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SPECIAL FEATURE

Conversations on Education with Gary Poole and Michael McManus

Professor Gary Poole is Associate Director of the School of Population and Public Health, University of British Columbia, Canada

Professor Mick McManus is Deputy Vice-Chancellor Academic, University of Queensland, Brisbane, Australia

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PREAMBLE

It is, perhaps, understating it to say that today's tertiary education landscape has changed. If you talk to professors on most campuses, they are likely to bemoan the fact that students seem to be more demanding in the way they approach their educational experience. If you speak to students, they are equally likely to say that they expect to get 'more' out of their university experience. Employers and alumni, on the other hand, are increasingly providing feedback to universities about the kind of graduates they wish to see in the workplace. Furthermore, if you venture into cyberspace, there seems to be ever more online debates about all kinds of issues relating to education. With the 'buzz' generated in the past year alone by Coursera and EdX, the question of the place of technology in our classrooms has assumed a sense of real urgency. Given the increased level of conversation about education, technology and 21st century critical literacies, many of us working in institutions of higher learning (IHL) now find ourselves constantly confronted with questions like:

- What critical abilities do our students need that will equip them for the 21st century global economy?
- What kind of education experience can we offer our students that will provide relevant skills for the workplaces of tomorrow?
- What is the place of technology in tertiary institutions?
- How can education be transformative?

These were among the questions discussed at the recent *Educational Innovation Conference 2012*, hosted by the National University of Singapore (NUS) – see http://www.universitas21.com/article/educational/details/149/ei-conference-2012 for details of this conference and relevant powerpoint presentation slides of the various keynote lectures. Over 50 participants from 16 partner institutions making up the *Universitas 21* network met in Singapore in early November 2012 to deliberate about issues captured in the conference theme, *Towards Transformative Education in the 21st Century*. After the conference, the *Journal of the NUS Teaching Academy* (JNUSTA) invited Professor Gary Poole (Associate Director, School of Population and Public Health, University of British Columbia) and Professor Michael McManus (Deputy Vice-Chancellor, University of Queensland) to share their views on two important issues – the essential ingredients of transformative education and the role of technology in the age of new media literacies – both of which were the subject of their keynote addresses.

JNUSTA to Gary Poole: *What, in your view, are the essential 'ingredients' of transformative education in the 21st century? In your U21 Conference lecture in November 2012, you spoke about self-directed learning, transformational growth, and the role of emotions in the transformative process of learning. Could you offer us an elaboration of some/all of these?*

One essential element of transformative education in the 21st century will be the refinement of self-directed learning opportunities. Students must be more and more actively involved in the design and pursuit of their own learning goals if that learning is to be transformational. The 'ingredients' here can be found in the contributions of the teacher and student to the learning process, the balanced introduction of challenge and support, and the management of emotion. Like most good recipes, we need a good balance of all these ingredients.

In self-directed learning, students develop goals, paths to those goals, and criteria for determining the extent to which the goals have been met. They then set out on those paths. This may sound as though the student is doing all the contributing, but it simply is not the case. They will need feedback on the decisions they make in the planning process, leading to self-directed project work. This feedback will relate to how realistic their goals are and what resources might be available to them along the path.

The teacher's contributions, then, allow for the creation of another optimal balance between two more ingredients – challenge and support (Mezirow, 1991). In self-directed learning, students lay out the first draft of the challenge they want to set for themselves. The teacher helps to modify this draft and identify support, thus helping to optimise the challenge/support balance.

Also crucial to the recipe are the emotions involved in self-direction – perhaps these are the spices! It is important to consider them because the teacher's contributions also support the student's emotional journey through self-direction. The more invested a student is in his or her work, the more emotion will be involved. In our research with medical students engaged in self-directed project work, students spontaneously described both positive and negative emotions associated with that work.

Paths determined by self-direction can be rocky. In fact, if we want an optimal level of challenge to be involved, we want them to be, at least, a little bit rocky. With this instability comes frustration and anxiety. Conversely, the effective managing of challenges yields satisfaction, happiness and pride. The importance of sharing, not only, the positive emotions (which are great to share), but also

the negative emotions, which can overwhelm students, causing them to focus on the emotions rather than possible solutions to problems, cannot be over-emphasised. It is here that the teacher makes a significant contribution, helping the student move from emotion-focused coping to a problem-focused approach (Lazarus & Folkman, 1984).

In my presentation to the *U21* group at NUS in November, I posited that transformational learning affects identity. The student's sense of self changes in some valuable ways. In order for this to happen, that 'self' must be fully engaged in the learning process. This is why self-direction is a key element, and why the relationship between student and teacher contributions, the delicacy of the challenge/support balance, and the management of emotions are crucial ingredients.

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JNUSTA to Mick McManus: *In this age of new media literacies, how can we, whether as educators or as administrators, maximally draw on technology in enhancing learning and transforming the way we teach, as well as the way in which our students learn?*

The most significant contribution any university can make to a nation is to produce graduates of high quality. The ultimate challenge for universities is to ensure that the teaching and learning process is informed by contemporary research, where students hear about recent and unprecedented advances in their disciplines as they happen, and not five years later. In this regard, research-intensive universities are in a privileged position to deliver graduates with the critical and abstract reasoning capabilities to master 21st century jobs that currently don't exist. While such conclusions may appear axiomatic, nonetheless, it is increasing becoming clear that developments in online learning may be disruptive. For example, a 2013 Babson Report shows that 32% of all students now take at least one online course, while the rate of growth in online enrollments is ten times that of the rate in all higher education (Allen & Seaman, 2013).

Barr and Tagg pointed out in the 1995 November/December edition of *Change* magazine the importance of adopting a mission that produces a learning paradigm for every student (personalised learning), thereby putting to rest the instructional paradigm of teaching. In such a paradigm shift, they suggested that everything needs to change. Disappointingly, Richard Arum and Josipa Roksa, in their 2011 book entitled *Academically Adrift,* question whether any real progress has been made in this area. This book has catalysed an active debate about what university students need to know and do. It has also led to public and private funding agencies questioning whether "learning in higher learning has actually improved" (Keeling and Hersh, 2012) to justify the level of their investments.

To be relevant in an era where knowledge is doubling every 11 hours (IBM Global Technology Services, 2006), universities must subject their learning programmes to the same level of rigour that they bring to their research programmes. Ken Bain (2004) in his book *What the Best College Teachers Do* quotes Paul Baker: "the moments of the class must belong to the student – not the students, but to the very undivided student. You don't teach a class. You teach a student" (pp. 97). This means that the holy grail of our endeavours must be to personalise learning to ensure students are stimulated personally, intellectually and emotionally as part of their experience. In an era of universal access to higher education, we are still in a position where the didactic lecture is the predominant mode of delivery, and we come to know how much a student has learnt, only when she or he exits a course following a summative assessment. Add, to this cocktail, the increasing

funding restraints on higher education and we have a system dominated by larger class sizes, high student-to-faculty ratios and misaligned assessment, all working against the ability to deliver a quality learning experience. It is this contextual setting that has enabled the discussions on massive open online courses (MOOCs) to dominate Higher Education in 2012, and put learning back at the centre of the table. Advocates of MOOCs such as edX (https://www.edx.org/) and Coursera (https://www.coursera.org/) have set out to deliver the best courses, delivered by the best teachers, from the best universities, to as many people as possible using smart online delivery technology. Since every click is potentially a data point they are working to develop an analytics capability that promises to enable personalised learning.

Advances in technology-enabled learning have already changed how we interact with students outside the classroom; these are now increasingly being actively applied to what happens inside the classroom. For example, the largest universities in the USA and Europe are Phoenix (https://www.phoenix.edu) and the Open University in the UK (http://www.open.ac.uk/), respectively, both of which predominantly use technology-enabled learning. In brief, we are entering a future where the option of keeping technology out is non-existent (Horn, 2012). For example, it is not difficult to envision a future where paper will disappear, writing will become an artistic skill, and books will all be in electronic form; this already seems to be happening in the libraries of many universities. We are fast approaching Web 3.0, where learning tools will integrate social media with semantic descriptions of learners and learning materials, and enable programme-to-programme interactions in the service of learner requests. This means that old-thinking academics may be at risk, as students are often far ahead of them. There is also a possibility that Web 3.0 may aggravate students as it increasingly adopts the social-media toolkit that they see as their domain. The quest for higher education will be to turn social habits into intellectual habits.

Higher education is increasingly becoming: (1) outcome driven; (2) distributed in its delivery; (3) driven by employer, professional accreditation bodies, and other exogenous pressures; and (4) accessible globally. The recent arrival of MOOCs suggests we may be nearing a tipping-point in higher education, where the long-promised power of the internet may provide a mechanism that enables us to personalise learning. It will only be possible to survive, in an era that is characterised by the complexity of providing universal access in a climate of reduced funding, by adopting smart technology. A personalised learning approach makes possible a time in Higher Education where individual advancement will be based on assessment of competencies, and students will advance at their own pace only after having mastered a particular task.

New media tools are already providing innovative pedagogical approaches, such as the inverted classroom, where students gain most of the content of their course from the web outside the classroom. Class time is then devoted to the practice of the profession, harkening back to the apprenticeship learning model, scaled and personalised by technology with a mixture of short tutorials and quizzes to provide a much more interactive domain to engage with challenging concepts. We do not see new media literacies changing the importance of place or downplaying the seven principles of good practice in undergraduate learning (Chickering and Gamson, 1987; Chickering and Ehrmann, 1996): (1) communicating high expectations; (2) encouraging contact between students and faculty; (3) developing reciprocity and cooperation among students; (4) encouraging active learning; (5) giving prompt feedback; (6) emphasising time on task; and (7) respecting diverse talents and ways of learning. Interestingly, new media is changing the paradigm of how students learn: short video vignettes present a variety of entry points for learning a concept, while mobile devices offer the ability to access learning via mobile devices anywhere, any place and at any time. In many ways we are re-learning the value of storytelling, enabled now through new media and visualisations of data, using technologies that engage learners and that enable them to practice the 4Rs in an era of open scholarship – reuse, remix, revise, and redistributing knowledge. Charles Darwin once said that "It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change." The challenge remains for most research intensive universities to leverage online learning in a meaningful manner, complementing their rich campus and research environments.

[This response, entitled "New Media Literacies and the Future of Learning in Higher Learning", was provided by Phil Long, Bob Hendy, Rob Moffatt, Bob Gerrity, Gordon Joughin and Mick McManus, Office of Deputy Vice-Chancellor Academic, Brian Wilson Chancellery, University of Queensland, Brisbane, Australia.]

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