Smart learning… a paradigm shift again?

A critical analysis of a paradigm shift discourse in online education

Kyungmee Lee
k.lee23@lancaster.ac.uk
Lecturer
The Department of Educational Research, Lancaster University
Lancaster, UK

ABSTRACT

This paper will discuss the limitations of the philosophical and theoretical underpinnings of the increasingly popular educational discourse of smart learning by analysing previously popular educational discourse about online education as a new learning paradigm in higher education. As often promoted in the literature or social documents, for smart learning to be an alternative to online learning—which is considered to be unsuccessful in improving current higher educational practices and shifting the learning paradigm to the one based on social constructivism—it is necessary to learn from the unsuccessful history of online education. In addition to conducting an analytic literature review of online education, the author conducted interviews with a group of learning designers (n=12) working at two online institutions (one in North America and one in the Asian Pacific region) to more closely investigate the discrepancies between the rhetorical paradigm shift discourse and the actual pedagogical practices of online education in higher education context.

Keywords: Online Higher Education, A Paradigm Shift, Discourse Analysis, Instructional Design

INTRODUCTION

Although there is not a clear definition of smart learning, it is generally perceived as a new term that refers to the group of educational activities mediated by advanced information and communication technologies (ICTs). Particularly, the mass production, circulation and adoption of smart or mobile devices (e.g. smartphones, tablet PCs) is closely related to the emergence of smart learning. The global IT enterprises such as Apple and Samsung have first launched and led new educational services or initiatives that are mediated by their own mobile products and many governments have been supporting those initiatives by developing related educational policies and funding programs (Kim, Cho, & Lee, 2013). To the large extent, therefore, it can be argued that smart learning is a neither theory- nor pedagogy-driven educational concept but rather a technology-driven and business-oriented movement that has strongly influenced the current education discourses and practices.

In recent years, the term has been widely taken up by a large number of stakeholders across different educational levels and there have been some attempts to define smart learning. For example, The Korean Ministry of Education, Science and Technology (2011) defined smart learning as self-directed, motivated, adaptive, resource-enriched and technology-embedded learning. However, these attempts are far from a rigorous theoretical investigation or critical academic debate and the definitions frequently appear in the literature are rather programmatic than scientific (see Keegan, 1988). That is, current definitions of smart learning tend to restrictively include the elements to be desired and wanted rather than providing a comprehensive account for the existing learning culture or environments. In this situation, smart learning

has been largely promoted as a promising solution for many problems in the current education system and as a new paradigm that is radically different from the previous way of learning and teaching.

We, as a field, had already experienced a very similar excitement towards the adoption of online education, which was once loudly praised by its advocates as a new learning paradigm (see Harasim, 2000). Interestingly, in 2016, it is argued by many smart learning advocates that online learning has failed to address the educational issues and realize its full potential, that is, failed to shift the previous teacher-centred learning or instructional paradigm to the new student-centred one. However, this paper will fundamentally argue that the current atheoretical and technology-oriented approach to using smart devices for learning closely resembles the way we welcomed and adopted online learning earlier. Thus, it is worth, if not necessary, looking back the unsuccessful history of online education and finding what we can do differently this time to actually realize the 'smartness' of smart learning. Limitations and issues related to 1) a deterministic and instrumentalist understanding of educational technology, 2) a simplistic application of (social) constructivism, and 3) a lack of reflective research methods that help reconcile the rupture between research and practice will be briefly discussed using empirical data collected from two online institutions.

DISCOURSE OF ONLINE EDUCATION

Most of the early publications about online education (e.g., Dede, 1996; Palloff & Pratt, 1999; Scardamalia & Bereiter, 1994) enthusiastically propagated it as a new and revolutionary form of education that would bring a social constructivist approach to learning into diverse educational contexts as a central pedagogical paradigm. Particularly, Harasim (2000) in her article *Shift happens: Online education as a new paradigm in learning* (2000) draws a clear conceptual boundary between online education and the other forms of higher education (HE) through illustrating the pedagogical differences between the two and provides a comprehensive overview of the distinct nature of online education. According to Harasim, online education provides "new modes of educational delivery, new learning domains, new principles of learning, new learning processes and outcomes, and new educational roles and entities" (p. 45). She explains that because innovative networking technologies enable many-to-many communication to happen any time and any place, even using a small degree of online networking (e.g., e-mail and computer conferencing) can enhance the quality of learning in both face-to-face or distance education contexts. She specifically points out that asynchronous collaborative online learning is more effective than face-to-face seminars because it provides "24/7 access expanded air time for discussion and reflection, allowing everyone to have a voice, overcoming challenges, and traditional discrimination factors, such as ageism, sexism, and racism" (p. 54).

She fundamentally suggests "the concept of producing knowledge by collaborating in groups" (p. 54) as encapsulating the essence of the new learning paradigm that online educators including designers, researchers, and instructors need to bring into HE context. Then, she calls for a collective effort to shape the paradigmatic shift in HE through designing online courses based on three interrelated principles, which are collaboration in learning, access to lifelong education, and constructivism. Harasim reinforces her argument by presenting a large set of empirical data collected from her own research project on the Virtual-U, a Web-based learning environment in which over 15,000 students and 220 instructors participated in over 439 courses. For example, she mentions that 100% of Virtual-U courses incorporated some form of networking and collaborative learning activities and students actively participated in those activities and then claims that these courses produce entirely new learning patterns in HE. In this accessible and democratic nature of online learning environments, she continues to argue, students can engage in their learning more actively than the way they engage in similar face-to-face activities.

More than 490 academic works in online education have cited Harasim's article since 2000 (more than 50 works in 2014 and 2015). Furthermore, many of these works including those recent ones claim that online

education is fundamentally different from, as well as more effective than, the other forms of HE not by providing clear evidence to support the claim, but by simply citing Harasim's argument as positive evidence. The increasing number of academic texts that cite her argument demonstrates the dominance of this paradigm shift discourse, and, further through these repeated citations, this taken-for-granted assumption about online education continued to be reinforced. For example, Nachmias (2002) cites Harasim's work when he proposes a research framework for Web-based instruction that includes a research focus on "shifts and paradigmatic changes in pedagogical practice resulting from the implementation of the new technologies" (p. 215). Papastergiou (2006) similarly states the ICTs support the implementation of a social constructivist approach to learning by "enabling the creation of online learning communities for construction of shared knowledge across barriers of space and time" (p. 595) and cited Harasim's article with several other online education pioneers'.

However, my analysis reveals that her semantic approach to the notion of paradigm shift is rather prescriptive than being descriptive of the actual state of online HE and that her explanations about online education are also rhetorical rather than being well-grounded in the realities of online HE. She also fails to recognize potential barriers to the effective adoption of online education, at the institutional or individual level, in real-life educational situations (e.g., resistance, a lack of resources). In fact, there have been a number of researchers who published research results contradicting Harasim's argument (e.g., Piezon & Ferree, 2008; Zhu, Valcke, & Schellens, 2009). For instance, Njenga and Fourie (2010) criticize simplistic enthusiasm about online education in the field of higher education, a perspective created and reinforced by techno-positivists who put a strong emphasis on adoption of online education based on particular agendas, rather than on careful examination of the data. Nevertheless, the paradigm shift discourse itself has not been directly questioned up to now and Harasim's work continues to frequently appear as a seminal reference in many online education literatures (e.g., Guasch, Espasa, Alvarez, & Kirschner, 2013; Terras & Ramsay, 2015). In most cases, her argument about online education as a new learning paradigm in HE is cited as if it is a definite fact. In this sense, although Harasim's article is certainly not a single force that produces the rhetoric of the paradigm shift, it can be deemed as one of the influential texts that have facilitated this development and well-reflects the discursive stance in that academic field. Thus, I believe that it is worth spending time on critically analysing these claims about online education in comparison with the realities of online education in an open university.

REALITIES OF ONLINE EDUCATION

To develop a better understanding of the realities of online HE, therefore, I conducted a qualitative case study of two online universities (one in North America and one in the Asian Pacific region) with a particular focus on instructional design (ID) practices at the universities to address the question "Is online education really a new learning paradigm in higher education?" I closely looked at the continuities and discontinuities between the discourse and actual ID practices in the universities. I conducted semi-structured interviews with 12 instructional designers, which was guided by 15 open-ended questions about their perceptions and experiences about online course design and the current status of online HE. All participants were recruited by a snowball sampling method. My semantic analysis of the interview transcripts particularly focused on the continuities and discontinuities between designers' statements about online HE and ones in Harasim's text. My analysis of the instructional designers' interview scripts about their practices in 2013, more than decade after the emergence of the paradigm shift discourse, suggests that moving online has not shifted the instructional paradigm in the both universities unlike the claims of many early online education scholars. Also, the currently popular instructional theories informed by social constructivism are actually conflicting with the actual instructional conditions in the universities.

Harasim (2000) emphasizes the accessible and democratic nature of online communication and based on these potential merits of online group communication different from those in face-to-face settings, she argues that online education is also accessible and democratic. All instructional designers that I interviewed similarly recognize the great potential of adopting Internet technologies in HE for providing more accessible educational opportunities to students and enabling equal relationships among participants

in online communication. However, they actually point out that the institutional take-up of online education has been more likely related to administrative perceptions of it as a cost-saving method of educational delivery at their universities rather than its potential as a pedagogical tool to increase the equality in HE. For instance, Jane, an instructional designer who has been working at her university since 2001, mentions that in early 2000s "It was all about how this online learning business was going to cut the cost. So once that started being a part of discourse well... that was it! I will say it's more the economics of it than pedagogy." As a result, online education has become a main delivery method at her university, however, it has developed in a way as to increase the cost-effectiveness of course offerings rather than their pedagogical effectiveness. Most online courses in online universities, unlike Harasim's claim, focus on the cost-effectiveness and flexible access dimensions while giving up the more costly interactive learning component. Thus, online education has been developed more into an individualized and flexible educational mode with self-paced courses and any group communication in the self-paced online courses has been extremely restricted even though Internet communication technologies have been made available.

In the research field of online HE, there have also been a number of researchers (e.g., Elloumi, 2004; Oslington, 2004; Rabiee, Nazarian, & Gharibshaeyan, 2013) who are explicitly concerned about improving the institutional profits or market-driven values that online education can bring into HE institutions. Power and Gould-Morven (2011) observe and report that although administrators generally welcome and support the adoption of online education in their universities, they tend to be unable or unwilling to provide the necessary supports for high-quality online course production and delivery. They conclude that unlike the earlier expectations towards online education to redirect HE, it has developed into a mainstream educational delivery method without overcoming the similar obstacles encountered by traditional HE. As well, the learning paradigm that has guided online education practices tends to still remain the same as that behind traditional distance education practices. For example, another instruction designer, Alex strongly argued that they have to be more conscious about how to structure communications with students in online courses (e.g., well-structured instruction, guidelines, and scaffolds) because "you can't talk to students online as you do in face-to-face". Jane similarly mentioned "interaction, for me it's not just interaction with peers. That is for traditional and online universities who have a cohort, but in our environment, [it is more important whether] it's easy to navigate, the instruction is clear, the material is clear." Both Alex and Jane stressed the importance of effective communication in online education but they were not necessarily concerned with group communication but rather with issues of information architecture, content presentation, and environment design.

Harasim (2000) also asserts online education is (and should be) designed based on new principles of collaboration and the constructivist learning paradigm. However, in my study, 9 instructional designers out of 12 specifically stated their approach to online course design was pragmatic or eclectic, which seems to refer to an assumed neutral theoretic place lying between constructivism and behaviorism. At least theoretically, all the designers seemed to agree with a social constructivist ID approach, however, most of them simultaneously admitted that they do not (or cannot) design courses based on such an approach. In fact, their actual design practices are largely based on prescriptive ID models, which were often negatively tied to behaviorist learning theories in the literatures. The discrepancy between their understanding of idealized design based on social constructivism and their actual pragmatic design practices that more closely reflected traditional ID models is, therefore, mostly caused by institutional constraints and organizational limitations rather than being caused by individual's choices. The most frequently mentioned constraint is an organizational structure around the course production and teaching process, which is so rigid and standardized that the designers cannot be creative in their ID practices. At the organizational level, designers also seem to feel that their input is minimal as they are situated within a large course team structure including an academic, an editor, and a multimedia designer any or all of whom may not accept social constructivist learning theories.

Unlike Harasim's positive prediction about the rapid transformation from traditional HE to social constructivist online education in HE institutions, at the two universities in this study, this process continues to be challenging and slow to evolve. This process particularly involves changing its old course publication culture for correspondence study materials (television lectures), which mainly focused on

providing well-structured knowledge and clear and detailed self-study guidelines. Fixed administrative policies and bureaucratic processes are also suggested as important factors that disrupt more effective and flexible ID practices and consequently prevent the instructional designers from adopting social constructivist ID theories in their practices, which require juggling the complex relationships between different memberships and institutional culture and working processes. What is missing in Harasim's and other online learning researchers' work is a recognition of these institutional constraints and potential resistance to the new method of online course production when it is introduced to members familiar with, or preferring the old ways to the new one. In fact, before the evolution of online education, there was already a large body of knowledge about ID (i.e., theories and models) in DE and the other related fields (e.g., Dick & Carey, 1990; Merrill, Li, & Jones, 1990; Reigeluth, 1989). More specifically in many DE contexts, Peters' (1967) industrial production model and Wedemeyer's (1981) independent study model were (and still are) predominant. In this situation, although instructional designers, who are often perceived as change agents (Campbell, Schwier, & Kenny, 2007), have strived to adopt the social constructivist ID practices, the result has not been very positive.

DISCUSSIONS

Before summarizing my findings and concluding this article, it is worth mentioning that the purpose of this article is not to provide a complete explanation of what is happening in the current online HE context, but provide a credible description of the discrepancies between the dominant, but rather rhetorical discourse of online education and the actual realities of online HE praxis. I only hope that this analysis can expand our understanding of online education beyond the current rhetoric and some of my findings can raise further questions and critical discussions in the field of online education and smart learning. The particular discourse that I focused on was that online education has shifted a fundamental learning paradigm in HE and this new learning paradigm is arguably more effective than the previous ones of traditional distance education and face-to-face education. Based on this discourse (or to support this discourse), a set of statements about online education has been produced including a) online education is an accessible and democratic group communication phenomenon, b) online learning is collaborative and interactive, and c) online instructor becomes less of a knowledge provider and learners are more active and responsible in knowledge construction. These statements have become legitimate knowledge or norms in the field, which suggests the rhetoric of online education has been a doctrine of online education to some extent.

My analysis suggests that despite the continuing discrepancies between the ideal conceptualization of online education based on the rhetorical discourse and the actual pedagogical realities of online education that have been largely constrained by other institutional and socio-economic factors, the dominant discourse has not been much challenged. There are, at least, three factors (i.e., technological, educational, academic factors) that have collaboratively enabled this paradigm shift discourse emerge and continue to develop so that have limited the theoretical development of the field. Firstly, the development of Internet technologies and their potential for more accessible and democratic group communication certainly created the basic technological conditions for the birth of online education. However, more importantly, our progressive view about the relationships between technological development and social or educational innovations seems to be a more critical condition. I will argue such a view is based on our mixed philosophical stance towards technologies (i.e., technological determinism and instrumentalism), which has been pervasive in the field of educational technology—more broadly speaking—where technologies have been playing a significant role in mediating or enhancing teaching and learning activities.

Secondly, the growing acceptance of constructivism and constructivist learning theories which emphasize learners' collaborative knowledge construction in general education contexts also made it

possible for the discourse to emerge. However, the way that many online educators understand constructivism has been quite limited to its practical application as an instructional theory. Thus the deep discontinuities that arise from its philosophical and epistemological origins are not typically acknowledged. We also have failed to fully grasp the political concerns that many original constructivists have raised. This practical (but too simplistic) application of constructivism and its design principles in online education—often set opposite to radical objectivist and behaviourist learning theories, which have been commonly criticized in current educational contexts—has resulted in the development of constructivist online teaching and course design as legitimate norms.

In addition, the growth of neoliberal ideas in HE as well as an empirical research tradition in the field were the other social and academic conditions in which the discourse has not been critically challenged. These factors further contributed to and facilitated the rapid circulation of the set of norms produced by the discourse. Having considered the growing criticisms about neoliberalism and empiricism in general education contexts, we also need to critically examine some of our taken-for-granted assumptions about popular concepts in current society such as information technology, the knowledge economy and lifelong education. Also, we need to be more conscious about how these neoliberal concepts about learner, teacher, university, society and the relationships between them have moved into the field of online education and changed our perceptions and attitudes towards them. This may enables us to more accurately conceptualize online education.

My interviews with instructional designers engaged in both academic discourse and actual online education practices in the two HE institutions also suggest the rhetorical nature of the discourse and the discrepancies between the discourse and realities (or theories and practices as a result). Although instructional designers tend to accept the theories in the academic field of online education (i.e., legitimate knowledge and norms based on the paradigm shift discourse), these discrepancies produce conflicting voices over their beliefs and practices in their interview texts. Furthermore, there are multiple other conditions and factors in their specific institutional context where complex relations among different members exist that also influence instructional designers' thoughts and practices. These discontinuities repeatedly appeared and the multiple conflicts and tensions among the university members implied in the interview texts clearly demonstrate that the paradigm shift discourse is certainly exerting its discursive power in particular ways without being systematically or theoretically challenged.

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