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Learner transformation: A case study of research-rich technology enhanced learning and teaching.

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ABSTRACT

The global economy is changing and with this, the expectations placed on Higher Education from Governments, employers and learners across the world. In response, Higher Education is reviewing and re-evaluating what graduates need from a careers perspective and how the delivery of the curriculum changes learner capability. It is within this context that Higher Education is developing innovative forms of learning that aim to empower learners and promote the idea of life-long learning. The key to this empowerment of learners is the shift away from didactic, top-down teaching that is designed to transfer knowledge to a passive audience, to an approach where learners are actively engaged in the learning process. The added-value contribution, which enhances the learning experience, is the richness of the technologies that support this approach and enhances learning. This paper describes Northumbria University's Business School move to a research-rich technology enhanced curriculum that introduced an inquiry-based technology enhanced, collaborative approach to learning.

KEYWORDS

Distance learning, research-rich learning, knowledge-economy, analytics

INTRODUCTION

In their editorial to the Journal of Management Development on 'Reimagining management education' in 2016, Howard Thomas and Eric Cornuel discussed how Business Schools could thrive in the future. Their editorial focussed 'on business schools of the future attacking rigour and relevance in areas of research and pedagogy, and creating impact on society and the global community'. This paper provides a case study of one such response in action during 2016-17.

According to Thomas and Cornuel (2012), 'Business Schools are definitely in transition and at a turning point in their evolution and development.... Any new model of business education, however, requires careful thought and implementation'. This case study provides an insight into one such example of the transformation of the curriculum model and delivery within a Business School. In addition to a fundamental review of how distance learning should be delivered, this case study describes how a leading Business School in a post-1992 university is responding to a range of drivers in the increasingly competitive international Higher Education market, which largely coalesce around the key performance indicators of retention, raising levels of student

performance and satisfaction. For Parahoo et al. (2016) 'the strategic focus of [Higher Education] (HE) institutions has shifted from a teaching-oriented model to a customer-oriented model so that universities may be considered as a provider of products and services to their customers, namely students....is increasingly occurring within a new paradigm of delivery of teaching and learning'. Although this market-oriented focus is an important driver of innovation within HE, it is not the sole factor to consider when tracing the development of curricular change. Importantly, research into student learning underpins curriculum innovation with new understandings of how, and indeed why students learn. A corpus of recent research highlights the unique nature of distance learning as distinct from traditional classroom-based learning (McFarland and Hamilton, 2005; Platt et al. 2014) and the echoes the seminal contribution from the Boyd Commission in the USA that highlighted a need to revisit how universities conceptualised effective teaching and learning. For Thomas and Cornuel (2012) this challenge represents a profound challenge to the legitimacy and position of Business Schools within Higher Education- this paper sets out to describe the innovative response from one Business School.

LITERATURE REVIEW:

Brown et al. (2007) highlight the inter-related nature of contemporary Higher Education, technology and changing conceptions of the globalised labour market. The future demands for labour is clear: throughout the developed world there is an increasing emphasis placed from both Government and business on high value, high skilled jobs that infer a highly qualified workforce. This model of the labour market is reflected, for example, in the developing Indian and Chinese economies where an increasing emphasis is being placed on the development of high-technology. According to Rodriguez-Pose and Wilkie (2016), the rise in the levels of technological sophistication the Chinese economy is reflected in the growth of knowledge-oriented research and development (R&D), with R&D investment as a percentage of Gross Domestic Product rising from 0.57 to 2.01% between 1996-2013, albeit still behind the United States at 2.81% in 2012 and Japan at 3.47 in 2013. This rise in Chinese R&D is reflected in the growth of patents, better qualified staff and expectations of further economic advancement.

The growth in demand for HE provision from China and India continues to expand a decade later, but there is a gap in the capacity to deliver. As a consequence, both countries are looking to the developed West to fill the education gap through distance learning programmes, franchise and validation schemes. For Brown et al (2007) this transformation of the labour market signifies a shift away from 'mechanical Taylorism' towards 'digital Taylorism'. This change has important implications for Higher Education and the skills it sets out to develop. In addition to an increase in demand for online learning from international students, from countries such as China and India, this change also infers a need to reappraise the manner in which online learning has been delivered hitherto.

To be sure, the twin drivers of globalisation and technological innovation are important contextual factors to acknowledge when searching for an understanding of how distance learning is being transformed by market-based and professional drivers. For Marshall (2010) 'while information technology systems have become mainstream...changes in the experience of learning and teaching enabled by technology are less apparent'. Within Marshall's (2010) critique of the use of information technology is that the view that simply up-grading computer systems does not in itself provide for an improved educational experience for students and points to the work of Christensen, Anthony and Roth (2004) that notes the widespread failure to deliver on students' expectations. Drawing on the Capability Maturity Model (Paulk et al. 1993), Marshall (2010) advocates that the adoption of a 'e-Learning Maturity Model which promotes the use of technology should be predicated on a re-appraisal of e-learning and a reorientation away from a technology-driven model of learning to one where technology serves wider andragogic goals. Such a position echoes the earlier work of Davis, (1989) and relevance of the Technology Acceptance Model (TAM) (Robinson, 2016) in which the perceived usefulness and ease of use are recognised as conditioning factors in the acceptance of new technology. In order to move forward, a fundamental re-appraisal of information technology should be undertaken prior to curriculum change, together with the recognition that the use of information technology is not an end in itself but a means to an end- that is a more enriching, challenging and diverse way of learning.

The issue of student retention on courses is not new, but one that is accentuated through the use of key performance indicators as measures of presumed quality. Duff (2004, 410) reported that 8% of first year campus-based undergraduates in the United Kingdom (UK) withdrew from of their degree during a generation ago, whilst Goldfinch and Hughes (2007, 259) reported a similar dropout rate of 10% at the turn or the millennium. The concern over student retention identified in campus-based programmes is now echoed in online learning because of its growth and increasing importance to universities as an income stream and reputational asset, as well as the wish on behalf of senior managers to promote transparency and accountability. Nevertheless, concern relating to retention remains with O'Brien (2016) reporting that 6% of university students drop-out of their course after the first year and that retention rates have not improved since 2010. International distance learning students face particular challenges quite different from campus-based students. Whereas campus-based students may face isolation from family and friends at a distant university, online students are often detached from their peers and study on a part-time basis, in addition to managing a busy work-life balance. This difference in social context has important implications for how students learn.

Social cognitive theory (Bandura,1997) has provided important insights into learning, particularly in relation to its social context. Moving away from the constraints of a teaching methodology influenced by behaviourist conceptions of consuming knowledge in favour of one that recognises the benefits derived from social constructionist ideas (Vygotsky, 1986) is key to developing a progressive e-learning strategy. The work on Self-Regulated Learning (Zimmerman, 1998; Boekaerts, 1999; Pintrich, 2004) that

draws from social constructionism, highlights how self-efficacy, metacognition as well as self-image are influenced by social context and pressures. This recognition that learning takes place within a social context has led to a fundamental reappraisal of teaching and learning. In response, a range of 'student-centred' approaches to learning have been proffered in recent years, such as 'problem-based learning' (Dochy et al. 2003); 'discovery learning' (Mayer 2004) and 'case-based learning' (Ellis, Marcus, and Taylor, 2005) that promote increased student autonomy and ownership over the learning process. Importantly, for Baeten et al. (2010, 252) 'the more students perceive the teaching approaches as student-centred and the more opportunities they see for independent studying, the more they incline towards a deep approach [to learning]'. This realisation that human cognition has an important social dimension has implications for how we conceive effective online learning.

REPORT ON INNOVATION IN INTERNATIONAL DISTANCE LEARNING - THE CASE STUDY:

In September 2016 a new teaching and learning regime, based on social cognitive theory, was introduced within International Distance Learning at the Business School, and which serves as the case study for this paper. The decision to take a new path followed on a review of delivery methods and a strategic re-orientation of the university towards research-rich approaches to learning within the curriculum. Hitherto, international students had been supplied with PowerPoints and partner study centres had tutored students through these resources. The new regime sought to transform students from a passive state to an active state of learning within which they were introduced to inquiry-based, Self-Regulated Learning with the aim of inculcating independent learning as a life-long learner.

The move to a more diversified use of the VLE mirrored a decision to engage in more student-centred, collaborative and dynamic forms of learning in developing communities of practice (Lave and Wenger, 1991). Jagasia, Baul and Malik, (2015: 1) observe that, 'community of practices are the social tools to connect, engage, and share knowledge'. In moving to a learning methodology that is predicated on the promotion of social interaction via new technology, the intention was to create and support these embryonic communities of practice. The mechanism through which this was achieved was by allocating learners into 'learning circles' of 5-6 students who were supported by a dedicated Guidance Tutor based in the United Kingdom. Within each week the module was marked by a particular learning theme that the learning Circle was asked to focus on this theme and share their ideas either to a collective wiki or to a Discussion Board. It soon transpired that sharing ideas to a Discussion Board was a more effective means of stimulating student activity as Learning Circles could respond to another Circle with further comments.

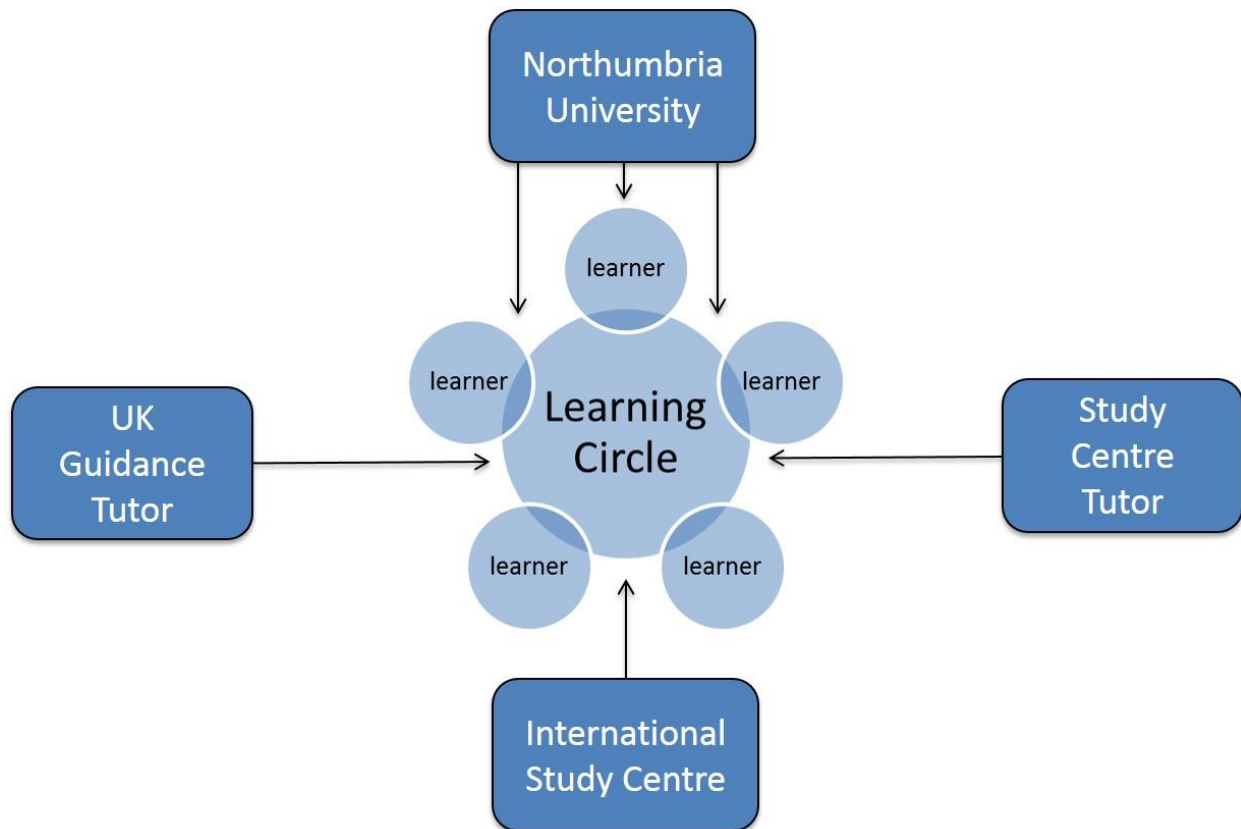


Figure 1. A model of multiple forms of student support implemented by International Distance Learning at a UK Business School

The adoption of a Learning Circle as a mechanism of mutual support and as a means of collective identity is key to the promotion of effective collaborative learning on distance learning programmes, as is the use of appropriate resources. In developing new resources that integrated research into teaching and learning, the approach echoed the recommendations contained in the report of the Boyd Commission. The Boyd Commission had called for an end to the artificial separation between research and teaching in American Higher Education that had prioritised research over teaching. Further research across the globe echoed the Boyd recommendations. Garde-Hansen and Calvert (2007) thought that '[Research] needs to be promoted as the 'flagship' activity of each discipline, not simply as a set of transferable skills. Students need to be made visible as research-active individuals and teams', whilst Kaartinen-Koutaniemi and Lindblom-Ylänne (2008) argued that: 'The development of academic thinking and research skills in students should be considered as a main goal of academic studies in research-intensive universities'. For Jones and Kinchin (2009), the imperative is for British universities to move away from the 'research-absent' undergraduate curriculum to a 'research-informed' curriculum in which learners engage in inquiry-based tasks that develop their research skills. This approach has been encapsulated by Healey and Jenkins (2009) in the report for the English Higher Education Academy which identified four categories of research-rich learning [see below, Figure 2] and which has subsequently informed much of the research that followed.

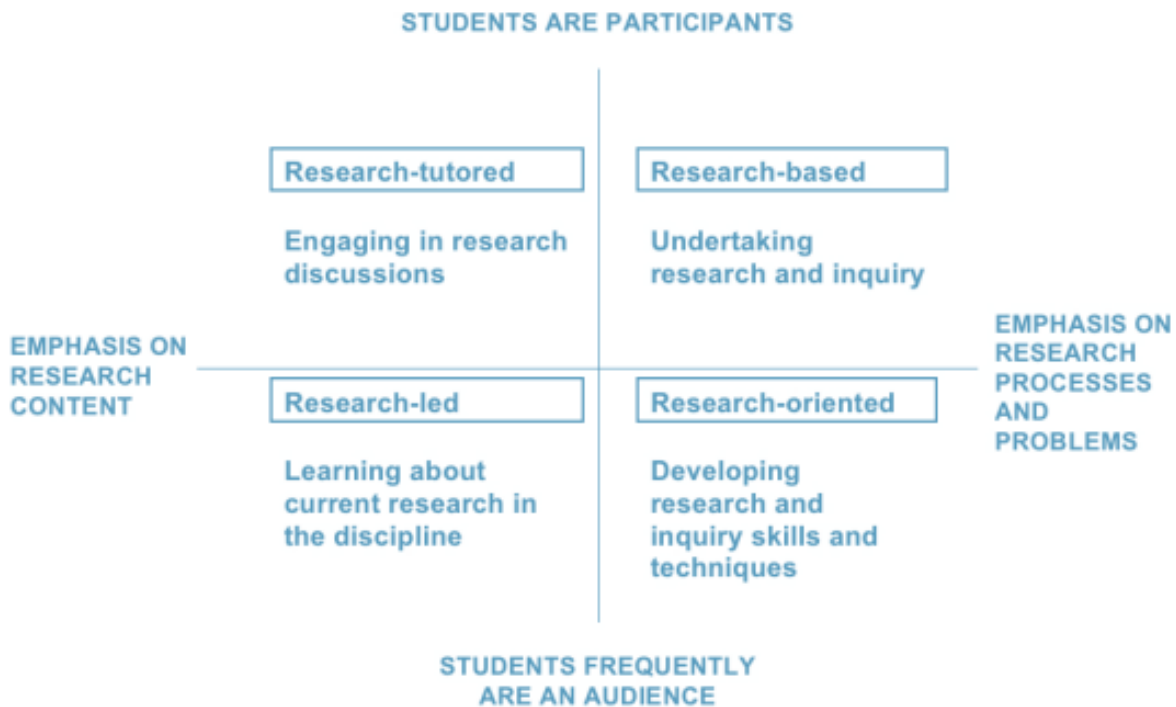


Figure 2. Healey and Jenkins' (2009) model of undergraduate research-rich learning

In implementing a research-rich business curriculum, the approach taken sought to encourage learners to develop their research skills through exploration of recent research undertaken by their online teachers. So, for example, instead of the traditional practice of reading through the lecturer's lecture notes on leadership, learners were required to read through research papers written on authentic and servant leadership and reflect on its meaning to them. The issue of ethics was introduced via the Discussion Board and learners invited to share their ideas with their peers within the Learning Circle prior to a group contribution to the Discussion Board. This approach reflected the call from Healey and Jenkins (2009) that: 'our general view is that in much of higher education relatively too much teaching and learning is in the bottom half of the model, and that most students would benefit from spending more time in the top half'. This approach was replicated throughout other modules where learners were required to engage with a range of activities that drew from all four quadrants of the Healey and Jenkins (2009) model of research-rich learning. So, although learners were required to engage in research-led learning through reading recent research, they were also engaging in discussions based on that research, as well as developing their research skills. The value of Healey and Jenkins' (2009) model is that it provides a conceptual framework that can inform a research-rich curriculum delivery.

A conceptualisation of the understanding of learning is represented in the Figure below.

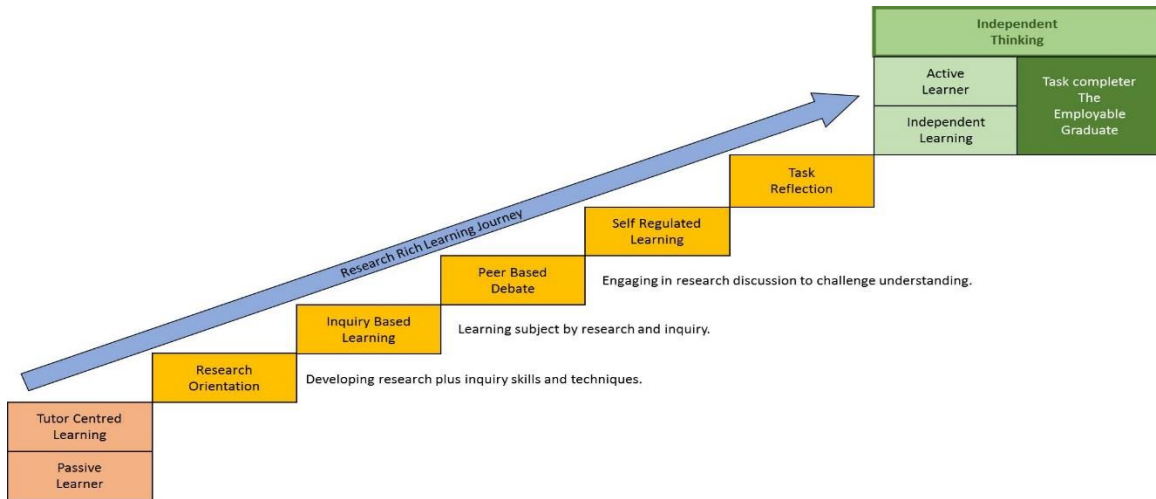


Figure 3. A representation of the developmental growth of a learner conceived in this case study

As can be seen from the Figure a hierarchy of learning development is presented that traces the growth of the student as an independent learner. In recognition of the approach contained within TAM methodology (Robinson, 2016) a review of the Blackboard Virtual Learning Environment (VLE) was undertaken as well as its content. As an outcome of this review, the structure of the year was altered from a 52 week to a 36-week year, new learning materials were created and a fuller use of the facilities of the VLE was initiated through the use of Discussion Boards, Wiki creations, and the personal blog.

DATA

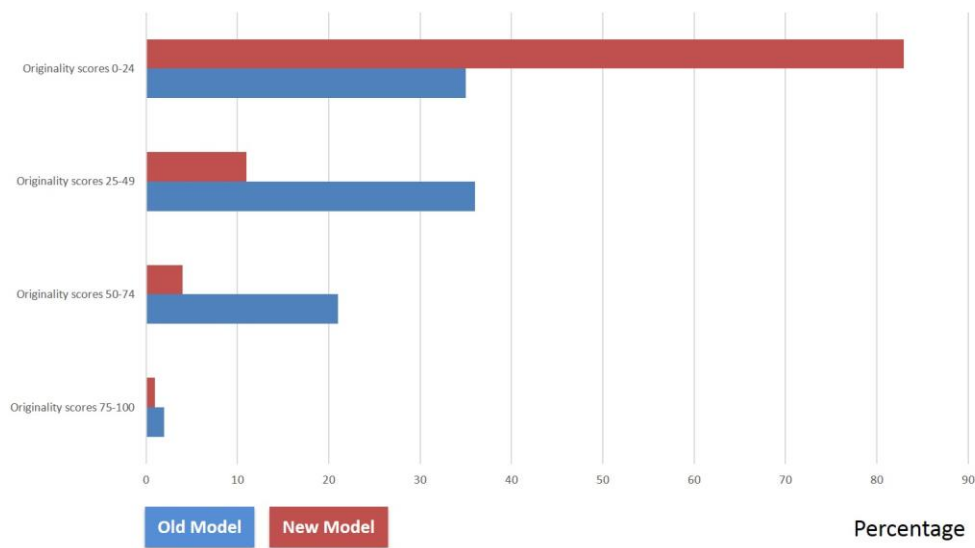


Figure 4. Originality scores from Turnitin

CONCLUSION:

In an increasingly competitive marketised environment, Business Schools are confronted with the challenge of meeting the expectations of a variety of internal and external stakeholders. In terms of satisfying the demands of internal stakeholders, Business Schools must justify their curriculum and legitimate their position within the micro-politics of the institution. In terms of external stakeholders, Business Schools are under pressure from central governments to deliver of a raft of policy initiatives centred upon the agenda of employability and skills formation, as well as employers and accreditation bodies such as the Association to Advance Collegiate Schools of Business (AACSB). Most importantly, Business Schools must satisfy the expectations of their student intake. Although Business Schools have responded to these challenges, they now face a more profound question which relates to how they wish to deliver learning, and in what forms. A number of researchers have asked whether the conventional Business School curriculum and its mode of delivery are fit for purpose (Mohopatra, 2015; Wang and Calvano, 2015). For Rodriguez (2009: 523):

Business education emphasises practical applications of concepts and management tools in the curricula and stresses technical skills and competencies that reflects an instrumentalist view of knowledge. As such, it limits the capacity of graduates to see unobvious relationships, tolerate ambiguity and engage in deep analysis and critical thinking.

This critique enunciated by Rodriguez (2009) contends that Business Schools focus on a skills-led curriculum and fail to develop thought-led undergraduates. At the heart of this critique is a fundamental question as to what we expect from a university education and its relevance to contemporary society.

This paper offers an account of an AACSB accredited Business School that responded to the need for change by re-orienting its distance learning provision. The strategy adopted echoes the call from Thomas and Cornuel (2016) that we should focus on core issues in teaching and learning and how this impacts on wider society. This approach was predicated upon three guiding principles: transparency, sustainability and accountability. Each of these guiding principles was underpinned by a clear rationale based on a progressive learning philosophy, an understanding of the business case for change and a commitment to continuous improvement through the use of analytics to inform course reviews. It is clear that effective use of analytics can lead to improvements in course delivery and that outcome of the project should underpin future developments within the Business School.

Ultimately, the re-design of a new teaching and learning regime for distance learners requires that management educators appreciate how their curriculum may contribute to the next generation of leaders and managers and the challenges that they may encounter in an increasingly turbulent world. In a knowledge-rich world, the emphasis must be on developing thought-led managers who are capable to engaging in a more holistic appreciation of problem-solving than ticking-boxes. We live in a diverse and multi-cultural world that is increasingly interdependent. As a consequence, management

educators must focus on developing future leaders as holistic, inquisitive, and research-oriented learners who embrace the challenge of volatility. The initial data derived from the use of the analytics tentatively suggest that this vision is making an impact, and will continue to do so.

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