have developed policies to address a growing awareness of the middle years learner and the importance of the teacher as the subject and agent of change in education reform. Major policy announcements for Australian State and Territories have included *Queensland*: *See the Future: Middle Phase of Learning State School Action Plan* (2003), *A Flying Start for Queensland Children,* 2010; *New South Wales*: *Middle Years Learners – Engaged, Resilient, Successful: An Education Strategy for Years 5–9 in NSW 2006–2009* (DET, 2006, 2010); *Victoria*: *The Victorian Quality Schools Project: A study of school and teacher effectiveness* (Hill, Rowe, Holmes-Smith, & Russell, 1996); *The Australian Capital Territory*: *Teaching and Learning in the Middle Years in the ACT* (Australian Capital Territory, DET, 2005); *Tasmania*:

Tasmanian Curriculum Framework (Tasmania, DET, 2008); *Northern Territory* (NT): *Northern Territory Policy Middle Years of Schooling* (Cobbold, 2006); Making the most of the middle years (O'Sullivan, 2005); *Western Australia*: *Planning for middle schooling in Western Australia* (Jackson, 1999). These State and Territory policy announcements have been developed alongside a range of national research projects aimed at better understanding the current position and needs of middle years learners in Australia (see for example, (Barratt, 1998; Hayes, Mills, Christie, & Lingard, 2006; Lingard et al., 2001; Luke et al., 2003; Pendergast et al., 2005). Each of these projects has highlighted the need for a renewal of teacher curriculum and pedagogical practices for this stage of schooling.

The timing of the introduction of a National Curriculum together with an increased uptake of a middle schooling reform has highlighted the catch-cry of middle years advocates: There is a "muddle in the middle" that needs to be addressed. Much attention has focused on the early foundation years as well as the final senior years of schooling as being critical points in a child's education. Research on young adolescents has also created awareness that the young adolescent is someone who is not just in the middle but is also someone who has specific learning needs (Pendergast & Bahr, 2010). The middle years of schooling have been recognised as being the formative years in which many young adolescents develop their foundation knowledge as well as focus on the developmental goals of identity formation and independence. However, with an increasing focus at a state and national level on standards and assessment practices, a shift towards "teaching to the test" and away from providing a developmentally appropriate education and being responsive to the social needs of students is apparent (Whitehead, 2006). Yet, the Australian professional association advocating for the middle years learner, MYSA (Middle Years of Schooling Association), has argued that the concept of middle schooling can no longer be ignored as a passing fad or the latest buzz-word but has legitimacy with growing evidence that a middle schooling philosophy, when implemented holistically, makes a difference to students' educational experience and outcomes.

CONCLUSION

Research has also identified the teacher as the successful key to educational reform (Hattie, 2003; Fullan, 2001, 2007). The concept of a teacher as an active agent of school reform and development has historically been central to educational practices and policies. The bottom-up initiation and implementation of educational innovations involves active and collaborative learning and development of new practices for those teachers involved. Allowing individuals to work together and have collective responsibility to improve practice is seen as a positive whereas a lack of agency has been recognised as a problem in school development. The challenge during the reform process requires a shift from viewing the teaching-learning process as merely a transmission of knowledge to a more active role in the process of knowledge construction through individual and collaborative efforts. However, to be active and

effective agents in the implementation of a reform, teachers need to take time to discuss, negotiate and develop a common understanding of the goals of the reform in terms of new pedagogies, human mix, or organisational models. Fullan (2001) referred to this as a theory of changing whereby there is a shared belief around how changes can be brought about. An effective middle years reform in Australia requires the focus to move from the student to the teacher as the subject and agent of implementing the reform.

Middle school reform in Australia is being affected by several competing as well as complementary elements occurring simultaneously across the country. Reforms and innovations are happening at a National, State and local level. Including the introduction of a National Curriculum and State changes to age and grade configurations. The release of a National policy that includes a focus on the middle years for the first time and State policy documents and reports being developed that recognise and begin to address the middle years as a unique stage of schooling are bringing renewed hope for middle years advocates. With such significant changes taking place, capacity building for change requires simultaneous and systematic effort across all levels of the schooling system as well as teachers and teacher training institutions.

A distinctive identity needs to be developed around middle schooling which will require courageous, collaborative leadership if it is to be implemented and sustained. Only when a distinctive middle schooling identity is transformed into an authentic middle schooling model that includes evidence-based organisational, curriculum and pedagogic principles will effective change be able to be seen. It should be noted that there is no *one* true model of middle schooling. Though, what is evident is that the building of both the human capital around middle schooling principles (teachers and leaders) and as middle schooling practices are implemented, the development of a middle schooling culture and resultant social capital among staff, can a middle schooling reform be accepted, effective and sustained.

REFERENCES

Achinstein, B. (2002). Conflict amid community: The micropolitics of teacher collaboration. *Teachers College Record, 104*(3), 421–455.

Australian Capital Territory Department of Education and Training. (2005). *Teaching and learning in the middle years in the ACT*. Canberra: ACT, DET.

Australian Curriculum Studies Association. (1997). *Shaping middle schooling in Australia (Draft)*. Belconnen, ACT: Funded by the Department of Employment, Education, Training and Youth Affairs.

Axelrod, R. (1986). An evolutionary approach to norms. *The American Political Science Review, 80*(4), 1095–1111.

Bahr, N., & Pendergast, D. (2007). *The millennial adolescent.* Camberwell, Vic: ACER Press.

Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top.* New York, NY: McKinsey & Company.

Barratt, R. (1998). *Shaping middle schooling in Australia: A report of the national middle schooling project*. Canberra, ACT: Australian Curriculum Studies Association Inc.

Beane, J. A. (2001). Introduction: Reform and reinvention. In T. L. Dickinson (Ed.), *Reinventing the middle school* (pp. xiii–xxii). London: Routledge Falmer.

Brennan, M., & Sachs, J. (Eds.). (1998). *Integrated curriculum for the middle years: Classroom materials.* Canberra: Australian Curriculum Studies Association.

Bryer, F., & Main, K. (2005). Moving middle schooling reform from policy to practice: Issues for Queensland teachers. *Issues in Educational Research*, *15*(2), 123–144.

Bush, G. (2003). Do your collaborative homework. *Teacher Librarian, 31*(1), 15–18.

Carlson, R. V. (1996). *Reframing & reform: Perspectives on organization, leadership, and school change*. White Plains, NY: Longman.

Carnegie Council on Adolescent Development. (1989). *Turning points: Preparing American youth for the 21st century: Report of the Carnegie task force on the education of young adolescents*. New York, NY: Carnegie Corporation.

Carrington, V. (2006). *Rethinking middle years: Early adolescents, schooling and digital cultures*. Crows Nest, NSW: Allen & Unwin.

Carter, M. S., & Carter, C. M. (2000). How principals can attract teachers to the middle grades. *Schools in the Middle, 9*(8), 22–26.

Chadbourne, R. (2001). *Middle schooling for the middle years: What might the jury be considering?* Southbank, VIC: Australian Education Union.

Clark, S. N. (1997). Exploring the possibilities of interdisciplinary teaming. *Childhood Education, 73*(5), 267–272.

Cobbold, T. (2005). *A review of middle schooling concepts and approaches.* Casuarina, NT: The Northern Territory Council of Government School Organisations

Cormack, P., & Cumming, J. (1996). *From alienation to engagement: Opportunities for reform in the middle years of schooling*. Belconnen, ACT: Australian Curriculum Studies Association.

Cumming, J. (Ed.). (1998). *Extending reform in the middle years of schooling – Challenges and responses*. Canberra: Curriculum Studies Association.

Department of Education and Training, New South Wales. (2006). *Middle years learners – Engaged, resilient, successful: An education strategy for years 5–9 in NSW 2006–2009.* NSW: Author.

Department of Education and Training, New South Wales. (2010). *Middle years learners – Engaged, resilient, successful: An education strategy for years 5–9 in NSW 2010–2013.* NSW: Author.

Dinham, S., & Rowe, K. (2007). *Teaching and learning in middle schools: A review of the literature.* Camberwell: ACER.

Ehrenberg, R. G., Brewer, A. G., & Willms, J. D. (2002). Class size and student achievement. *Psychological Science in the Public Interest*, *2*(2), 1–30.

Erb, T. O., & Doda, N. M. (1989). *Team organization: Promise-practices and possibilities*. Washington, DC: National Education Association.

Eyers, V., Cormack, P., & Barratt, R. (1992). *Junior schools review: The education of young adolescents 11–14.* Adelaide, SA: Department of Education Training & Employment.

Felner, R. D., Jackson, A. W., Kasak, D., Mulhall, P. F., Brand, S., & Flowers, N. (1997). The impact of school reform for the middle years: Longitudinal study of a network engaged in *Turning Points*-based comprehensive school transformation. *Phi Delta Kappan, 78*(7), 528–532, 541–550.

Fullan, M. (2001). *The new meaning of educational change* (3rd ed.). New York, NY: Teachers College Press.

Fullan, M. (2003). *Change forces with a vengeance*. London: Routledge Falmer.

Fullan, M. (2007). Change the terms for teacher learning. *Journal of Staff Development, 28*(3), 35–39.

Gideon, B. H. (2002). Structuring schools for teacher collaboration. *The Education Digest, 68*(2), 30–34.

Hargreaves, A., & Dawe, R. (1990). Paths of professional development: Contrived collegiality, collaborative culture, and the case of peer coaching. *Teaching and Teacher Education, 6*(3), 227–241.

Hargreaves, D. H. (1994). The new professionalism: The synthesis of professional and institutional development. *Teaching and Teacher Education, 10*(4), 423–438.

Hattie, J. (2003). *Teachers make a difference: What is the research evidence?* Paper presented to the conference Building Teacher Quality: What does the research tell us? Australian Council for Educational Research, Melbourne. Retrieved from http://research.acer.edu.au/research_conference_2003/4

Hayes, D., Mills, M., Christie, P., & Lingard, B. (2006). *Teachers and schooling making a difference: Productive pedagogies, assessment and performance*. Sydney: Allen & Unwin Publishers.

Hill, P., & Russell, V. (1999). *Systemic, whole-school reform of the middle years of schooling*. University of Melbourne, Vic: Centre for Applied Educational Research.

Hill, P., Holmes-Smith, P., & Rowe, K. (1993). *School and teacher effectiveness in Victoria: Key findings from Phase 1 of the Victorian Quality Schools Project.* Melbourne: Centre for Applied Educational Research.

Hill, P. W., Rowe, K. J., Holmes-Smith, P., & Russell, V. J. (1996). *The Victorian quality schools project: A study of school and teacher effectiveness*: *Report* (Vol. 1). South Australia: Centre for Applied Educational Research.

Horner, R. H. (1999). Social studies in the middle grades: The story of an emerging team. In C. W. Walley & W. G. Gerrick (Eds.), *Affirming middle grades education*. Needham Heights, MA: Allyn & Bacon.

Jackson, A. (Chair). (1999). *Planning for middle schooling in Western Australia. Report of the ministerial committee on middle schooling*. Perth, WA: Department of Education Services.

Jackson, A., & Davis, G. (2000). *Turning points: Educating adolescents in the 21st century*. New York, NY: Teachers College Press.

Jarzabkowski, L. M. (1999, November 2–5). *Commitment and compliance: Curious bed fellows in teacher collaboration.* Paper presented at the Australian Association for Research in Education and New Zealand Association for Research in Education joint Conference (AARE-NZARE), Melbourne Convention Centre, Melbourne.

Kain, D. L. (2001). Our turn? Teaming and the professional development of teachers. In T. S. Dickinson (Ed.), *Reinventing the middle school* (pp. 201–217). New York, NY: Routledge Farmer.

Lawn, M. (1991). Social constructions of quality in teaching. In G. Grace & M. Lawn (Eds.), *Teacher supply and teacher quality; Issues for the 1990s*. Clevedon, Avon: Multilingual Matters.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning.* Minneapolis, MN: Center for Applied Research and Educational Improvement.

Lingard, B., Martino, W, Mills, M., & Bahr, M. (2002). *Addressing the educational needs of boys.* Canberra: Department of Education.

Lingard, R. L., Ladwig, J., Mills, M. D., Bahr, M. P., Chant, D. C., & Warry, M. (2001). *The Queensland school reform longitudinal study* (A. R. Thomas, Ed.). Brisbane: State of Queensland (Department of Education).

Lounsbury, D. W. (1997). Forward. In J. L. Irvin (Ed.), *What current research says to the middle level practitioner*. Columbus, OH: National Middle School Association.

Luke, A., Elkins, J., Weir, K., Land, R., Carrington, V., Dole, S., Pendergast, D., Kapitzke, C., van Kraayenoord, C., Moni, K., McIntosh, A., Mayer, D., Bahr, M., Hunter, L., Chadbourne, R., Bean, T., Alverman, D., & Stevens, L. (2003). *Beyond the middle: A report about literacy and numeracy development of target group students in the middle years of schooling*. Brisbane, Queensland: The University of Queensland.

Main, K. (2007). *A year long study of the formation and development of middle school teaching teams* (Unpublished PhD). Griffith University, Brisbane.

Main, K. (2009). "Mind the gap": Cultural revitalisation and educational change. *School Effectiveness and School Improvement Journal, 20*(4), 457–478.

MCEETYA. (2008). *Melbourne declaration on educational goals for young Australians*. Carlton South: Ministerial Council on Education, Employment, Training and Youth Affairs.

Middle Years of Schooling Association. (2008). *MYSA position paper. Middle schooling: People, practices and places*. Brisbane: Author.

National Middle School Association (NMSA). (2001). *This we believe – and now we must act*. Westerville, OH: National Middle School Association.

O'Sullivan, S. (2005). *Making the most of the middle years: A report on the community consultation for the principles and policy framework for the middle years of education*. Northern Territory: Socom prepared for DEET NT.

Pendergast, D., & Bahr, N. (Eds.). (2005). *Teaching middle years: Rethinking curriculum, pedagogy and assessment*. Crows Nest, NSW: Allen & Unwin.

Pendergast, D., & Bahr, N. (Eds). (2010). *Teaching middle years: Rethinking curriculum, pedagogy and assessment* (2nd ed.). Crows Nest, NSW: Allen & Unwin.

Pendergast, D., & Main, K. (2011). Middle school reform: Constructing an audit tool for practical purposes. *Australian Journal of Middle Schooling, 11*(2), 2–9.

Pendergast, D., Flanagan, R., Land, R., Bahr, M., Mitchell, J., Weir, K., Noblett, G., Cain, M., Misich, T., Carrington, V., & Smith, J. (2005). *Developing lifelong learners in the middle years of schooling.* Carlton South, Vic: Ministerial Council on Education, Employment, Training, and Youth Affairs (MCEETYA) Report.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*, 1–24.

Pounder, D. G. (1998). Promises and pitfalls of collaboration: Synthesizing dilemmas. In D. G. Pounder (Ed.), *Restructuring schools for collaboration: Promises and pitfalls* (pp. 173–180). Albany, NY: State University of New York Press.

Prensky, M. (2001). Digital natives, digital immigrants Part 2: Do they really think differently? *On The Horizon, 9*(6), 1–6.

Pugach, M. C., & Johnson, L. J. (1995). *Collaborative practitioners. Collaborative schools*. Denver, CO: Love Publishing Company.

Queensland Board of Teacher Registration. (1996). *Teachers working with young adolescents*. *A report of the working party on the preparation of teachers for the education of young adolescents*. Brisbane, QLD: Queensland Board of Teacher Registration**.**

Queensland Government. (2003). *See the future: Middle phase of learning State school action plan.* Brisbane, QLD: Author.

Queensland Government. (2010). *A flying start for Queensland children.* Brisbane, QLD: Author.

Sanders, W. L., Wright, S. P., & Horn, S. P. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education, 11*(1), 57–67. doi:10.1023/A:10007999204543

Schools Council. (1992). *The middle years of schooling (years 6–10): A discussion paper* (Project paper No. 6 Compulsory Years of Schooling Project). Canberra, ACT: NBEET, AGPS.

Schools Council. (1993). *In the middle: Schooling for young adolescents* (Project paper No. 7, Compulsory Years of Schooling Project). Canberra, ACT: NBEET, AGPS.

Stevens, R. J. (2004). Why do educational innovations come and go? What do we know? What can we do? *Teaching and Teacher Education, 20*, 389–396.

Swaim, S. (2004, April 21). Strength in the middle. *Education Week*.

Taylor, M., & Garson, Y. (1982). *Schooling in the middle years*. Trentham, Stoke-on-Trent: Trentham Books.

Tasmania, DET. (2008). *Tasmanian curriculum framework.* TAS: DET.

Useem, E. (2001). New teacher staffing and comprehensive middle school reform. In V. A. Anfara Jr (Ed.), *The handbook of research in middle level education* (pp. 143–160). Greenwich, CT: Information Age Publishing.

Whitehead, J. M. (2006). Starting school—Why girls are already ahead of boys. *Teacher Development, 10*(2), 249–270.

Katherine Main
Griffith University
Australia

DAVID LITZ AND RIDA BLAIK HOURANI

6. DEVELOPING EDUCATIONAL CAPITAL IN TIMES OF CHANGE

The Experience of Abu Dhabi

INTRODUCTION

The term "social capital" generally refers to expected collective benefits of advantageous treatment and cooperation between individuals within a respective system, or even networks of groups within a broader system. Although many theorists have emphasized diverse aspects of social capital over the years, many share the idea that social networks and contracts have significant value that can ultimately lead to increased (individual and collective) productivity (Putnam, 2000). The development of social capital in schools through the use of collaborative and change-oriented leadership (e.g., transformational, distributed, and pedagogic leadership), organizational culture building and engagement with stakeholders can lead to reduced dropout rates, increased engagement in schooling and lifelong learning, capacity building, and enhanced learning outcomes. With respect to the United Arab Emirates (UAE), particularly Abu Dhabi, the last 10 years have been characterized by tremendous economic and social transformation and educational reform. Using social capital as a theoretical framework, this chapter will partially explore how cooperation, support, and collaboration are being implemented and enhanced in Abu Dhabi schools within a context of change. It will be argued that specific reforms aimed at developing pedagogic practices and school leadership, enhancing professional development and school-based quality assurance and self-evaluation processes, and increasing internal and external collaborative networks, will have a significant impact on developing social capital within schools, school systems, and the broader community they serve. This, in turn, will contribute to various positive educational and societal long-term outcomes in the UAE.

SOCIAL CAPITAL THEORY

Social capital theory is used by theorists from almost every academic discipline and professional field. The benefits of cooperation among people in any system vary and are categorized differently, but the common factor between all forms of social capital is *relationship* (Callahan, Libarkin, McCallum, & Atchison, 2015; Putnam, 1993).

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 115–141.

Scholars have organized social capital into different levels of relationships. *Bonding social capital* indicates relationships of trust and cooperation within networks based on shared social and demographic characteristics (Blakely & Ivory, 2006). When people share relationships of socio-demographic similarity, they support one another more frequently and largely than people with less in common (Levin & Cross, 2004). Since individuals who relate to each other this way share the strongest ties within their system, bonding social capital is considered the strongest type.

On the other hand, *bridging social capital* refers to relationships empowered by mutual respect and understanding among people who do not share socio-demographic characteristics (Blakely & Ivory, 2006). Thus, social capital can be distinguished by whether it is enhanced by commonalities or overcomes differences. Although bridging social capital is considered weaker than bonding, it is also true that it can be the most valuable type. Despite its relative weakness, it allows individuals to gain support and information from people of dissimilar groups – information that would otherwise be inaccessible (Levin & Cross, 2004).

A third concept, *linking social capital*, is introduced to explain the relationships between people at different levels of influence, such as citizens and elected officials (Szreter & Woolcock, 2004). It is distinguished from bonding and bridging social capital in that people of different influence levels depend on one another in a unique way, especially in a democratic society where, for example, elected officials depend on support from their constituency while their constituents depend on them to represent their interests. This variation of social capital differs from the others since it pertains to the benefits exchanged by people in positions of power and those who, in a democratic society, impart that power on them. Woolcock and Sweetser (2002) explained linking social capital as a variation that involves "connections with people in power, whether they are in politically or financially influential positions" (p. 26). Thus, linking social capital falls outside the bonding-and-bridging spectrum of social capital.

Social capital in education draws upon two other theoretical frameworks from sociological theory: theories pertaining to (a). social structures and community ties that influence social interactions on a larger scale and (b). theories of social interaction and exchange that inform the study of interpersonal exchange in relationships at a smaller scale (Coleman, 1988). Coleman asserted that the "capital" in question is influential in matters of family relationships and academic settings. Moreover, he used social capital theory in a practical way that focused on mechanisms of success or failure.

Coleman's definition of social capital consisted of three elements: the obligations, norms, and information accessible by an individual within their network. His goal in exploring concepts related to social capital was to create a conceptual model for explaining social behavior based on the assumption that people are rational actors. When one begins with the premise that people behave rationally it becomes possible to understand social capital as a resource that can be studied and about which predictions can be made.

Despite the use of these various categories to enhance clarity, some scholars have warned that the term "social capital" has been used without being carefully defined, and has consequently led some authors to suggest that there is a certain degree of ambiguity in empirical studies (Dika & Singh, 2002). Nevertheless, theorists and researchers continue to identify principles and characteristics that enable them to apply social capital theory in specific ways. For example, one guiding principle that has informed thought of social capital is that its underlying elements include aspects such as rapport and trust, and trust requires actors in any situation to make themselves vulnerable to some extent (Hezlett & Gibson, 2007). Beyond this characteristic, other statements have been made about the notion of trust being contextually contingent (i.e., based on the setting in which social capital is being discussed). From these perspectives, trust becomes the basis for social participation, and as such it is a prerequisite for exchange giving value to social capital, since exchange of information and support is contingent on participation (Barbalet, 1996).

However, these observations of the underlying mechanisms affecting understandings of social capital among scholars, although insightful, are nevertheless so diverse that they leave a great deal of room for ambiguity in how the term is used and interpreted. Social capital is the kind of term that is used in so many different ways that readers must be careful when drawing conclusions based on statements about it. For example, in contrast to the explanations given above, other scholars have expressed social capital as a construct comprising social confidence, social participation, and social integration (Tonkaboni, Yousefy, & Keshtiaray, 2013). Tonkaboni et al. asserted that these elements "are in a mutual relationship and they reinforce each other" (p. 42). Confidence, participation, and integration all refer to concepts that present themselves in other descriptions of social capital, with confidence perhaps equating to trust and integration equating to "bridging," as discussed in other literature. The juxtaposition of different explanations of social capital is complicated further by the potential for different interpretations. It is thus necessary when discussing social capital to be very clear about how the term is being used. In the section below, social capital theory is discussed in terms of how it can be applied in the field of education, and specific concepts are presented to elucidate how the term is used in this paper.

Social Capital Theory and Education

Within any education system, social capital can be exchanged by actors at all levels, including students, parents, teachers, and administrators. Additionally, an aspect of social capital particularly influential in the process of improving the UAE education system involves relationships between educators within the system and those from Western education systems, which are proving to be a source of information about practices based on the most advanced empirical research. The sections below discuss some of the most important considerations in the complex inter-workings of the various relationships involved in education.

One of the aspects of social capital that is shown by research to be particularly important in education is the relationship between educators and students' families. This relationship is reflected in measures of parental involvement. Parental involvement is positively associated with more desirable educational outcomes (Cheung & Pomerantz, 2011). The relationships between parents and teachers can be expected to influence parents' levels of involvement in the educational process, so it is important for educators to consider this aspect of social capital in their professional practice. Specifically, studies of linking social capital are useful because teachers and parents are in a mutual relationship of exchange in which they have different levels of power and influence. Parents' approval or disapproval of teachers can influence their reputations and professional outcomes, and teachers' levels of commitment to families directly affects their students' educational experiences.

Moreover, parents with higher levels of perceived self-efficacy in an academic discipline are more likely to be involved in their children's education (O'Sullivan, Chen, & Fish, 2014). This observation poses a challenge for teachers as they interact with families in the UAE system, where families are highly variable in regard to educational levels. Educators are typically concerned with promoting parental awareness of how to obtain desirable educational outcomes for their children. Among parents with low levels of education, it is possible that a small amount of time spent by teachers helping parents improve their content knowledge of what their children are studying will have large benefits for students. Usually, research assesses the relationship between parental involvement and college enrollment at the individual level, but less attention has been given to the structural factors that affect their involvement and the associated outcomes (Horvat, 2001). However, research by O'Sullivan et al. suggested that structural changes interpreted as improving parental self-efficacy in the context of socio-cultural school demographics may also improve parental involvement and in turn improve educational outcomes.

Research from the United States, a racially diverse nation, shows that a large discrepancy exists between the likelihood of students of majority and minority ethnicities attending college. Even though similar proportions of African American, Hispanic, and Caucasian American students attend high school, a much greater number of Caucasian students can be expected to attend college (Perna & Titus, 2005). Moreover, according to this research, approximately 39% of African American and 32% of Hispanic high school graduates under the age of 24 were enrolled in college, whereas 45% of Caucasian students were enrolled.

The socio-cultural demographics of educators and students in the UAE are fundamentally different, so the concept of social capital as it affects parental involvement must be considered differently. Ethnic diversity is much lower than in many other Western countries. Groups in the UAE consist of Emirati, 19%, Arab and Iranian, 23%, South Asian, 50%, and other groups, including Westerners and East Asian citizens, at 8%. However, social capital between education professionals and students' families cannot be directly compared to countries such as the US, because if Emirati educators have different cultural backgrounds they are not necessarily of

the majority while the families are of the minority, as in the USA different dynamic is likely among families in the UAE, where most of the students share a common cultural background; therefore, how families view social capital in context of parental involvement is more uniform.

Another aspect of social capital that is extremely important to education systems is the capital possessed by the students themselves. This refers to the relationships that exist within a student's local neighborhood, school system, community establishments, and all the individuals that interact within these social structures. Research has shown social capital to be a factor that improves individuals' sense of well-being (Dorsey & Forehand, 2003; Yamaguchi, 2013). Psychological well-being, in turn, is positively associated with improved educational outcomes.

In the UAE, attempts to link school to community through collaborative and educational partnerships are still embryonic (Blaik Hourani, Stringer, & Baker, 2012). Nevertheless, it is becoming increasingly crucial to examine UAE educational social capital in terms of the relationships of educators to one another and other people within the community. For instance, to the extent that Western educators are increasingly influencing the development of the UAE education system, it should be expected that relationships between actors of different cultural backgrounds play an important role in determining outcomes for students and for the entire system. A study by Ekinci (2012) measured social capital as positively associated with the level of organizational information sharing, as indicated by self-reports from teachers. The study participants consisted of 267 teachers from 16 elementary schools in the US, and data collected from the "Scale for Social Capital at Schools" and "Scale for Information Sharing at Schools" was statistically analyzed. Positive relationships were shown in all subcategories of social capital and information sharing (Ekinci, 2012). This and similar research should be considered carefully by all educators and other stakeholders involved with the process of cross-cultural information sharing, as it affects the improvement of UAE education.

In addition to the relationships mentioned above, social capital for an education system should also be considered from the perspective of digital technology. Social media can be expected to have a profound impact on social capital, such that the availability of devices and prevalence of their use by stakeholders from all aspects of the education system will certainly influence outcomes associated with every type of social capital. Social capital theory was widely studied long before the onset of the digital age, so much of the older research should be reconsidered in light of drastically changed circumstances. Empirical research continues to provide new insights in this regard, and findings should be considered in relation to various actors' use of technology in UAE education.

As a starting point for exploring the role of digital technology, the prospect of building a community using social networks has been expounded in research by Hopkins, Thomas, Meredyth, and Ewing (2004). They explained their work as an effort to use social capital theory, "as a way of thinking about the complex interaction of elements which contribute to the functioning of communities, and explore some

implications for the communities which occupy cyberspace" (Hopkins et al., 2004, p. 369). Continuing with the theme of "well-being" discussed with reference to Yamaguchi (2013), it is useful to connect social capital concepts to what Hopkins et al. referred to as "community well-being" (p. 100). They viewed electronic networks as key resources in improving community well-being.

As one would expect, the research of Hopkins et al. (2004) on electronic networks gave some attention to parental involvement, while the researchers' application of social capital principles emphasized trust's important role. In business, trust is a crucial factor for relationships that will affect profit and loss, but, by contrast, the sort of trust necessary in relationships within an education system is more personal. Trusting a stakeholder positioned along one's supply line, for example, is very different from trusting a teacher with one's child.

However, the relationship between online settings and real-world settings, as the two platforms for social relationship differ significantly, has been questioned. Researchers have explored the relationship between social capital in the online virtual world and the real world (Ye, Fang, He, & Hsieh, 2012). Focusing on Twitter as an online community, Ye et al. (2012) observed that social capital inherited from a person or group's social capital in the real world and that gained within the virtual world both positively affect levels of social capital in the virtual world. Yet, they also observed that public figures and celebrities who use social media, Twitter in particular, may experience a loss of social capital. Twitter has become widely used by celebrities but it may also make them seem less mysterious or exciting, since using it shows that they are just like other ordinary people. This suggests that some people in the highest of leadership positions might be well advised to carefully consider whether to engage in the use of common social media.

Considered within the context of social capital theory, it can be observed that social capital has the potential to strengthen all three types of capital: bonding, bridging, and linking. The most apparent use for social media is to connect people from different groups who might not otherwise be connected, but this is only one of several opportunities provided by digital media. Discussing electronic networks in relation to bonding and bridging versions of social capital, Hopkins et al. observed:

> At first glance, online relationships would seem more likely to contribute to the relatively weak ties that constitute "bridging" capital than to the strong, multifaceted, and highly personal relationships which underpin "bonding" capital. But they may also contribute to bonding capital, not only in situations where families and communities are divided by distance, but also when particular media, for instance instant messaging, make a useful and economical addition to people's existing repertoire of communications channels. (Hopkins, Thomas, Meredyth, & Ewing, 2004, p. 370)

To this insight, one might also add consideration of linking social capital, not only because this phenomenon can be expected to play an important role in the relationship between parents and teachers, but also because linking social capital is

most closely associated with the relationship between community leaders and people within the education system.

Social media should also be considered in relation to the concept of *involvement*, with attention to the various forms that involvement can take. In general, social media has been shown to improve involvement. In a recent study, Baluev and Kaminchenko (2015) showed that Russians were more likely to be involved with political processes if they were exposed to political messages via social media. This same phenomenon is probably generalizable across cultures and likely to be true not only of political systems but also of education systems. The implication here is that any efforts to make social media more accessible can create opportunities for improving commitment to improving UAE education.

Parental involvement was discussed above, and a long term goal should be to make better use of digital technology so more parents can be involved. This will require initiatives and legislation conducive to improving accessibility of technology and improving users' self-efficacy. When parents can access digital devices and have the confidence and knowledge necessary to use social media, there are many possibilities regarding the way it might improve student outcomes by increasing parental involvement. As Stringer and Blaik Hourani (2012) have suggested, education in the UAE needs to focus on developing technological skills for parents as a channel for strengthening parental involvement. This will improve the links between home and schools and eventually positively impact student achievements that mobilize the building of social capital.

Additionally, involvement is a concept that applies to actors at all other levels: the organizational commitment of teachers, the extent to which leaders prioritize educational outcomes and innovation, the amount of funding allocated to it, and so on.

The UAE Education System

A discussion of social capital in the education system of the UAE should begin with an overview of the characteristics of the social system it represents. The UAE is a federation of seven emirates situated in the southeast of the Arabian Peninsula in South East Asia on the Arabian Gulf. The capital and second largest city of the UAE is Abu Dhabi. The UAE Federation was established in 1971. Islam is the official religion and Arabic the official language.

Prior to the 1960s, there was no formal schooling system in Abu Dhabi; it was only in the very early 1970s that schools began to operate officially, beginning with the foundation of the UAE Federation and formation of the Ministry of Education (Emirates Centre for Strategic Studies and Research, 2011). Education in the UAE was constitutionalized through Article 17, which states:

> Education shall be a fundamental factor for the progress of society. It shall be compulsory in its primary stage and free of charge at all stages, within the federation. (United Arab Emirates, 1971)

Through Article 17, the following was mandated:

- 14 years of education,
- KG (Cycle 1) at the age of 4 to 5 years,
- Primary school (Cycle 2) from the ages of 6 to 12,
- Secondary school (Cycle 3) for another 6 years and finish by the age of 18.

Public schools in the UAE are segregated by gender and coeducation is nonexistent in Cycle 2 and 3 public schools. Though most Cycle 1 public schools are segregated, there are also coed school premises with segregated gender classes and facilities. Both types of coed schools exist exclusively at the KG and Cycle1 levels. The Ministry of Education oversees the entire UAE K-12 school system.

Private education providers in the UAE represent 33% of K-12 schools in the UAE and have 41% of the students (including expatriates). Seventeen percent of the state budget is dedicated to education (but it makes up only 1.4% of the national income). Only 1% of that money is used for scientific research and development while the rest of it goes to salaries and infrastructure. The current education system includes both public and private sectors. The federal government fully finances public education, which is free for all UAE nationals up to university. Nearly 20% of the federal government expenditure is directed to education, valued at roughly US $2.6 billion in the 2015 budget ("$90 Billion to be Spent", 2014).

Reform Agenda

The rapid progress in the development of the UAE's education system over the last 30 years has been nothing short of miraculous. Nevertheless, its education system has a myriad of problems and continues to undergo significant reform. Some of the problems include an obsolete curriculum, low achievement and substandard performance of students on standardized test. English language and ICT training, and a lack of male Emirati teachers continue to be a problem. Similarly, unqualified school management and poor teaching standards, have also contributed to the current reform agenda (Gaad, Arif, & Fentey, 2004; Litz, 2014; Litz & Scott, in press; Ridge, 2009; Macpherson et al., 2007). In fact, some authors have suggested the biggest challenge facing Abu Dhabi is in the area of educational reform (Kannan, 2008).

Informing the UAE public that one of its key public services in is dysfunctional and in need of radical restructuring is unusual. Nevertheless, in early 2006, the Executive Council announced the decision to carry out major educational change based on several 5-year plans. The plans were revised in 2008 and again in 2010 by the UAE Ministry of Education (UAE Ministry of Education, 2010).

The Abu Dhabi Education Council (ADEC) oversees the implementation of education reforms and education policies in the Abu Dhabi Emirate. ADEC is a non-federal government authority that, since 2006, has taken charge of developing education. According to HH Sheikh Mohammed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and the Chairman of ADEC, "the UAE has begun a journey

of growth and modernization, as far as reforming the educational system" (ADEC, 2008:1). HH Sheikh Mohammad also added that "the Law No 8 of 2008 reorganized the Abu Dhabi Education Council (ADEC), so that it incorporates the three education zones, including the city of Abu Dhabi, Al Ain and the Western Region, and thus expanding the autonomy of the education system in the Emirate of Abu Dhabi" (ADEC, 2008:1).

ADEC has taken on the considerable challenge of enabling as many Emirati students as possible to experience high quality K-12 education and pursue higher education. The challenges embedded in the reforms involve developing the quality of education at the school level by means of training both in-service and pre-service teachers, and training and preparing education leaders and school managers (Kannan, 2008). The education system in Abu Dhabi is moving towards an innovative, new educational framework that meets the twenty-first century demands of globalization. Even more importantly, school reforms are encouraging a system of teaching and learning that is in harmony with the visionary Abu Dhabi plan focused on capacity building, enhanced engagement, and the development of key cooperative and collaborative sociocultural networks (Blaik Hourani, Diallo, & Said, 2012).

Human capacity and social capital development are occurring within schools, amongst schools, and between schools and their surrounding communities in many ways. Beginning in 2009, for example, ADEC developed an agenda to enhance changes in education to not only harmonize with modern educational trends, but also to meet the expectations of ADEC's vision for raising education in Abu Dhabi to an international standard (ADEC, 2008). These initial changes emphasized managerial and leadership changes and major curricular changes in the teaching-learning of Math, English, and Science and Technology (ADEC, 2008). One of the key ways to address these issues has been to rely on collaboration with expatriates and other experienced Western and Arab educators for establishing the foundational infrastructures of UAE development and to simultaneously prepare a generation of Emiratis to take on increasingly important roles in the field of education. Additionally, the school reforms and educational changes were shaped in terms of models and guidelines from Western education institutions. Mills (2008) has noted that

> Western academics in the UAE (Abu Dhabi included) are deeply involved in the public schools and higher-education systems and work closely with the government officials to fundamentally change the higher education system in the country's seven emirates. (p. 2)

The cross-cultural nature of this collaboration has important implications for leadership development and the ability to leverage social capital.

The reforms that have been implemented reflect insights from educators with backgrounds in Western education. They include various methods, introduced to Abu Dhabi, focusing on differentiated instruction in support of diverse learners, introducing integrated curriculum with best practice models of instructional delivery, implementation of Arabic-English instruction with bi-literate outcomes,

the introduction of continuous informal and formal assessment of students, and the introduction of multi-sensory educational resources, including software in addition to textbooks.

ADEC has also sought to develop a student-centered learning environment that features world-class facilities that are sustainable, collaborative, and community centered. The plan is to design technology-rich learning environments, putting in place proactive approaches to ensuring the health, safety, and well-being of all students while promoting parental and community involvement through effective and efficient home-school links. In addition, the reforms encourage and support collaboration between schools and parents, leading to improved student outcomes and opportunities for university and business partnerships to extend learning beyond the classroom (ADEC, 2010a).

The Public Private Partnership (PPP) project was piloted by ADEC in 2006. It was designed to lay the foundation for the New School Model (NSM) introduced in September 2010 (ADEC, 2010a). Private operators would help the school to improve students' performance and align teaching practices to international methods (Ahmed, 2011). Essential elements of the NSM are the desire for a bi-literate student-centered learning environment designed to meet the needs of learners through differentiated instruction, application of research-based promotion, and early identification of students with special education needs (ADEC, 2009). The NSM is an important strategy to achieving Abu Dhabi Economic Vision 2030, a long-term plan for transforming the Emirate's economy, including a reduced reliance, on the oil sector as the main source of economic activity and a greater focus on knowledge-based industries in the future.

The New School Model is designed to improve English literacy and thinking skills by:

a. assessing what skills and understandings the learner knows and what they must learn and
b. assessing the learner's comprehension and level of analysis during the learning process. In terms of instilling and enhancing thinking, teachers are expected to reinforce learners' practice of cognitive knowledge and skills to ensure that independent and constructive learning and a concrete understanding of abstract concepts are employed (ADEC, 2012a).

As for instilling a sense of community awareness in learners, which is also emphasized in the NSM, teachers are expected to have learners observe, explain, and evaluate, and to encourage learners to work collaboratively and develop a respect for resources and each other. Moreover, in order to encompass creativity, teachers will encourage students to be innovative. Hence, teachers are expected to find opportunities for children to take risks and create in an unthreatening learning environment. Moreover, principles for overseeing the new transformative and collaborative role of schools are embedded in ADEC's performance standards for teachers'. Teachers, for example, must function professionally within the

(a) social approach, (b) emotional approach, (c) attitudinal approach, (d) creative and resourceful approach, and (e) technological approach. These approaches are inculcated in the teacher's performance standards, shape the role of the teacher, and necessitate the need for teachers to be communicators, interactive and collaborative community members, managers, leaders, team players, and reflective practitioners (ADEC, 2012a).

In addition to the curricular, pedagogical, and administrative dimensions of reform, NSM's and ADEC's policies have endorsed parental involvement as a core element in shaping social order (Baker & Blaik Hourani, 2014). Policy guidelines have focused on enhancing home-school relationships, recognizing that

> close partnerships between schools and families [leads] to improved learning outcomes and ongoing and effective home-school communication. (ADEC, 2009)

The New School Model Policy emphasizes "parent involvement in children's education" (ADEC, 2010a:35) and ADEC's Strategic Plan (2009–2018), underpinning school changes imperatives, focused on "an active teaching and learning environment supported by families and the community" (ADEC, 2010a:2). The Strategic Plan aims at improved learning outcomes and ongoing and effective communication between home and school within the realm of the new curriculum and pedagogy (ADEC, 2010a; ADEC, 2010b).

In ADEC's parental involvement policy rhetoric, school administrators and parents share responsibility for ensuring that parents are involved in their children's education (ADEC, 2010a, p. 35). For example, Article 2: P-12 education, Chapter 2.5.5: The learning environment pillar policy states that, "The government of Abu Dhabi recognizes that an effective education system requires a strong partnership between parents and schools, and will actively seek to involve parents by keeping them informed of their children's progress, encouraging home support in the learning process and consulting with them on entailed issues" and "the purpose of parental involvement is to establish an emphasis on parent involvement in children's education and establish guidelines for the school and parent relationship" (ADEC, 2010a, p. 44). In this regard, ADEC is trying to promote the notion of a parental involvement policy at both the micro and macro education levels. By consolidating home-school relations and empowering parents' roles at schools through both home-based and school-based involvement, ADEC is attempting to energize and revamp the social order within the context of school change and educational innovations (Blaik Hourani, Stringer, & Baker, 2012).

The New School Model is expected to be implemented across all government schools by 2016 and aims to standardize curriculum and instruction, across all Abu Dhabi public schools. Following the launch of the NSM, emphasis has been given to professional growth and development of principals as "leaders of learning," implementing reforms and supporting teachers to improve achievement. Moreover, within the aforementioned scope of school reforms, the roles of teachers and

principals have not only been redesigned with new expectations that encompass approaches to continuous and lifelong learning, but also focus on meeting the demands of the school reforms, developing human capacities, and enhancing collaboration and community across all levels of the school system.

Building capacities and developing social capital for fulfilling school reforms in Abu Dhabi is a dynamic and multifaceted agenda. More importantly, this process involves the development of key human resource components in order to improve school quality. It is anticipated that this will be achieved through a continued emphasis on and expansion of the country's Emiratization program, enhanced professional development for teachers and school leaders, direct supervising, monitoring, and developing of pedagogic practices, and improved school self-evaluation processes.

Paths of Developing Social Capital: The Context of Emiratization

Emiratization is a plan to build local and national human power and workforces. It was established in 2000 as a means of catering to the increasing pressures of globalization and a growing economy. Building Emirati human resources is considered a central component to school reforms and the educational change agenda. The ADEC Educational Policy Agenda 1.1.3 was introduced to improve Emiratization capacity within the school sector. Emiratization policy rightly sees the education system as a vehicle for achieving the goal of a diversified economy and improved quality of life for citizens. Educational change and school reforms will improve student outcomes and bolster the development of higher education in the UAE.

Since the Abu Dhabi Economic Vision 2030 stipulates a gradual reduction of reliance on the oil sector and greater focus on knowledge based industries in the future (ADEC, 2008), it is necessary to produce qualified Emiratis in a variety of economic sectors. This is a platform for school reforms and educational change in which Emiratis are seen as social and economic capital. Accordingly, the Emirates Centre for Strategic Studies and Research (ECSSR, 2011) stated that the general development drive in the UAE, and Abu Dhabi in particular, aims at comprehensive human development and stresses the significance of education as an essential and effective means of meeting the needs and requirements of the twenty-first century. In this way, the UAE is moving with full determination towards restructuring and founding an advanced education system that consolidates three entities: school, home, and community. Special emphasis has been given to innovation, cultural identity, values of social peace, tolerance, and progress, a balance between globalization and localization, and an increasing focus on technology-based pedagogic practices. Thus, the Abu Dhabi Economic Vision 2030 is intended to move Abu Dhabi from a regional economic power to a major player in the global economy. The focus will be on professional services, tourism, the knowledge economy, and creative human resources. HH Sheikh Nahyan observes that:

> Over half of UAE nationals are now below 15 years old. These citizens are the future of the country and it is our responsibility to prepare them in a way which not only helps them achieve their ambitions and aspirations, but also helps put them in the vanguard of the UAE's development and progress, thereby enabling them to open up to the world and enhance their contribution to global achievement … I believe our educational system has reached a stage which requires us to clearly determine and agree on those standards of excellence and quality which should feature in every school. (ECSSR, 2011, p. xx)

Paths of Developing Social Capital: Professional Development

Professional development provides principals with the knowledge and tools to support teachers in adopting child centered teaching-learning approaches inclusive of parents as partners in education (ADEC, 2011a). A series of decrees and policies aimed at enhancing professional principal, vice-principal, and teacher capabilities enforce professional development. For example, Decree No. 53 (ADEC, 2011b), which came into effect on March 17, 2011 stipulates that principals, vice-principals, heads of faculty, and teachers must undergo professional development. In the same year, Administrative Decree No. 92 (ADEC, 2011b) focused on performance evaluation of staff in schools. ADEC's Educational Policy Agenda 1.1.3 states:

> Abu Dhabi will provide high quality technical and professional education for all UAE learners by accommodating them through various educational pathways and promoting their readiness for further education, employment and contribution to the economic growth of Abu Dhabi as well as ensuring alignment with labor market needs … professional education systems will equip learners with the knowledge, competencies and skills for a constantly evolving economy. (ADEC, 2010b, p. 38)

ADEC's Educational Policy Agenda 2.2.3 highlights that "The emirate will develop and fund a professional development system that includes induction and continuous support programs for all public school educators and thus provide ongoing professional development to best equip them to meet the needs of all learners" (ADEC, 2010b, p. 41).

Within the context of school reforms, three aspects of school innovation have been prioritized by the Emirate of Abu Dhabi:

1. professional development for Abu Dhabi public school principals and vice-principals through the Qiyada program,[1]
2. constructing professional standards to evaluate the performance of Abu Dhabi public schools' principals – this happened with the introduction of Professional Standards for Principals – and
3. school Self-Evaluation Irtiqaa (SSE-Irtiqaa).[2]

Qiyada Program

In order to prepare principals and vice-principals to implement education reforms, ADEC has designed the Qiyada Program. Qiyada Professional Development focuses on leadership training for kindergarten and Cycle 1, 2, and 3 principals and vice-principals. Since September 2012, it is estimated that 800 principals, vice-principals, and faculty heads across the Emirate of Abu Dhabi have participated in this professional development program.

The Qiyada Professional Development program aims to assist and guide development and training in strategic planning for leaders, leadership methods, organizations, and communities, as well as monitoring, guiding, and leading teaching and learning activities related to the NSM and the successful fulfillment of school self-evaluation-Irtiqaa. Qiyada aims to equip principals with the knowledge and skills needed to guide them and help them observe, assess, monitor, and support classroom teachers in their planning and implementing student-centered teaching and learning (Blaik Hourani & Stringer, 2015).

In summary, ADEC links its professional development plan with five professional standards for principals:

- Leading Strategically,
- Leading Teaching and Learning,
- Leading the Organization,
- Leading the People, and
- Leading the Community (ADEC, 2011a).

ADEC standards have been designed to guide school leaders within a context of radical change and train them to strengthen collaborative organizational capacities as well as networks and links to other schools and the broader community. Moreover, they are perceived as fundamental to implementing school reforms and educational changes in line with Abu Dhabi Economic Vision 2030.

Professional Development and Performance Standards

Policy makers and officials in Abu Dhabi have prioritized improving school quality in recent years (Davies, 1999; Litz, 2014; Litz & Scott, in press; Macpherson et al., 2007; Safran, 1997), for which teachers, principals, and schools have been viewed as conduits of change. Additionally, emphasis has been placed on aligning professional performance standards with professional development, and school self-evaluation. Hence, a processfor enhancing schools and implementing changes aligned with the new educational vision on the federal and non-federal levels has begun (Stringer & Blaik Hourani, 2014; Blaik Hourani & Stringer, 2015; ADEC, 2011a). What follows are the five mandated performance standards that guide the professional development and expectations of school leaders.

Leading strategically. This standard corresponds to visionary leadership. As visionary leaders, principals are expected to "work to create an understanding of the vision of learning that is shared and supported by all stakeholders" (ADEC, 2011a, p. 26). Principals are expected to know their school's political and social context. They are required to create a climate that challenges the school community to improve learning outcomes. Principals are expected to use available information to inform and manage the planning process. Key elements of this standard are vision and strategic goals, leading change, and school planning (Blaik Hourani & Stringer, 2015; ADEC, 2011a).

Leading teaching learning. This standard is connected to principals' roles and responsibilities as educational and instructional school leaders. In this respect, principals are required to set high standards for teaching practices and student achievement. They are expected to demonstrate an understanding of curriculum, and are one source of wisdom and professional knowledge for teachers. Using their knowledge, principals are expected to create collaborative and accountable structures that facilitate quality teaching and assessment practices and strong student learning outcomes. This standard focuses on curriculum, teaching effectiveness, student achievement, and learning environment (Blaik Hourani & Stringer, 2015; ADEC, 2011a).

Leading the organization. This standard focuses on principals as organizational leaders. They are expected to promote the success of all students through insightful management of the organization, operations, and resources leading to development of a safe, efficient, and effective learning environment. This standard embodies development of policies, procedures, finances, and resources and facilities (Blaik Hourani & Stringer, 2015; ADEC, 2011a).

Leading the people. Principals are positioned at the apex of school leadership teams. In this role, they are expected to promote success for all students by advocating, nurturing, and sustaining integrated communities of professional practice and achievement. They are expected to model best practice in terms of their own personal and professional behavior and are considered the force behind collaboration and cohesion around school goals and commitment to achieving them. Elements of this standard focus on continuous learning, professional development, principal as leader, conflict management, and distributed leadership (Blaik Hourani & Stringer, 2015; ADEC, 2011a).

Leading the community. This standard positions the principal as the leader of the school community. It acknowledges that principals hold important roles in leading the wider school community because they understand the community profile and the larger political, social, economic, legal, and cultural context. Principals are expected

to promote the success of all students by collaborating with families and community members, responding to diverse interests and needs, and mobilizing community resources. This performance standard includes elements associated with parental involvement, collaboration with community stakeholders, and sharing learning (Blaik Hourani & Stringer, 2015; ADEC, 2011a).

Evaluating Performance

Assessing and monitoring Principal performance is fundamental to school development and improvement. It provides a mechanism to manage change efficiently and accountably. School principals are transformative agents through which the quality of teaching-learning, monitoring, and leading of change are achieved. Performance evaluation offers principals opportunities to self-assess and reflect on their practice to improve themselves, and improve teachers and attainment of students' learning outcomes (Hallinger & Heck, 2010).

The Principal Performance Evaluation can be considered an evidenced-based instrument that measures school performance standards as a key indicator of school change and innovation in times of reform (ADEC, 2012b). By the end of the 2010–2011 school year, and for the first time, ADEC principals were evaluated against the Professional Standards for Principals using the Principal Performance Evaluation document. For the 2011–2012 period, the evaluation process occurred over the full school year, thereby providing opportunities for continuous development and improvement (Blaik Hourani & Stringer, 2015).

Principals and school administrators were evaluated across various performance categories. This evaluation was conducted to ensure that principals, school managers, and school administrators were on the correct track with the school reform agenda. In addition, it aimed at diagnosing the need for further professional growth in terms of building the Emirati human capital for maximizing professional performance in times of change. Each element contains sub-elements that serve as guides or measures for task fulfillment according to respective standards. A lack of significant quality evidence in any one particular standard and/or element is considered a useful gauge in determining recommendations for future growth and professional development (ADEC, 2012a). Professional elements are illustrated in Table 1.

In times of educational reform, setting performance standards and organizing social capital development and human capacity building projects at the level of school management and leadership is necessary, but insufficient. Teachers are critical to the teaching-learning process and as agents of school reform and enrichment. Pennington (2014) noted that a new UAE-wide teacher qualification system will be introduced by the 2015–2016 academic year. Teachers across the UAE will be subject to a standardized licensing system developed by the National Qualifications Authority. The system will regulate qualifications for both Emirati and expatriate teachers in private and public schools. The National Qualifications Authority, Ministry of Education, Abu Dhabi Education Council, Dubai Knowledge and

Table 1. Professional standards for principals and principal performance evaluation links (ADEC, 2011a; Blaik Hourani & Stringer 2015)

Standard: Leading strategically: Principals are visionary leaders of schools			
Leading Strategically	*Element 1:* Vision and Strategic Goals	*Element 2:* Leading Change	*Element 3:* School Planning
Standard: Leading teaching and learning: Principals are the educational and instructional leaders of schools			
Leading Teaching and Learning	*Element 4:* Curriculum *Element 7:* Learning Environment	*Element 5:* Teaching Effectiveness	*Element 6:* Student Achievement
Standard: Leading people: Principals are the apex of school leadership teams			
Leading People	*Element 8:* Continuous Learning *Element 11:* Conflict Management	*Element 9:* Professional Development *Element 12:* Distributed Leadership	*Element 10:* Principal as Leader
Standard: Leading the organization: Principals are the organizational leaders of schools			
Leading the Organization	*Element 13:* Policies and Procedures	*Element 14:* Finances	*Element 15:* Resources and Facilities
Standard: Leading the community: Principals are the leaders of school communities			
Leading the Community	*Element 16:* Parent Involvement	*Element 17:* Collaborating with Community Stakeholders	*Element 18:* Sharing Learning

Human Development Authority, and Abu Dhabi Centre for Technical and Vocational Education Training are developing the system.

Under this system, teachers will take training courses, pass an exam, or obtain a federal license to work in the UAE. In addition, a guidebook is being written that is expected to encourage more Emiratis to choose the teaching profession as a career and acquire the teaching skills needed for school improvement. This new policy, exemplified by teaching licensure, will help mitigate the professional challenges facing teachers in the midst of educational changes and innovations. The teachers' licensure policy tends to reinforce the fundamental and vital role teachers have in revamping the social order, as well as the economic demands of twenty-first century education.

In terms of Professional Performance Standards for teachers and within the context of teachers' licensure and Abu Dhabi public school reforms, the UAE National Qualifications Authority (2015) state that teachers will be evaluated on four different standards:

- Professional Standard-1: Profession and Ethical Conduct
- Professional Standard-2: Professional Knowledge
- Professional Standard-3: Professional Practice
- Professional Standard-4: Professional Growth

Table 2. ADEC indicators for teachers' performance standards

Performance Standard-1: Professional and Ethical Conduct	*Performance Standard-2: Professional Knowledge*	*Performance Standard-3: Professional Practice*	*Performance Standard-4: Professional Growth*
Indicators			
1. Respect and promote UAE Values 2. Demonstrate personal and professional ethics 3. Be accountable for and to learners 4. Comply with national and organizational expectations 5. Establish communication and collaboration	1. Demonstrate knowledge of learning development and diversity 2. Demonstrate knowledge of curriculum 3. Demonstrate knowledge of theoretical basis of teaching	1. Promote positive learning environments 2. Demonstrate learner-centered teaching 3. Use assessment for learning	1. Reflect on own practice 2. Engage in professional growth 3. Determine impact of learner achievement.

These standards embody various indicators of the numerous conditions teachers are expected to meet during their evaluation. Additionally, teachers will be expected to be knowledgeable about these professional standards, as they are seen as fundamental to their professional success. This necessitates professional self-reflection on these standards for them to recognize and self-assess their professional strengths and areas needing development. The performance standards and their indicators are illustrated in Table 2 (National Qualifications Authority, 2015).

Performance Standard-1: Professional and Ethical Conduct. This standard is demonstrated by:

a. commitment to UAE heritage and cultural values,
b. personal and professional ethics, exemplified by integrity, respect, fairness, and commitment,
c. collaboration and professional communication with stakeholders to promote and support learning, and
d. complying with legislative and organizational requirements (National Qualifications Authority, 2015).

Performance Standard-2: Professional Knowledge. This standard is demonstrated by

a. understanding learning and development in relation to the diversity of learner characteristics and needs,
b. understanding and implementing curriculum in area(s) of responsibility,
c. knowing educational research, learning theories, pedagogical approaches, cultural values, and relevant policies, and
d. applying knowledge in practice (National Qualifications Authority, 2015).

Performance Standard-3: Professional Practice. The professional practice standard is characterized by

a. creating learning environments that are safe, supportive, and motivating for learners,
b. planning and implementing effective learner-centered teaching responsive to the characteristics and needs of individual learners,
c. incorporating appropriate resources and making innovative use of technology, and
d. using varied assessments to inform teaching, evaluate progress, and provide feedback on student learning (National Qualifications Authority, 2015).

Performance Standard-4: Professional Growth. This standard is demonstrated by

a. taking personal responsibility for professional growth by reflecting on performance,
b. identifying development needs,
c. planning and engaging in professional development, and
d. evaluating impact on teaching and learning (National Qualifications Authority, 2015).

The performance standards are expected to conceptualize the framework of teachers' roles, responsibilities, and deliverables at the school system level. Building social capital activates these performance standards towards the anticipated aims and goals set by the National Qualifications Authority.

Professional Principal and Teacher Performance Standards: Building Social Capital

Social capital plays an important role in efforts to improve collaboration and collegial leadership. Educators work in collaboration to pool their knowledge and ideas as they engage in multiple forms of information sharing. At the same time, information is shared between various education systems at the macro level. Actors at the micro level within individual schools also must share information about circumstances facing individual students, suggestions for school improvement, innovation, and all aspects of instructional practice. The concept of collegial leadership is important in discussions of social capital among teachers and between teachers and principals (Graham, 2014), especially when many of them might have different teaching philosophies and different values.

Authors such as Evans (2003) have stressed the role of educational leaders in creating an ethos of teamwork amongst followers in addition to promoting positive working relationships by maintaining a balance between individualities, work culture, and common goals. Alternatively, Graham (2014) emphasized the importance of educational leaders in indirectly improving student outcomes by giving support to teachers. Support also implies teacher autonomy and empowerment, so it is important to cultivate mutual respect despite teachers and administrators having different levels of influence and power within the education system. Unlike simpler leadership contexts, in which one person gives instructions and another carries them out, leadership in an education system requires special consideration because of the work's consequential nature and teachers' and administrators' complex roles. Although administrators are generally considered the leaders of teachers, and have the final authority over important decisions, it is also true that the teacher is the most important person in improving educational outcomes for students (Hoerr, 1996). In the absence of a strict hierarchy of responsibility and authority, educators must develop trust among colleagues to improve confidence and participation. Increasing teacher involvement requires teachers to be motivated and uninhibited, so they can confidently take initiative and contribute to continuous improvement and innovation.

"Linking" capital takes a special form in the relationship of parents to teachers and in the relationship of teachers to administrators. One theme that emerged multiple times during the completion of this chapter was the notion of *involvement,* typically parental involvement but also stakeholders at all levels within the education system. At the teacher level, involvement can manifest as teachers taking initiative and assuming leadership roles among colleagues, students' families, and community members. When teachers assume leadership roles, both administrators and teachers share responsibility for the proactive effort that leads to growth and improvement.

At the teacher or administrator level, the same overarching goal of educational improvement is significant, but perspectives may differ. Research from the US

shows that teachers and principals have different opinions and perceptions of teacher leadership (Akert & Martin, 2012). These naturally diverse perspectives can be a source of both insight and conflict. Social capital between teachers and principals, particularly trust, can help to mitigate differences of opinion and perception.

Paths of Developing Social Capital: School Self-Evaluation – The Irtiqaa Framework

In addition to providing performance standards upon which professional development, design, content, and processes rely for developing human capacities, school self-evaluation-Irtiqaa (SSE-Irtiqaa) has also regulated Abu Dhabi school performance standards. The SSE-Irtiqaa process has been shaped and formed by the nature and content of professional growth and is needed to improve school quality and to synchronize this improvement with capacity building and social capital in times of educational change.

School self-evaluation is a way to guide principals and teachers through appraising and improving school effectiveness. It involves detailed quality checks, reporting, documenting, developing school enhancement plans, and the eventual improvements needed for achieving satisfactory school performance levels. This process underpins skills and knowledge for which schools' human capacities were not necessarily equipped previously. However, with the advent of new professional performance standards for principals and teachers, both educators and school leaders will be expected to participate in self-evaluation in coming years, and training has already begun. For instance, cluster managers, in collaboration with ADEC's Professional Development unit and P-12 Sector, have developed a mentoring and training program to prepare school administrators to conduct SSE-Irtiqaa (ADEC, 2009; ADEC, 2012c; Stringer & Blaik Hourani, 2014).

Additionally, as part of SSE-Irtiqaa, schools have been mandated to conduct quality assurance and are required to participate in inspection, monitoring, and accreditation processes, and to conduct self-studies and self-evaluations leading to the development of annual School Improvement Plans (SIPs). These measures are linked to inspection processes, and schools are expected to use standardized key performance indicators to drive school reform and improvement policies.

Thus, the central feature of ADEC's Irtiqaa approach is to encourage self-evaluation as a management and performance tool. Schools are expected to inspect themselves and record their findings electronically using the school self-evaluation form. Apart from assisting with this inspection process that ensures accountability, SSE-Irtiqaa is expected to be undertaken regularly to help schools monitor their education quality and explore means of improvement (Stringer & Blaik Hourani, 2014).

Policy makers consider school self-evaluation and inspection to be key drivers of quality assurance and effectiveness and improvement. SSE-Irtiqaa provides an opportunity for schools to examine their own practices and to report on their

strengths and weaknesses, as well as areas for improvement to their communities and stakeholders. With SSE-Irtiqaa, schools will explore their drawbacks to develop an SIP.

The core values underpinning SSE-Irtiqaa are an unrelenting commitment to high quality and continuous improvement, transparency and integrity, and cooperation and partnership. The objectives of implementing SSE-Irtiqaa as a measuring tool for school standards include

1. identifying levels of performance quality in schools within the Emirate of Abu Dhabi;
2. providing schools with clear recommendations for improvement;
3. informing policy making at sector level; and
4. encouraging the sharing of best practice in education and the exchange of professional expertise" (ADEC, 2012c, p. 4; Stringer & Blaik Hourani, 2014).

SSE-Irtiqaa is facilitated by teams of school administrators. To implement SSE-Irtiqaa, school administrators must archive and present evidence-based documents using qualitative and quantitative methods to assess and measure their own performance and stakeholders' and to meet the criteria indicated in the eight school performance standards areas (ADEC, 2012c).

SSE-Irtiqaa has been implemented for Cycle1 (Cycle2 and Cycle3 were to follow during the 2014–2015 academic year). Documentation of evidence of school performance is key to preparing for inspection and tracking performance standards. School inspection has been conducted as an integral part of self-evaluation following the implementation of Irtiqaa. Three to five evaluators are assigned by ADEC to each public school. Their mission is to review school effectiveness, measure school performance levels, and uncover any inconsistencies in school self-evaluation documents. ADEC evaluators inspect the school over a period of 4 days. The number of evaluators in each school varies from 3–5 depending on the school population. Schools are evaluated on an 8-point scale with 1 being the highest and 8 being the lowest: (1) is outstanding, (2) is very good, (3) is good, (4) is satisfactory and improving, (5) is satisfactory, (6) is unsatisfactory, (7) is very unsatisfactory, and (8) is poor (ADEC, 2012c; Stringer & Blaik Hourani, 2014). Upon earning level 6 or below, schools are revisited after 2 years, during which time an SIP must be submitted and implemented. Schools earning level 7 or 8 are revisited after a year, during which time an SIP must be implemented.

School performance standards are tied to the expectations for school teachers, administrators, managers, and leaders with regard to not only meeting professional standards and performance evaluation criteria, but also fulfilling SSE-Irtiqaa requirements. The professional growth and development stipulated by Irtiqaa has mainly focused on Emirati development in the education sector in order to envisage the larger agenda of Emiratization and school development. This will affect not only the enhancement of social capital but also the economic sector, in line with Abu Dhabi Economic Vision 2030.

Paths of Developing Social Capital: The Context of Bilingual Teaching-Learning

In 2005, HH Sheikh Nahyan Mabarak AlNahyan declared that English would be the medium of instruction in higher education, paving the way for not only a linguistic shift but also a cultural transformation since language and culture are interwoven entities. From the same perspective, he stated:

> Interest in foreign languages is not in any way inconsistent with our loyalty to our culture, since we ensure at the same time that our graduates master Arabic and are aware of their Arabic and Islamic heritage, and are eager and capable of keeping abreast of the latest developments in the UAE and the region, each in their respective disciplines as well as other branches of knowledge. (ECSSR, 2011, p. xxiv)

This linguistic component of educational innovation and enhancement in schools and higher education necessitated that English become a key element in human capacity building.

However, it is anticipated that one of the greatest and most relevant tests of school reform may well be the introduction of bi-literate learning. Essentially, the school reform agenda has called for the medium of instruction in schools to shift towards Arabic-English bilingualism. It is a pragmatic move that has marked the beginning of a cultural transformation accompanying the overall educational changes. This process has subverted traditional educational practices and orientations, and forced schools and UAE society to accept new multi-layered and complex changes that revolve around building capacities, and imply a new social order.

The introduction of English as a medium of instruction for several school subjects (e.g., math and science) has not only been a challenge for Emirati students, but also for Emirati teachers and Arab expatriates who have been in the profession for decades and are familiar with certain patterns of teaching and modes of practice. Using English as a medium of instruction has created an additional layer of complexity to the pedagogical and curricular changes in schools. These complexities have affected the challenges that teachers face in praxis, in addition to creating new forms of professional quality assurance criteria they have to meet given the professional performance standards prescribed for them. Thus, while bilingualism is becoming a tool for materializing reform and building Emirati capacities in the realm of globalization and international economic demands for education, it has contributed to a professional dilemma with respect to building capacity. This poses questions related to the following:

1. whether building capacities requires English as a medium of instruction;
2. whether introducing English into education is efficiently and successfully contributing to building the economic capacity and manpower envisaged by Abu Dhabi 2030; and
3. whether building capacities should revolve around economics and business rather than socio cultural constructs.

The use of English in professional development and as a medium of instruction for building capacities and developing social capital has been controversial, as it has potentially caused two things:

1. Emiratis leaving the teaching profession and
2. more dropouts in higher education due to English becoming the medium of instruction.

Conclusively, this can only hinder UAE aspirations to achieve Emiratization, but also, paradoxically, school reforms and the development of social capital.

To elaborate, there is now a social order characterized by the involvement of different players ranging from individuals from traditional sociocultural segments of the UAE (i.e., Emiratis) to expatriates acting as catalysts in shaping required developmental changes. Therefore, different if not opposing education paradigms are altering pathways and models of how change is conceived. Bilingualism has also dictated a shift in schools' staffs and human resources whereby expatriate teachers have been introduced into the school system. As such, this linguistic dimension, by intervening in building human capacity, has brought about an ambiguous sociocultural construct which is a potentially resistant agent to positive change and the creation of collaborative networks.

CONCLUSION

In the context of the educational changes in the UAE an inevitable cross-pollination of ideas is needed to revamp the education system (Davis, 1999). Moreover, the immediate challenge facing school reform is generating job skills to support the Emiratization policy and the demands of diversified economic sectors. Schools are a catalyst to meeting the national strategic priorities hence the need for school reforms and educational change. Moreover, education reform as a long-term commitment is also characterized by rethinking local needs in light of national expectations.

The retention of traditional teaching practices and other substandard aspects of the education system for so long has contributed to the complexity of implementing educational changes in support of Emiratization. Additionally, Emiratization has created its own perplexities and dilemmas, which have yet to be resolved.

Emiratization has also been a challenge in terms of the wide-ranging spectrum of educational elements it encompasses. This includes the introduction of a foreign language (i.e., English), the embodiment of sociocultural diffusion, the multiple layers of professional development that are required to improve the school system, altered teaching and learning practices, a revised curriculum, human capacity-building, and enhanced school performance and evaluation procedures. Therefore, different paths and modes of change have been involved and adopted to develop social capital in Abu Dhabi schools.

NOTES

[1] Qiyada:an Arabic word meaning "leadership."
[2] Irtiqaa: an Arabic word meaning "elevating quality"; in the context of evaluation it means improving school quality through schools' self-evaluation.

REFERENCES

Abu Dhabi Education Council. (2008). *Together, 1*. Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2009). *Abu Dhabi education council strategic plan for P-12 education (2009–2018)*. Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2010a). *New school model manual*. Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2010b). *Abu Dhabi education policy agenda.* Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2011a). *Professional standards for principals.* Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2011b). *Frequently asked questions.* Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2012a). *How do you monitor the process of school improvement?* Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2012b). *Together, 8.* Abu Dhabi: ADEC.

Abu Dhabi Education Council. (2012c). *Irtiqa'a Framework for the inspection of private schools in the Emirate of Abu Dhabi*. Retrieved from https://www.adec.ac.ae/en/MediaCenter/Publications/IRTIQA'A%20FRAMEWORK_%20PRIVETE%20SCHOOLS.pdf

Ahmed, A. (2011, May 14). Schools PPP future to be revealed soon. *The National*. Retrieved from www.thenational.ae/news/uae-news/schools-ppp-future-to-be-revealed-soon

Akert, N., & Martin, B. N. (2012). The role of teacher leaders in school improvement through the perceptions of principals and teachers. *International Journal of Education, 4*(4), 284–299. doi:10.5296/je.v4i4.22990

Baker, F., & Blaik Hourani, R. (2014). The nature of parental involvement in the city of Abu Dhabi in a context of change: Nurturing mutually responsive practice. *Education Business and Society: Contemporary Middle Eastern Issues, 17*(4), 186–200. doi:10.1108/EBS-05-2014-0023

Baluev, D. G., & Kaminchenko, D. I. (2015). The reflection of social media technologies and popular culture features in Russian academic studies. *Asian Social Science*, *11*(9), 105–109. doi:10.5539/assv11n22p105

Barbalet, J. M. (1996). Social emotions: Confidence, trust and loyalty. *International Journal of Sociology and Social Policy, 76*(9/10), 75–96.

Blaik Hourani, R., & Stringer, P. (2015). Professional development: Perceptions of benefits for principals. *International Journal of Leadership in Education, 17*(2), 1–35. doi:10.1080/ 13603124.2014.904003

Blaik Hourani, R., Diallo, I., & Said, A. (2011). Teaching in the Arabian Gulf: Arguments for the deconstruction of the current educational model. In C. Gitsaki (Ed.), *Teaching and learning in the Arab world* (pp. 335–355). Bern: Peter Lang.

Blaik Hourani, R., Stringer, P., & Baker, F. (2012). Constraints and subsequent limitations to parental involvement in primary schools in Abu Dhabi: Stakeholders' perspectives. *School Community Journal*, *22*(2), 131–160.

Blakely, T., & Ivory, V. (2006). Commentary: Bonding, bridging, and linking—but still not much going on. *International Journal of Epidemiology, 35*(3), 614–615.

Callahan, C. N., Byerly, G., & Smith, M. (2001). *The American Geological Institute Minority Participation Program (MPP): Thirty years of improving access to opportunities in the geosciences through undergraduate and graduate scholarships for under-represented minorities*. American Geophysical Union Spring Meeting, Boston, MA.

Callahan, C. N., Libarkin, J. C., McCallum, C. M., & Atchison, C. L. (2015). Using the lens of social capital to understand diversity in the Earth system sciences workforce. *Journal of Geoscience Education, 63*(2), 98–104. doi:10.5408/15-083.1

Cheung, C. S., & Pomerantz, E. M. (2011). Parents' involvement in children's learning in the United States and China: Implications for children's academic and emotional adjustment. *Child Development*, *82*, 932–950.

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*, S95–S120.

Davies, D. (1999). Education and the Arab world. In *Partnership: A theme for education and communities in the twenty- first century* (pp. 51–88). UAE: The Emirates Centre for Strategic Studies and Research.

Davies, D., & Rudd, P. (2000). *Evaluating school self-evaluation.* Retrieved from www.leeds.ac.uk/educol/documents/00001641.htm

Dika, S. L., & Singh, K. (2002). Applications of social capital in educational literature: A critical synthesis. *Review of Educational Research, 72*(1), 31–60. doi:10.3102/0034 6543072001031

Dorsey, S., & Forehand, R. (2003). The relation of social capital to child psychosocial adjustment difficulties: The role of positive parenting and neighborhood dangerousness. *Journal of Psychopathology and Behavioral Assessment, 25*(1), 11–23.

Ekinci, A. (2012). The effects of social capital levels in elementary schools on organizational information sharing. *Kuram Ve Uygulamada Egitim Bilimleri, 12*(4), 2513–2520.

Emirates Centre for Strategic Studies and Research. (2011). *Education in the UAE: Current status and future developments*. UAE: ECSSR.

Emirates Centre for Strategic Studies and Research. (2014). *The future of education in the UAE: Innovation & knowledge production*. UAE: ECSSR.

Evans, L. (2003). Leadership role: Morale, job satisfaction, and motivation. In L. Kydd, L. Anderson, & W. Newton (Eds.), *Leading people and teams in education* (pp. 136–150). London: Paul Chapman.

Gaad, E., Arif, M., & Fentey, S. (2004). Systems analysis of the UAE education system. *International Journal of Educational Management*, *20*(4), 291–303.

Graham, D. (2014). Collegial administrative support: Reflections from a principal at an at-risk public high school. *International Journal for Professional Educators*, (2014), 40.

Hallinger, P., & Heck, R. (2010). Collaborative leadership and school improvement: Understanding the impact on school capacity and student learning. *School Leadership and Management, 30*(2), 95–110. doi:10.1080/13632431003663214

Hezlett, S. A., & Gibson, S. K. (2007). Linking mentoring and social capital: Implications for career and organization development. *Advances in Developing Human Resources, 9*(3), 384–411. doi:10.1177/1523422307304102

Hoerr, T. (1996). Collegiality – A new way to define instructional leadership. *Phi Delta Kappan, 77*(5), 380–381.

Hopkins, L., Thomas, J., Meredyth, D., & Ewing, S. (2004). Social capital and community building through an electronic network. *Australian Journal of Social Issues, 39*(4), 369–379.

Horvat, E. M. (2001). Understanding equity and access in higher education: The potential contribution of Pierre Bourdieu. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 16, pp. 195–238). New York, NY: Agathon Press.

Kanaan, P. (2008). Education reforms on the fast track. *Khaleej Times*. Retrieved from www.khaleejtimes.com

Levin, D. Z., & Cross, R. (2004). The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. *Management Science, 50*(11), 1477–1490.

Litz, D. (2014). *Perceptions of school leadership in the United Arab Emirates* (Unpublished doctoral dissertation). University of Calgary, Calgary, AB.

Litz, D., & Scott, S. (in press). Transformational leadership in the educational system of the United Arab Emirates (UAE). *Educational Management, Administration, & Leadership*.

Macpherson, R., Kachelhoffer, P., & El Nemr, M. (2007). The radical modernization of school and education system leadership in the United Arab Emirates: Towards indigenized and educative leadership. *International Studies in Educational Administration, 35*(1), 60–77.

Mills, A. (2008). Emirates look to the West for prestige. *Chronicle of Higher Education, 55*(5), 1–7.

National Qualifications Authority. (2015). *Teacher standards for the UAE.* UAE: Author.

O'Sullivan, R. H., Chen, Y., & Fish, M. C. (2014). Parental mathematics homework involvement of low-income families with middle school students. *School Community Journal, 24*(2), 165–187.

Pennington, R. (2014, September 24). New UAE-wide teacher qualification system slated for early 2015. *The National*. Retrieved from www.thenational.ae/uae/education/new-uae-wide-teacher-qualificationsystem-slated-for-early-2015

Perna, L. W., & Titus, M. A. (2005). The Relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *Journal of Higher Education, 76*(5), 485–518.

Putnam, R. (2000). *Bowling alone, the collapse and revival of American community*. New York, NY: Simon and Schuster.

Putnam, R. D. (1993). The prosperous community. *The American Prospect*, *4*(13), 35–42.

Safran, D. (1997). *The psychology and politics of parent involvement.* Abu Dhabi, UAE: The Emirates Centre for Strategic Studies and Research.

Salama, S. (2010, March 24). New demand for education reform in the UAE. *Gulf News*. Retrieved from http://gulfnews.com/news/uae/government/new-demand-for-educationreform-in-uae-1.602025

Stringer, P., & Blaik Hourani, R. (2012). School-home relations. A school management perspective. *Educational Research for Policy and Practice*, *12*(2), 149–174. doi:10.1007/s10671-012-9134-0

Stringer, P., & Blaik Hourani, R. (2014). Transformation of roles and responsibilities of principals in times of change. *Educational Management, Administration & Leadership.* doi:10.1177/0123456789123456, 1–23.

Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology, 33*, 650–667. doi:10.1093/ije/dyh013

Tonkaboni, F., Yousefy, A., & Keshtiaray, N. (2013). Description and recognition the concept of social capital in higher education system. *International Education Studies, 6*(9), 40–50. doi:10.5539/ies.v6n9p40

United Arab Emirates. (1971). *United Arab Emirates: Constitution*. Retrieved from http://www.sheikhmohammed.ae/vgnexttemplating/v/index.jsp?vgnextoid=15e504ee11a11310VgnVCM1000004d64a8c0RCRD

United Arab Emirates (UAE) Ministry of Education. (2010). *Ministry of education strategy 2010–2020*. UAE Federal E-Government. Retrieved from http://www. uae.gov.ae/Government/education.htm

United Arab Emirates Demographics Profile. (2014). Retrieved fromwww.indexmundi.com/united_arab_emirates/demographics_profile.html

Woolcock, M., & Sweetser, A. T. (2002). Bright ideas: Social capital—The bonds that connect. *ADB Review*, *34*(2), 26–27.

Yamaguchi, A. (2013). Impact of social capital on the psychological well-being of adolescents. *International Journal of Psychological Studies, 5*(2), 100–109. doi:10.5539/ijps.v5n2 p100

Ye, Q., Fang, B., He, W. J., & Hsieh, J. J. (2012). Can social capital be transferred cross the boundary of the real and virtual worlds? An empirical investigation of Twitter. *Journal of Electronic Commerce Research*, *13*(2), 145–156.

$90 Billion to be Spent on Education in GCC. (2014, October 7). *Khaleej Times*. Retrieved from http://www.khaleejtimes.com/nation/education/-90-billion-to-be-spent-on-education-in-gcc

David Litz
Emirates College for Advanced Education
United Arab Emirates

Rida Blaik Hourani
Emirates College for Advanced Education
United Arab Emirates

IAN R. HASLAM

7. LARGE-SCALE REFORMS AND THE 'CAFETERIA' COLLEGE

Lessons from High Performing School Systems

INTRODUCTION

The purpose of this chapter is to discuss the lessons learned from successful and high performing K-12 school reforms and apply them to system wide reforms to the California Community College system. Under-performing K-12 school systems are putting increasing pressure on the nation's community colleges especially in the area of developmental education in numeracy and literacy. The community college acts as a bridge between high school and employment as well as providing an alternative path to a four-year university education. It caters to a diverse body of students entering directly from high school as well as those in mid-career looking to upgrade their skills in the workplace. Sweeping reforms to the community college have been underway for a number of years and have not been successful due in part to the fragmented nature of reform initiatives and a lack of coordination at a system level. Much can be learned about education reform from studying high performing school systems (Mourshed, 2010). Perhaps even more can be learned from under-performing systems that have made significant improvements in their systems (Fullan, 2011). In both instances, involving faculty and staff by building professional capital was essential to sustaining a positive outcome (Hargreaves & Fullan, 2013; Harris & Jones, 2013). An analysis of the California Community College strategic plan reveals the need for more attention to system wide capacity building in curriculum renewal and instruction design.

Public school systems across the world have come under increased scrutiny in recent years as knowledge based labor markets grow on a global scale. If school systems cannot supply a competitive labor force with well-trained workers' the quality of life for its citizen's will be at risk. This is why the Programme for International Student Assessment (PISA) is of keen interest to education policy makers.[1] Government officials want to know that its future workforce will have the numeracy, literacy and thinking skills to be successful in the knowledge economy. PISA is organized and implemented by the Organization for Economic Cooperation and Development (OECD) once every three years.[2] Since 2000, the OECD has surveyed over five hundred thousand fifteen years olds representing twenty eight million students worldwide in sixty-five countries. They measure reading, science

I. R. Haslam & M. S. Khine (Eds.), Leveraging Social Capital in Systemic Education Reform, 143–166.

and mathematics ability using a paper pencil based test lasting two hours. Test items are multiple choice and short answer narratives. The results indicated that the world's best educations systems continue to reside in Asia. Shanghai, China, Singapore, Hong Kong, Taiwan, South Korea, Macau and Japan have the top performing fifteen year olds in the world in 2012. In fact, Shanghai, China's fifteen-year old's are studying math three grade levels higher than their USA counter parts! The notion becomes even more intriguing when we factor in the size differential between China and the USA. There are as many honors students graduating from China's high schools than there are high school graduates across the entire United States!

Not only did the Asian K-12 systems distinguish themselves in the world rankings in 2012 they also actually improved their systems from 2009. In 2012 Shanghai, China went from six hundred to six hundred and thirteen. Hong Kong improved there scores by eleven points, Taiwan improved by ten points and South Korea improved by roughly 4 points! How these children do so well at school is of keen interest to education policy makers worldwide, and more importantly, is how they sustain their improvement (OECD, 2014)?

Unfortunately, the USA performed poorly on PISA test results. So poorly, that Arne Duncan the US Secretary of Education laments on "a picture of educational stagnation" noting that "Americans are being out educated" by the Chinese (Economist, December 7th 2013). Out of thirty-four OECD countries, America's fifteen year olds were ranked 27th in math, 17th in reading and 20th in science. There has been no significant change since 2009.[3]

In stark terms this means that since 2002 just over one in four students in America do not meet international (as measured by PISA) baseline standards in math proficiency. Now that most states have adopted the new common core curriculum standards for math the future of todays twelve years olds might look better but for many of today's 15 year olds they are likely destined for remediation programs in math, science and reading. Probably, in America's community colleges!

There are more than ten million students enrolled in the nation's twelve hundred community colleges and on average only thirty-two percent of students transfer from a community college to a university! In California, the largest community college system in the country only twenty-five percent of students transfer to a four-year institution. The statistics are equally depressing when looking at student success rates and time to completion of a Bachelor's degree. Nationally, only forty-nine percent of community college transfer students complete their Bachelor's degree in 6 years. In California its fifty-five percent!

California has the largest community college system in the country with over two million registered students; approximately one million are Full Time (taking 12 units or more) Equivalent Students (FTES). Community Colleges offer courses in Developmental Education, Continuous Technical Education (CTE) programs (vocational training) and lower division University Transfer courses (to four-year degree granting institutions). In 2013–2014, more than fifty-six thousand students transferred to the California State University (CSU), nearly sixteen thousand to the

University of California (UC) and more than twenty-five thousand students to Out of State colleges and Private colleges. It is a large, cumbersome and complicated system and its future role in both the K-16 sequence of education and workforce vocational training is still unclear. What is evident however is the critical need for the community college to reform its core business of vocational training, university transfer preparation and to develop a robust developmental education program.

Developmental Education

Clearly, the K-12 system in California must undergo reforms as too many students are graduating with less than college level skills in literacy and numeracy. It did not help the problem any (albeit it the right thing to do) when the California Community College Board of Governors (BOG) increased the Mathematics and English expectations in community colleges in 2009. Under the new regulation, students' requiring an Associates' Degree (a 2-year degree) from a community college had to pass Elementary and Intermediate Algebra and transfer level College Composition (Perr & Rosin, 2010:2).

Comprehensive data on numeracy and literacy levels of High school graduates is difficult to find although one community college reports a thirty one percent success rate for students (n = 284) who started two levels below a university transfer course and a more encouraging fifty-two percent success rate for students (n = 614) who started their programs one level below transfer.[4] On average, more than sixty percent of students who undertake remedial classes at the community college are not successful. At the national level, data from the 2009 Basic Skills Accountability Report present a gloomy picture of only sixteen percent of students nationally were ready for transfer level mathematics, Twenty-eight percent of students were English ready for transfer level course work and thirty-eight percent in reading. Ed Source (2010:5) notes that roughly half the first time students enrolled in college in 2002 tested into remedial reading, writing and mathematics. One opportunity to provide high school students with advanced warning of the expectations of college level courses is the Early Assessment Program (EAP) undertaken by students at the end of their junior year in high school. This affords students a year of study for higher-level course work and if successful, they would be exempt from taking the community college placement tests. This and other initiatives across the country speak to the challenges of transitioning from High school to college and the readiness of students to undertake college level work. The National Center for Higher Education Management Systems (NCHEMS) note that developmental education in community colleges:

> Consists of a remedial course sequence staffed with untrained faculty and to which the campus sometimes adds additional student support services. (Cited in Perr & Rosin, 2010:14)

A further project undertaken by the California Chancellors Office in 2008 revealed that only twenty-five percent of remedial math teachers at community

colleges had this training. Similarly, thirty-nine percent of campuses reported that writing instructors had no training in teaching remedial writing but for Reading and English as a Second Language (ESL) trained faculty were more common.

It has to be worrisome for colleges that so many community college faculty do not have specialized training in teaching and learning. Surely in this day and age, teaching intensive institutions should require all its instructional faculty to receive some training in teaching. It is now 6 years since Perr and Rosin's (2010) Report was published, and very little seems to have changed in most community colleges are not able to adequately serve their most needy students. More specifically, the California Community College System is content to let colleges reform themselves according to the 'beat of their own drummer', which for the most part, is painfully slow to non-existent at all. The result is that thousands of young people will be unable to read, write or do arithmetic well enough to find a job in a knowledge economy.[5]

High Performing School Systems

There has been a significant effort to reform K-12 education systems around the world (Fullan, 2013; Harris & Jones, 2010; Mourshed et al., 2010; Cheng, 2013) with numeracy and literacy skills at the top of the reform agenda. Community college systems can learn from the mistakes made by K-12 reforms in the last thirty years. Many attempts have been expensive, poorly conceived, very complicated and not terribly successful. In fact, in some instances school reforms might have done more harm than good to the system's teacher/administrator morale and public confidence in schools' ability to deliver an effective public education system.

The McKinsey Report[6] makes a significant contribution to the conversation on highly effective school systems. It includes a compilation of evidence on how the world's best school systems keep getting better and how those school systems that have embarked on reforms have made rapid progress in a short period. The discourse is complex and convoluted ranging from every system being culturally situated and at a different stage of development, cutting across preschool, K-12 and even tertiary education (especially the reforms to teacher education and post graduate professional development (Haslam, 2013a) delivery systems Since every system is unique, it is impossible to take a successful system and transplant it in another system to good effect. Such was the attempt to re-create the Singapore system of teacher education and career long professional development in the United Arab Emirates or in the Kingdom of Bahrain (Haslam, 2013b). Not only was the scope and sequence of the curriculum in schools different but the language of instruction was Arabic although this was changing in the UAE as part of their reform movement.

The McKinsey group (Mourshed et al., 2010) studied twenty school systems at different stages of their reform. They interviewed two hundred system leaders and assessed over five hundred system wide interventions designed to reform, and upgrade a school system. They then classified them according to the nature of the change the intervention had on the system. The interventions included curriculum

and instruction, teacher education and professional development, teacher incentives, leadership development among others. The impact of the changes on student success for systems at different stages of development were determined which resulted in a loose taxonomy of reforms deemed most effective for a system at a particular stage of development. The capacity of the system to make the changes to curriculum, instruction and school support is largely down to the professional capital (human capital, social capital and decisional capital) in the system. The four stages include:

- Stage 1 Poor to Fair Systems
  - Need to focus on numeracy and literacy across the system with 'non-negotiable', 'centralized' control.
- Stage 2 Fair to Good Systems
  - Should continue to focus on numeracy and literacy but also identify quality markers, transparency and effective pedagogy.
- Stage 3 Good to Great Systems
  - Continue to ensure numeracy and literacy improvement along with quality and effective pedagogy but also focus on system wide teacher and leadership development and career growth opportunities.
- Stage 4 Great to Excellent Systems
  - Will then have the capacity to sustain all of the above and give districts and schools the freedom and autonomy to develop peer-to-peer teaching systems and other professional learning communities as needed within the school.

Notwithstanding the importance of history, politics, culture and structure as well as the need to assess the stage of development of the system Mourshed et al. (2010) concluded that six common elements were evident in all high performing systems. It follows that serious reforms must pay attention to what needs to change in each of the six elements:

- An authentic and reliable student assessment system.

  Reliable student assessment data is essential feedback for instructors on student progress. Without it there is no certainty the student has met the required standards and that, he/she can cope with the next level of material or experiences.

- Comprehensive data systems on student progress and system effectiveness.

  Reform interventions can be underway whilst student data systems are established and student assessment systems are under review.

- New education policy documents and as needed revisions to the prevailing education codes.

  Large-scale reforms may require changes to state wide Education Code and new policy documents on curriculum standards, instruction and assessment and teacher professional development.

- Rewards and remuneration of the education workforce to ensure retention and commitment.

  Similarly, negotiations with teacher unions on compensation and benefits, linked to reforms, would help ensure both teacher 'buy in' and the recruitment and retention of new teachers. Finland, Singapore, Ontario, Canada have competitive remuneration and benefit plans for their teachers but they also have high expectations of their schools.

- Revision of curriculum standards in accordance with international best practice.

  However, perhaps the biggest challenge of all is to ensure the curriculum revisions and new instructional strategies meet international standards of best practice. Even now it looks like the numeracy and literacy curricula in Asian countries is running 2–3 grade levels above the rest of the world… and it shows on PISA results every three years.

- Building the technical skills of instructors and school leaders.

  Revisions of curriculum standards are not new but they are critical. In fact, most reforms start with a curriculum that is not serving its purpose. This can cause concern among the instructional leadership within the system, as teachers have to reconfigure their instructional materials to fit new curriculum and perhaps learn new methods of teaching. It might come easier to some than others but either way its work, and it will require a support structure of peers as teachers cope with new expectations. Getting the 'buy in' of all teachers could be the single biggest challenge to system wide reform because:

  > the evidence is clear that teaching is one of the most important school-related factors in student achievement, and that improving teacher effectiveness can raise overall student achievement levels. (Rothman & Darling-Hammond, 2011:1)

Capacity Building

The six common elements of high performing school systems provide a focus for policy makers and teachers looking to improve their systems. They still need to overcome the inertia in the system. What is apparent when looking at failed attempts at system wide reform is that as much as certain drivers sound compelling they could work against the system (Fullan, 2011). For example, holding teachers exclusively accountable (which sounds compelling to policy makers) for student success is a misnomer. It can demotivate and demoralize and does not lead to sustainable reform. If anything, it contributes to grade inflation and dumbing down of curriculum standards.

Similarly, although the idea of school leader/teacher individual development sounds appealing it tends to promote professional isolation rather than team work and

collaboration. Teachers spend most of their working life in isolation in the classroom and most were hired on the basis of their education and experience alone (so called their human capital) rather than their ability to work in teams, to collaborate, share, trust and their communication skills (or their social capital). Evidence (Leana, 2011) would suggest that a combination of the two forms of capital are most effective in schools but if one were to pick between the two then social capital has a bigger impact on student success than human capital. Therefore, collaboration is a more appropriate strategic driver than individualism.

The pervasive use of technology in education has given rise to profound applications of technology throughout all levels of schooling. Once again, it is an appealing strategic driver, one that can't be ignored but one that clearly has its limitations for without teacher's knowledge of for example, effective online teaching students will have little chance of success (Fullan, 2011:5).

Lastly, yet another popular strategic direction for school systems that have struggled to overcome the inertia in their system is to undertake piecemeal or fragmented interventions. When this happens the most-needy schools can be overlooked, struggle to see few if any changes and are unable to improve student success.

However, all is not lost as Fullan (2011) has identified four key drivers that he finds in systems that have seamless curriculum reform transitions. These include a focus on building professional capacity, system wide networking and communities of practice, a single minded attempt to improve the teaching learning nexus and system wide interventions that impact under performing and well as high performing schools in the system.

- Capacity Building

  This is a deliberate attempt to systematically and purposefully develop a collaborative culture and so improve the professional capital across the system. This is achieved by leveraging the "motivation and competency development of the vast majority of educators". (Fullan, 2011:8)

- Group Quality

  Create cross-functional teams to ensure both curriculum renewal and innovative instructional practices. As Fullan notes: "what works in the daily experience of all teachers – peers working with peers in a purposeful profession that is effective in what it does…". (Fullan, 2011:14)

- Instruction

  Ensure all reforms focus on student success and the teaching learning nexus. This includes discussing all aspects of curriculum reforms and instructional design as it relates to existing and new curriculum in terms of student success.

- Systemic

> All elements of reform should be system wide. Not one innovation at a time, not one school at a time, nor one district at a time. Reforms should be rolled out over time, integrated, system wide and deep.

Developing professional capacity in a system has to include how to work effectively in groups and how to improve teaching and learning which cannot happen without teachers working together with instructional leaders.

Professional Isolation

Fullan's message is clear, "people come first…you actually cannot get whole system reform without peer power" (Fullan, 2011:12). It sounds compelling and in many ways obvious, not only from the point of view of the expertise needed to implement reform, but also from the point of view of scaling of the project. However, it will not be easy. Most teachers have worked in instructional isolation for years. In schools that have been constructed like 'egg cartons' and organized by departments or grade levels for many years. In fact, teachers working in isolation is not new. Flinders (1988) wrote a timely analysis of the concept when the large-scale reform reports by the Holmes Group (1986) and the Carnegie Task Force (1986) were advocating professional collaboration.

The dilemma is that teachers working in classrooms with students all day is interaction intensive. Lieberman et al. cited in Flinders (1988) reports that secondary teachers can teach four lessons back to back, and see as many as 120 students a day! Similarly, elementary teachers (who have fewer students) can have over 1000 interactions with their students a day. The interpersonal demands of the classroom are themselves exhausting and weigh heavy on many teachers. The ecology of the classroom and the work of the teacher can be so demanding at times that privacy to reflect and contemplate either whilst grading papers or checking attendances is a much sought after escape (Flinders, 1988). The lunch period and the free period during the day was as important for recharging a teacher's batteries as they are to think about planning and preparing the next lesson. These teachers considered collaborative professional development to be a distraction to their work in the classroom and a potential threat to their professional survival. Flinders case studies of the day in a life of a teacher reports that teachers don't talk much to other teachers because they simply don't have time!

> If time and energy allowed, lesson plans could always be revised and improved, reading could always be reviewed again, more text material could always be covered before the end of term, students could always be given more individual attention and homework could always be graded with greater care. (Flinders, 1988:23)

One student teacher likened the work to chasing a tiger around a tree. The harder you worked and the faster you went the faster the tiger went so you were never

able to catch up. Teacher isolationism protects the time and energy needed to teach. Any reforms that increase instructional demands but fails to provide compensatory resources is impractical and unrealistic.

Unfortunately, attempts to introduce compensatory measures conducive to increased professional interaction have often resulted in frustrations and disappointment. Team teaching, opening classrooms by taking down walls, teacher staffrooms/centers just do not work and in the end are counterproductive to both teacher development and student success (Flinders, 1988:26). There are however, examples of teachers working collaboratively (without knocking classroom walls down) from high performing school systems across the world. In so doing they build social capital which has the potential to be highly relevant to teaching and learning and thus become professional capital.

> Professional capital is a function of human capital (made up of education and experience) interacting with social capital (an environment of teacher trust, respect and collegiality) and decisional capital (developed through reflective practice on teaching and learning). (Hargreaves & Fullan, 2013)

High performing schools have the professional capital and the motivation to re-invent themselves when reforms are underway because they have well qualified teachers with high levels of mutual respect and understanding who thrive on discussions about students and about teaching and learning. An education system, or even a school or a college that is low in all three areas of professional capital would need assistance in implementing reforms. The problem is that not all school systems recognize the importance of professional capital in sustaining high performing schools and in re-engineering school systems. They are also quite comfortable working in isolation in their classrooms and are reluctant to change their routines.

Professional Collaboration

Pil and Leana's (2009) project on social capital in schools concludes that there is more to teacher effectiveness than teacher qualifications. In fact, a teaching environment conducive to teacher collaboration and founded on trust and mutual respect among teachers is also important. They sampled the math scores of over one thousand grade school students and their teachers. They determined teacher qualifications, experience and ability as a measure of the available Human Capital. Traditionally, school systems have always thought that human capital would be the key to student success in the classroom. To measure the available social capital in schools they assessed the professional interactions about math teaching between teachers. Leana and her colleagues found that teachers were four times more likely to go to a peer for advice on teaching than they were to a district expert or a principal. They also found that when the social capital of a teacher was one standard deviation above the average then student math scores went up. As predicted students of teachers with both high human capital and high social capital achieved the highest math scores,

but what was interesting was that students with teachers with low human capital and high social capital also performed well.

> …teacher social capital was a significant predictor of student achievement gains above and beyond teacher experience or ability in the classroom. And the effects of teacher social capital on student performance were powerful. If a teacher's social capital was just one standard deviation higher than the average, her students' math scores increased by 5.7 percent. (Leana, 2011)

Top school systems around the world have leveraged the social capital in their systems to good effect (Rothman & Darling-Hammond, 2011). In Finland, for example, teachers have the freedom to create curriculum together 'school by school, district by district'. Finland is a 'Good to Great' school system and have well trained, well-compensated teachers who hold at least a master's degree in education. Finland is also not shy in providing time in the school day and beyond for teachers to collaborate with peers in the development of curriculum, instructional innovation and assessment of student learning outcomes.

When looking to close the gap between the top schools and the underperforming schools in Singapore, the Ministry of Education (a Great to Excellent school system) will ensure best practice is available to the less successful schools in the system. Leadership is distributed across the system and teachers receive additional pay for their mentorship skills, curriculum development skills, tutoring skills and other forms of professional leadership abilities. Similar to Finland's teachers, Singapore's teachers are highly trained and only the top 30% of high school graduates enter the program. Tuition is free, a teacher-in-training stipend is paid to all pre service students, and the students are bonded for three years to teach in local schools on completion of their training. The first three years of service is really a comprehensive period of induction into the system with an opportunity to determine a career path from an array of possible career pathways in education.

In Ontario, Canada teachers work together with locally important data on student progress and take collective responsibility for student grades,

> The teachers say, 'they are our children,' not 'my children, my class'. It's what's behind the data not what's in the data that is most important for Ontario. (Hargreaves & Fullan, 2013:39)

Ontario offers a comprehensive induction program for new teachers, and a teacher-developed appraisal system of existing teachers, tied to various career paths within the system and focused on student success. Like Finland and Singapore, Ontario also has a strong pre-service teacher preparation program, which would include a content degree at the undergraduate level and a postgraduate teacher's certificate. A key component of the reforms to the Ontario system was its investment in system wide leadership with the creation of the Literacy and Numeracy Secretariat (LNS) of senior master teachers in the system.

> The province has made major investments in personnel (e.g., student achievement officers, student success leaders, school effectiveness leads, student success teachers, and additional primary and specialist teachers).[7]

In like manner, they invested in resources to support the reforms (such as professional learning institutes, webinars, instructional guides) as well as "finely tuned strategies" including Focused Intervention Partnerships, Differentiated Instruction learning strategies, Credit Recovery initiatives and a Student Voice-Speak Up program.

A similar capacity building initiative was adopted by the California Teachers Association (CTA), in partnership with Stanford Centre for Opportunity Policy in Education (SCOPE). A core group of one hundred and sixty experienced teachers and twenty-four education leaders known as the Instructional Leadership Corps (ILC) are creating professional development materials to ensure the implementation of the new Common Core State Standards and the new Science Standards (Jaquith et al., 2014). The ILC will train teachers system wide who will then train their colleagues in new curriculum standards and instructional practices. The goal is to involve over fifty thousand teachers across the state over the next three years. SCOPE's Director, Professor Darling Hammond notes:

> Ultimately, our teachers will be responsible for their success. The ILC enables teacher leaders to create meaningful professional learning opportunities that will help their colleagues to make the instructional shifts required by the new standards.[8]

The net effect is school based professional learning communities coming together in across California to have conversations about how to implement numeracy and literacy curriculum.

Professional Learning Communities

The California public school system ILC could serve as a good example of how to scale up school reform using a cascade model of professional learning communities that could have far-reaching effects on the community college system. Not only in terms of reforms to college developmental education curriculum (Perry & Rosin, 2010) but also in terms of the professional development of community college instructors as a whole. The use of professional learning communities to drive reforms is not new. It was an important part of the reforms in Ontario, Canada (Levin et al., 2008) and was a singular focus of reforms to the Welsh education system (Harris & Jones, 2013).

So pervasive is the idea of merging social and human capital in schools to carve a path to school reform that the Welsh school system invested heavily in professional learning communities in every school, every grade level and every subject department in their system. Their definition of a professional learning community is:

> A group of connected and engaged colleagues who are responsible for driving change and improvement within, between and across schools that will directly benefit learners. (Harris & Jones, 2010:174)

However, PLC's do not constitute the 'silver bullet' and will not cure all student success problems. Some schools are at a stage in their development that they have become highly resistant to change and other schools that are perhaps more adaptable to new curriculum standards and to new ideas of teaching. In the Kingdom of Bahrain and in Abu Dhabi in the UAE, for example, not all schools were under performing (although even the top public school would be average at best in a high performing system). The better schools were able to form professional learning communities to resolve a variety of school based challenges and were keen to share them at teacher conferences when the opportunity presented itself.

Interestingly, at least in Bahrain, there was a systematic attempt to engage working teachers across the system in post-graduate professional development. The Bahrain Teachers College at the University of Bahrain combined with the Ministry of Education to offer diploma's and advanced diplomas in instructional leadership and each class became a professional learning community looking to integrate best practice in local schools (Haslam, 2013b).

Although no one in education can argue with the potential of professional learning communities if they focus on student learning outcomes, ask hard questions about classroom practice and make decisions about how to change improve the status quo. Harris and Jones (2013) insist that learning communities must have a purpose and three rules of engagement including:

1. the need to involve the entire system in collaboration and networking
2. they are focused on pedagogical improvement and student learning outcomes
3. "action research" is a key driver of reforms

This anticipated result of Welsh learning communities of teachers would be an elaborate teacher network and extensive professional collaboration. Especially in the areas of curriculum development, instructional innovations and the use of technology in and out of the classroom, student engagement in their own learning including remediation and acceleration, and authentic student learning outcomes and assessment. It would mean that teachers would spend more time outside of the classroom but it could also result in enhanced teacher efficiency and effectiveness. Expanding the role of the teacher to include learning community work has the potential for distributed leadership across the system. This would lead to teacher empowerment and respect as well as elevated levels of teacher self-efficacy.

The Cafeteria College

Unfortunately, the literature on large-scale system reforms from K-16 are scant at best. This has to be worrisome when you consider that substantive curriculum

reforms at one level would have concomitant alignment implications to the next level. The introduction of the Common Core in California's K-12 system, for example, could well have implications for developmental education in the community college. Equally interesting, is how the instructors, counselors and advisors across the K-16 sequence of curriculum and instruction can work together to improve student success rates at all levels? Indeed, what will it take to overcome the inertia to change in California's community colleges?

The California Community College Chancellors Office (CCCCO)[9] published an update of its strategic goals for system reform in 2013. These included:

A. College Awareness and Access
   a. Increase awareness of college as a viable option and enhance access to higher education for growing populations.
B. Student Success and Readiness
   a. Promote college readiness and provide the programs and services to enable all students to achieve their educational and career goals.
C. Partnerships for Economic and Workforce Development
   a. Strengthen the Colleges' capacity to respond to current and emerging labor market needs and to prepare students to compete in a global economy.
D. System Effectiveness
   a. Improve system effectiveness through communication and coordination, regulatory reform, and performance measurement.
E. Resource Development
   a. Provide enhanced resources and allocation methods to ensure high quality education for all.

It is a large complex system with robust student support operations as well as program and instructional services. Based on Mourshed's (2010) assessment of the common elements of high performing school systems the CCCCO strategic plan is well covered. There is reference to education policy documents and the need to 'revise the Education Code'. Especially in the areas of 'statewide workforce programs and policy' as well as 'budget-planning alignments' and 'resource optimization'. The need to pay attention to the 'rewards and remuneration' of the education workforce is also covered in the plan with a discussion on 'funding and pay equity' for colleges workers. Comprehensive 'data systems' for capturing key performance outcomes requires authentic measures of success and the 'analytical capacity' for measuring and assessing student success across the system. There is also reference in the plan to securing data on 'long range economic and workforce trends' and 'accountability reporting'. Reliable student assessment systems and student progress monitoring is essential for both accurate 'placement in the system' as well as determining readiness for future progress through the system. Such a system will need to 'articulate with both the high school' feeder system and in the case of university transfer students with four year institutions. However, one of the

two areas with the obvious connections to student success is the technical skills of instructors and school leaders.

Community college instructors have been teaching students with diverse learning styles in their classroom for many years. However, there is no doubt college instructors could teach more effectively with training and feedback. To do this they need to have the time, the motivation and the opportunity to undertake professional development in an easily accessible form. Instructional support comes in the form of tutoring and mentoring services as well as supplementary instruction and learning communities all of which need staffing with qualified teachers who are trained in remediation and content specific skills and knowledge. Often times, college instructors are not trained even though historically community colleges are teaching intensive institutions. There is no doubt that a valid teachers certificate would help many college instructors. Even without formal teacher training college instructors like all instructors would benefit from more student and peer feedback. In many cases instructors simply do not get enough feedback on their teaching (partly due to the contracts that each district negotiates with its union). One to three courses every third year for the tenured faculty, for example, is simply not enough feedback to teachers on the effectiveness of their instruction and their impact on student learning. It should be every course, every semester and it should be organized, among other things, around the college's stated teacher competencies. The shortage of full time faculty is probably the most pressing challenge to teaching effectiveness on the community college campus. Many adjunct faculty are not given the label of 'road warriors' for nothing as they ply their craft at one, two or three colleges in the region and drive daily around the state just to get the hours in to make a living wage. Under these circumstances the motivation to attend departments meetings, to engage in professional development activities, to write curriculum, to review lesson plans and upgrade reading materials on each of the campuses they teach at is low to impossible. Never mind engaging with students – just no time!

The CCCCO strategic plan also notes the importance of college leadership and professional development for succession planning and for the development of future leaders from within the system. They will:

> Provide training for faculty, leadership training for staff and faculty at all levels, programs to recruit and retain quality staff and faculty, and programs to support technology use and innovation (e.g. faculty and staff release time). (CCCCO, 2013:56)[10]

Lastly, the need for rigorous curriculum development based on student needs is evident in the plan. Starting with reference to developmental education in 'basic skills' and including curriculum renewal in career technical education and 'university transfer' programs. They are aware of the need for innovative programs for growing populations and regional collaboration through multi agency networks. 'Career pathways' will be designed where they are not in place and reviewed where they

are in place with the promise that 'program approval process' at the CCCCO will be improved.

In 2015 the Student Success Task Force Recommendations published its first report, and indicates that of its twenty-two recommendations only one has yet to be completed. According to the narrative, meetings and workshops on best practice have been undertaken but it will be up to individual colleges how much effect this will have on student success.[11] The catalyst however, that starts policy makers thinking about reforms is student success or the lack of it. Then the reforms begin with conversations about curriculum. There is no doubt that developmental education and associate degrees in general and for transfer are a priority for curriculum reform. It can take the form of new curriculum standards or a new curriculum design but whichever way you look at it, the core business of community colleges is student learning and to do that students need to navigate a curriculum.

It is not easy finding your way through the maze of courses and sections on offer! Most college instructors would agree with Bailey et al. (2015) and Jenkins (2014) that students have "too much choice and too little direction" because of an enduring practice of open access, low cost and a proliferation of programs and courses with little to no guidance. It is a delivery system, aptly referred to as a 'cafeteria-style' college which must develop,

> more educationally coherent programs of study that simplify students' choices without limiting their options and that enable them to complete credentials and advance to further education more quickly and at less cost. (Bailey, 2015:n.p.)

Students need guidance on course choice, which means more attention to course 'curriculum mapping' for degrees and certificates. Meta-majors in areas like health care, business or education for students who cannot make a decision on a major field of study when they enter college. More tightly controlled course requirements to fulfill a major program of study will lead to more predictable student schedules and a shorter time to graduation. Saving both the college and the student money in course fees and time spent on courses that cannot transfer or that will not lead to a certification.

The key to both successful transfer and CTE course completion is numeracy and literacy skills. Since sixty percent of students' test into remedial classes and require from one to three courses to get to transfer level English or Math; developmental education curriculum is a priority. However, there is data presented recently at a state summit on Guided Pathways (Willet et al., 2016)[12] to suggest that college placement tests might not be as predictive of student success in transfer level courses as was originally thought. The discussion has moved to the Multiple Measure Assessment Project (MMAP)[13] based on high school achievement as predictors of success in English and math. Forty-one pilot colleges implemented the MMAP and witnessed significant increase in student success in Transfer level English and math. Willet et al. (2016) reports transfer level placement in math increased eleven percent and in English increased twenty-three percent. There was little change in success rates

between students required to undertake three or more levels of developmental education and those who went directly to transfer courses.

All students must now have an Education Plan and a better idea of where they are going and what they need to do to achieve their goals. Having advice and direction, a timeframe and a sense of purpose can only lead to a more efficient system. Curriculum pathways will also help bridge the gap between High School and College as curricula alignment and advising takes shape. In fact, reforms to program majors cannot really happen without partnerships with universities for course articulation purposes and industry for the relevance and validity of program outcomes.

Enacting curriculum renewal and decreasing the time to program completion would require guidelines on the process of reform. Strategically, Fullan (2011) would argue that *capacity building* across the *system* using *cross-functional teams* focused on *teaching and learning* in the classroom is a key success driver. Creating scorecards for each college and the system is an 'accountability' driver, which puts negative pressure on the system to make authentic reforms. That is not to say the data is not useful and probably necessary but it does have to be used properly. Mourshed et al. (2010) confirm that authentic and comprehensive data systems are common features of high performing school systems. Data is important to decision making for everyone in any organization. Probably the most interesting decision by the CCCCO is to continue to decentralize the implementation of their reforms. Currently, each college can make changes according to its own situation and within its own time-frame. This would have merit if all colleges had the professional capital, motivation and skills to make changes but not all colleges are able to implement reforms without direct guidance from the state. Questions as to faculty and staff motivation and incentives to reform curriculum, to develop specific program competencies, or design new instructional materials and the ever-present dichotomy between contract and adjunct faculty duties are still unanswered. Even if a solution to the curriculum design challenges can be found and new or modified programs of study emerge, the work of the instructor in the classroom and their approach to teaching will determine student's final grade and therefore their success.

Powerful Ideas

The combination of powerful ideas like strategic drivers of successful reforms (Fullan, 2011), common elements of high performing systems (Mourshed et al., 2010), communities of professional practice (Harris & Jones, 2013), curriculum pathways (Bailey et al., 2015) can only have a positive impact on reforms to any education system looking to improve student success. Table 1 illustrates the extent to which Fullan's strategic drivers of large-scale reform interact with Mourshed's common features of high performing systems and the CCCCO strategic plan. The contention is that while all aspects of the CCCCO strategic plan are important and have been well thought out the single most important intervention has to be capacity building in the areas of curriculum renewal and instructional design system wide.

Table 1. High performing school systems & the CCCCO

Strategic drivers fullan (2011)		*Capacity building*	*Teaching learning nexus*	*Group quality*	*Systemic implementation*
		To motivate and build competence	*Student success in the classroom*	*Communities of practice*	*Integrated, system wide and deep.*
Mourshed et al. (2010) Common elements	*Revision of curriculum standards in accordance with international best practice.*	A3. Innovative Programs and Outreach for Growing Populations	B1. Basic Skills as a Foundation for Student Success B4. Intersegmental Transfer B6. Degrees and Certificates	C2. Career Pathways C3. Curriculum and Program Development and Approval Process Improvements	D10. Accreditation D8. External Relations C4. Regional Collaboration Through Multi-Agency Networks
	Building the technical skills of instructors and school leaders.	A4. Multiple Delivery Methods A5. Institutional Capacity for Diversity	B5. Teaching and Learning Effectiveness B8. Provide Students with Increased Direction and Expectations	B7. Innovative Practices in Workforce Education D6. Resource Sharing	D5. Selective Regulatory Reform D9. Coalition for Higher Education
	An authentic and reliable student assessment system	A2. Removing Barriers to Access and Student Success	B2. Assessment and Placement	B3. Articulation with K-12	A1. Early Awareness of College as a Viable Option
	Comprehensive data systems on student progress and system effectiveness.	D3. Analytical Capacity for Measuring Success	D2. Comprehensive Measures of Success	C5. Defining Long-Range Economic and Workforce Trends	D1. Accountability Reporting
	Rewards and remuneration of the education workforce to ensure retention and commitment.	C6. Funding and Pay Equity			
	New education policy documents and as needed revisions to the prevailing education codes.	E2. Resource Diversification E4. Resource Optimization	E3. Funding for Increased Access and Student Success E5. Fee Policy Review	C1. Coordination of Statewide Workforce Programs and Policies	D4. System Office Roles and Functions D11. Strategic Collaboration E1. Alignment of Budget Priorities with System Strategic Plan

The CCCCO (2013) report on the Student Success Initiative (Strategic Goal B): Professional Development Recommendations for state colleges was to revitalize and re-envision professional development in community colleges. They made eight capacity building recommendations including:[14]

1. Adopt a California Community College (CCC) Professional Development Vision Statement
   a. *To support the mission of the CCC's and to promote an inclusive statewide and local learning culture, all personnel will have ongoing opportunities to develop and expand the skills and practices that influence student learning and support students in achieving their educational goals.*
2. Change the name of the CCC Flexible Calendar Program to the CCC Professional Development Program
3. Require all colleges in the CCC System to participate in the CCC Professional Development Program for a minimum of five days that will be distributed in a manner determined through local collegial consultation
4. Include all employees: faculty, staff, and administrators in the CCC Professional Development Program
5. Establish a CCC Professional Development Fund to support local colleges in the planning, coordination and implementation of professional development activities
6. Establish a system wide Professional Development Advisory Committee to work in conjunction with the Chancellor's Office in providing leadership for professional development in the CCC System
7. Establish a strong leadership role for professional development in the Chancellor's Office
8. Establish a professional development virtual resource center through the Chancellor's Office that will enable colleges to access high quality resources easily and cost efficiently

It's probably early days in the implementation of these recommendations but the two of particular interest would be the 'formation of a professional development advisory committee' and a 'strong leadership' role of the CCCCO. Overall, the recommendations call for budgetary support, centralized leadership with local implementation, increased time to undertake professional development and cover all categories of employees across the system.

Noticeable by its absence is faculty recruitment and minimum qualifications for a teacher intensive education system. Barber and Mourshed's (2007) report noted that the world's best performing school systems invested heavily in:

1. Getting the right people into teaching;
2. Developing them into effective teachers; and
3. Ensuring that the system is equipped so that it enables teaching to support all learners.

They go on to suggest that high performing education systems attract high performing teachers by raising the expectations on entry and by compensating teachers with higher starting salaries.

> They also focus relentlessly in what happens in the classroom and show consistent and significant improvements in teacher quality. High standards for learner outcomes are supported by monitoring school and learner performance, the findings of which feed into effective interventions. Such interventions ensure that teaching is improved so that no learner falls behind, and all schools despite their performance are given the right support.[15]

Clearly, successful systems expect a great deal from their teachers and expect a lot in return. In some countries (Finland) and in at least one US state (New York) a public school teacher needs a master's degree in a teachable area of the curriculum or in Education. They also need at least a state teaching license usually derived from at least one year of full time study in education. They are then hired and remunerated at competitive market rates. K-12 teachers in successful systems across the world spend a minimum of 20–30 hours each week in the classroom and 5 hours of office hours at the rate of one hour a day. Many teachers take their work home and do it in the evenings and at weekends. Teaching is not for the faint of heart it is a community service designed to help citizens improve the quality of their lives for themselves and for their families. So when Michael Fullan talks about capacity building across the system he is not thinking of just sending teachers to discipline based conferences (although this too can be helpful) or even to continuing education credits in their professional field (although this is essential in some vocational fields) of instruction. He is likely thinking more about job embedded professional development where groups of teachers come together frequently to talk about curriculum, instruction, assessment, diversity, access, action research and student performance. However, to build capacity in a system is to engage faculty and staff in conversations that will help them teach students more effectively. The more opportunity teachers and school leaders have to come together in purposeful dialogue about student progress the more successful students will be because… "The quality of an educational system cannot outperform the quality of its teachers" (Harris & Jones, 2010:172). Which is why all community college Districts intent on implementing sweeping reforms must create a professional learning infrastructure which empowers and engages college faculty and staff.

As Mourshed et al. (2010) succinctly noted earlier in this chapter, not all schools (or colleges) are ready for campus wide reform. High performing schools already have a culture of collaboration and innovation. Others do not, and it remains to be seen how the CCCCO is able to engage with underperforming colleges in the system before direct intervention is required. Some high performing school systems have tight control over their schools' others allow their schools more freedom. Those systems with tight controls often have smaller gaps between the very best school

in the system and the weakest school in the system. The Ministry of Education in Singapore or in Hong Kong are examples of centralized tightly controlled education systems where reforms are fully regulated, planned, implemented and funded by the central agency.

The California Community College system there is a decentralized system giving considerable autonomy to college districts across the state. The CCCCO will fund, regulate and plan the reforms but the college districts oversee the administration of the guidelines and procedures within their districts. The advantage of this is that the state can maintain oversight of the reforms but allows the college districts some discretion in the planning and implementation to account for local conditions. The disadvantage would be the degree of coordination with the CCCCO to ensure colleges adhere to guidelines. To ensure the success of a decentralized implementation model all parties should have:

- A shared vision for education
- Sufficient resources to complete the projects
- Institutional alignment
- Local capacity and a
- Stable transition environment

There are 112 community colleges in California and some are excellent but there are others in need of help. If the CCCCO's strategic goals are left to the colleges to implement in their own time and at their own pace then it could take another ten years for any changes to be made! The California Association of Teachers and the Stanford Center for Opportunity Policy in Education (SCOPE) developed a system wide leadership team of master instructors. Members of this group of consulting teachers go district by district to teach groups of master teachers who would take the curriculum plans for reform back to their own colleges and be the resident master teacher on curriculum mapping and implementation. This cascade model might just work in community college reforms to enable all colleges to make changes quickly and decisively.

One way to ensure a systematic approach to capacity building in teaching and learning is to centralize Teaching and Learning Centre support. Almost all community colleges have something resembling a Teaching and Learning Centers for faculty, staff and administrators. It usually organizes Faculty Learning Experiences (FLEX) week, (which is a mandatory five days of professional development workshops) at the beginning of each semester. They also offer a comprehensive suite of courses on how to teach using one online learning management system or another. However, this proposal is for the state to have a centralized Teaching and Learning centre that works with its branch centres in districts across the state. It will require a significant investment in the TLC's across college campuses to expand their horizons and grow their support to include everything from ensuring that all new contract faculty and adjuncts are able to demonstrate college wide teacher competencies established by the college. Effective teacher competencies should be aligned with faculty and staff

evaluation procedures and then opportunities for faculty development will coincide with faculty needs based on their evaluations. Mandatory training of new adjuncts and probationary contract faculty would be essential for all new and returning colleagues. These modules could lead to a Community College Teachers Certificate or be used as continuing education credits toward tenure.

Valencia College in Orlando, Florida has invested in its Teaching and Learning Centre.[16] It was voted the number one community college in the USA in 2011 by the Aspen Institute for Community College Excellence in no small part due to its complimentary student success rates. This was made possible by its appropriate hiring policies and a clear declaration of intent as to its required teacher competencies and its professional development support. The purpose of the TLC at Valencia is to develop a culture of:

- Evidenced based instructional practice,
- Instructor collaboration across divisions and departments,
- Integrity,
- Authenticity,
- Accountability, and
- Optimism.

Valencia College requires all its adjuncts and all its new tenure track faculty to undertake modules on each teacher competence including:[17]

1. Student learning outcomes and assessment
2. Equity and diversity in the classroom
3. Scholarship of teaching and learning
4. Learner centered teaching
5. Professional commitment and
6. Life maps (to help faculty integrate core skills in discipline-based courses).

Adjunct and non-tenured faculty are required to log 20 hours of professional development in the TLC each year. It is similar to the continuing education credits required of vocational instructors in nursing or dental hygiene to enable them to stay current in their field. All instructors generate a professional development plan and record their progress in a portfolio of professional work for tenure applications.

Every time a group of colleagues come together to deal with questions about student success there is an opportunity to reflect on issues and resolve problems as a professional learning community. These opportunities add so much to the level of discourse in classrooms and faculty committees across campus and elevate the quality of the decisions made in the college.

SUMMARY

This chapter has sought to integrate three powerful ideas about large-scale reform in K-12 schools. These include the six common elements of high performing systems,

the four strategic drivers of systems undergoing change and the role of professional learning communities in building social capital in the system. It then reviewed the CCCCO strategic plan in relation to capacity building in teaching and learning and curriculum renewal state wide. From an analysis of the CCCCO (2013) Strategic Plan, and its Student Success Task Force (2013) on professional development came the following recommendations:

1. In the area of *Capacity Building* it is recommended that:
   a. Administrators, faculty and staff receive training on marketing and promoting college programs.
   b. Administrators and faculty explore the possibility of a statewide and even a local Research Centre for Effective Teaching to contribute to the Scholarship of Teaching and Learning on community college teaching.
   c. Administrators and staff receive training in valid and reliable diagnostic systems of student assessment to ensure appropriate placement into curriculum pathways and courses.
   d. Teachers and administrators receive training on how to interpret college data to make decisions about student progress and effective teaching.
   e. That administrators and staff receive training on the allocation of resources to ensure capacity building to in college leadership and instruction.
2. In the area of *Teaching and Learning* it is recommended that:
   a. Campus wide instructional leaders and faculty receive training on effective teaching competencies.
   b. Instructional leadership and faculty receive training on how to embed professional development in the daily activities of faculty staff and administrators.
   c. Instructional leadership, faculty and staff are trained on how to make the best use of professional learning communities
   d. Instructional leadership and selected faculty receive training on curriculum and effective instruction in developmental education and English as a Second Language (ESL).
   e. Instructional leadership and faculty undertake receive training on guided curriculum pathways for all majors and meta-majors.
3. In the area of *Group Quality* it is recommended that:
   f. All employees receive training on professional learning communities.
      i. Instructional leadership and faculty leaders need training on how to involve the entire system in collaboration and networking
      ii. Instructional leadership and faculty need training on pedagogical improvement and student learning outcomes
      iii. Instructional leadership and faculty need training "action research" is a key driver of reforms
   g. All instructors receive training on the core competencies of effective teaching.
   h. All instructors receive training on action research in the classroom.

   i. All instructors be afforded the opportunity to undertake a field based[18] teachers certificate at the college where they teach.
4. In the area of *Systemic Implementation* it is recommended that:
   a. The state value the scholarship of teaching and learning by community college professors and that this research be disseminated, recognized and incentivized.
   b. The state to provide administrators from underperforming colleges in the system with 3–6 month transfers to learn from the administrators at high performing colleges.
   c. The state uses a cascading delivery system of discipline teams' of experts on guided curriculum pathways to teach locally based *master teachers* how to design and implement program majors and meta majors of study. Master teachers then disseminate the changes in their own colleges.

NOTES

1 http://www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf
2 http://www.oecd.org/
3 http://www.oecd.org/pisa/keyfindings/PISA-2012-results-US.pdf
4 http://www.cabrillo.edu/home/documents/2016/cabrillo%20annual%20report_013116-interactive.pdf
5 http://californiacommunitycolleges.cccco.edu/Portals/0/Executive/StudentSuccessTaskForce/SSTFSummary_FINAL_012412.pdf
6 http://mckinseyonsociety.com/how-the-worlds-most-improved-school-systems-keep-getting-better/
7 Located at http://www.edu.gov.on.ca/bb4e/Ontario_CaseStudy2010.pdf: p. 5.
8 SCOPE Paper: December 2014 Located at https://edpolicy.stanford.edu/news/articles/1290
9 http://californiacommunitycolleges.cccco.edu/Portals/0/reportsTB/2013StrategicPlan_062013.pdf
10 http://californiacommunitycolleges.cccco.edu/Portals/0/reportsTB/2013StrategicPlan_062013.pdf
11 http://www.californiacommunitycolleges.cccco.edu/Portals/0/StudentSuccessInitiative/SS_TaskForce_2015-12-11.pdf
12 Hayward, C., Hetts, J., & Willett, T. (2016). The hitchhikers guide to guided pathways. Presented at the Redesigning Community Colleges Summit. Bakersfield College. February 18th 2016.
13 MMAP Pilot Colleges http://bit.ly/MMAPPilot
14 http://extranet.cccco.edu/Portals/1/ExecutiveOffice/Consultation/2013_agendas/March/attach_pdc_recommendations.pdf
15 https://research.pearson.com/articles/learning-from-thebest.html
16 http://valenciacollege.edu/faculty/development/about/
17 http://valenciacollege.edu/faculty/development/documents/EssentialCompetencies.pdf
18 A program of study to coincide with teaching assignments at a college and leading to a statewide certificate of teaching. Said teachers certificate to require continuing education credits to remain current.

REFERENCES

Bailey, T., Jagger, S., & Jenkins, D. (2015). *Redesigning America's community colleges: A clearer path to student success*. Cambridge, MA: Harvard University Press.

Barber, M., & Mourshed, M. (2007). *How the world's best performing school systems come out on top.* New York, NY: McKinsey & Company.

Carnegie Task Force on Teaching as a Profession. (1986). *A nation prepared. Teachers for the 21stC*. Washington, DC: Carnegie Forum on Education and the Economy. Retrieved from http://images.pearsonassessments.com/images/NES_Publications/2002_07Williams_474_1.pdf

Cheng, Y. C. (2013). Educational reform and professional development. In I. R. Haslam, S. M. Khine, & I. Saleh (Eds.), *Large scale school reform and social capital building* (pp. 217–239). London, UK: Routledge.

Flinders, D. J. (1988). Teacher isolation and the new reform. *Journal of Curriculum and Supervision, 4*(1), 17–29.

Fullan, M. (2011). *Choosing the wrong drivers for whole system reform* (Seminar Series 204). Melbourne, Australia: Center for Strategic Education.

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school.* New York, NY: Teachers College Press.

Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving Schools, 13*(2), 172–181.

Harris, A., & Jones, M. (2013). System improvement through capacity building: the power and potential of professional learning communities. In I. R. Haslam, M. S. Khine, & I. M. Saleh (Eds.), *Large scale school reform and social capital building* (pp. 140–154). New York, NY: Routledge.

Haslam, I. R. (2013a). Teacher education and social capital for large scale reforms in Bahrain. In I. R. Haslam, M. S. Khine, & I. Saleh (Eds.), *Large scale school reform and social capital building* (pp. 93–110). London, UK: Routledge.

Haslam, I. R., Khine, M. S., & Saleh, I. (2013). *Large scale school reform and social capital building*. London, UK: Routledge.

Haslam, I. R., Swe Khine, M., & Saleh M. I. (2013b). Social capital: The professional development imperative for large scale reform. In I. R. Haslam, M. S. Khine, & I. Saleh (Eds.), *Large scale school reform and social capital building* (pp. 1–14). London, UK: Routledge.

Jaquith, A., Gilbert, M., & Bauld, L. (2014). Instructional leadership corps aims to transform California's teaching. *Stanford Centre for Opportunity Policy in Education (SCOPE).* Retrieved December 11, 2014, from https://edpolicy.stanford.edu/blog/entry/1296

Jenkins, D. (2014). Redesigning community colleges for student success: Overview of the guided pathways approach. *Community College Research Centre (CCRC)*. Retrieved from http://www.mcca.org/uploads/ckeditor/files/DavisJenkins_CCRC_Guided%20Pathways%20Overview_Revised%20Oct%202014%281%29.pdf

Leana, C. R. (2011). The missing link in school reform. *Stanford Social Innovation Review, 9*(4), 34.

Levin, B., Glae, A., & Fullan, M. (2008). Results without rancor or ranking: Ontario's success story. *Phi Delta Kappan*, *90*(4), 273–280.

Mourshed, M., Chinezi, C., & Barber, M. (2010). *How the world's most improved school systems keep getting better*. London: McKinsey and Company.

OECD. (2014, February). *PISA 2012 results: What students know and can do – Student performance in mathematics, reading and science* (Vol. I, Rev ed.). Paris: PISA, OECD Publishing. Retrieved from http://dx.doi.org/10.1787/9789264201118-en

Pil, F., & Leana, C. (2009). Applying organization research to public school reform. *Academy of Management Journal*, *52*, 1101–1124.

Perr, M., & Rosin, M. (2010, October). Something's got to give: California can't improve college completions without rethinking developmental education at its community colleges. *Edsource.* Retrieved from http://files.eric.ed.gov/fulltext/ED512365.pdf

Rothman, R., & Darling-Hammond, L. (2011). Teacher and school leader effectiveness: Lessons learned from high performing systems. *Alliance for Excellent Education: Issue Brief.*

The Holmes Group. (n.d.). *Tomorrow's teachers: A report of the Holmes Group.* East Lansing, MI: Author. Retrieved from http://eric.ed.gov/?id=ED270454

Ian R. Haslam
Cabrillo College
USA