Open Educational Practices and 21CC: Positioning their Significance

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Abstract: This conceptual paper positions the emergent emphasis of open educational practices (OEP) as it relates to the development of 21st century competencies (21CC) in marginalized learner populations of the Northern Territory in Australia. It identifies a convergence between a growing *open agenda* in education and the movement concerned with articulating and promoting the development of 21st century competencies with an emphasis on the empowerment of learners from multi-lingual and Indigenous backgrounds. By looking at theories from Friere, Yolŋu Learning on Country, Distance Education and English as Another Language approaches, this work considers the entrepreneurial learner from a number of specific perspectives that can enhance the uptake of deeper learning exemplified in 21CC, via innovative learning design of OEP.

Keywords: open educational practice, OEP, OER, open agenda, 21st century competences (21CC), workforce development

1. Introduction

The "open agenda" in education has expanded enormously in scope from its initial beginnings and alignment with the open technical architecture and protocols of the Internet (Mason & Pillay, 2015). Most notably, the emergence of open educational resources (OER) has signalled a shift in the engagement with formal and informal learning worldwide. A significant characteristic of this shift is that openness is not just expressed in terms of access or content – the interactive, adaptive nature of OER stimulates the levels of collaboration and learner engagement by opening up the direction and experience of learning for participants in open educational practices (OEP).

Whilst some pre-OER delivery could also be characterised this way, the transactional distance (Moore, 1993) of OER engagement enables another level of ownership over learning and inquiry that traditional didactic practices do not facilitate, regardless of the mode of delivery.

Ownership of learning and inquiry via OER and OEP can be enhanced by adding a layer of skill development which embodies the so-called 21st century competences (21CC), often also referred to as 21st century skills (Griffin, McGaw, & Care, 2012).

This paper explores how OEP can be situated within the open agenda, and conceptualises the extent to which the discourse on 21CC aligns with this and can inform the design of resources and activities that extend and empower an increasingly diverse learner population.

2. Why is OEP Important?

Despite a plethora of open initiatives, resources and repositories, traditional methods of teaching and learning are still holding fast (Geser, 2012; McGreal, Kinuthia, Marshall, & McNamara 2013). Western institutional assessment structures can rely on one-way direction of 'traditional' learning and teaching that has developed over centuries. Standardized assessment practices built on such a foundation have consequently determined the kind of provision offered. Following from this, it could be OEP and 21CC have not yet been fully embraced due to their seemingly subversive presence in comparison to different kinds of 'teachable and testable' things.

Advocacy for 21CC (Lee, Lau, Carbo, & Gendina, 2013), the adaptable and interactive (not to mention free) nature of OER, and the practices from which they spawn are together challenging the traditional learning delivery paradigm. The notion that anyone can be more involved in the direction of their own learning challenges the dictation and prescription of curriculum and assessment structures.

This also has long term implications for independence and employability skills development of learners and workforce entrants.

Whilst quality content still has a valuable and dominant place in learning discourse, the direction and ownership inherent in 21st century learning places its discernment more firmly in the hands of the learner, embodying it with more authenticity, assertion and reduces the passive 'banking' model of learning (Freire, 1970), hopefully with the outcome of producing more competence and independence of learners and workers.

This paper illustrates some theoretical and practical examples of how this movement can be accessible to learners in order to develop workforce and learning skills required for the 21st century, and how the emphasis on *practice, process, application* and *competence* can best utilise the content that is in increasing abundance and openly available in a sustainable and innovative designs for learning.

2.1 *What principles are relevant here?*

- **Process as distinct from content.** Open Educational *practice* implies active engagement with learning processes, such as inquiry that extends beyond information retrieval and static facts.
- **Competence as distinct from knowledge.** 21CC are performance-based competences, not pieces of knowledge. These skills are necessary for solving 'wicked problems', and involve complex development beyond what can be standardized and easily measured.
- **Application as distinct from Recall.** Competence is the application of a range of knowledge types and understanding, via cognitive skills which affect the success or otherwise of this application. This is different from recalling facts or following sequences of instructions.
- **Qualification as distinct from experience.** One might gain a qualification in a particular field and pass assessment procedures well, but that does not necessarily entail their experience and competence.
- **School leavers and workforce entrants need these skills.** For the purposes of this paper, this is not an assumption, but a requirement for continued evolution of learning and intelligence.

2.2 *Open Educational Practices (OEP)*

Leeson and Mason (2007) highlight that *open* "is a concept with wide usage and versatility. It is commonly used as a noun, verb, or adjective. In the Australian Macquarie Dictionary there are well over 80 entries for it, including definitions such as 'not shut', 'to disclose', 'an unobstructed space', 'to render accessible to knowledge', 'to cut or break into', 'to begin', 'to uncover' … etc." (p. 189).

OER has been defined as "any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them" (UNESCO, 2015).

While there is scope within this definition to understand OER as comprising materials apart from *content,* there is an implied noun in this term – given that a resource is commonly thought of as a thing, not a process. Open educational *practices*, on the other hand, have been emphasised by many (Geser, 2012; McGreal, et al. 2013) as more significant than OER. OEP are defined as practices which support the (re)use and production of high quality OER through institutional policies, innovative pedagogical models, and respect for learners as co-producers on their lifelong learning path.

Geser (2012) and McGreal et al. (2013) emphasise OEP as requiring distinction from the emphasis on content, mirroring the distinction Freire makes between systematic education and educational projects (1970). This "…dominat(ion) by a traditional understanding of education as well as relevant content and tools…" (Geser, 2011, p.23) perpetuates the prescriptive learning systems that are subject to "…national policies and statutory laws, particularly curriculum and qualification frameworks" (p.34, McGreal et al. 2012). The emphasis on OEP represents a shift from the resource's value towards its practical application (McGreal et al., 2012, p.117). When learners can take responsibility for learning design, the use of resources in open practice is a step toward developing competence in emergent workforces to more effectively meet modern world challenges.

The situation of OEP in this paper, then, is contingent upon the innovation of the following pedagogical models and how learning can be co-designed by learners, given the right materials to work *with*. This illustrates the relationship of situated, legitimate participation, acknowledging the learners'

realities, conducting learning *with* the learner, with a view to empowering the learner to conduct *their own* learning (Open Educational Quality Initiative (OPAL), 2010*).*

Emphasis needs to be made at this point, too, that this paper distinguishes OEPs as valuable processes in and of themselves, despite being producers and consumers of OER, aligned with open education infrastructures (OPAL, 2010).

2.2.1 Is the power in content or process?

Lee et al. (2013) outline the 21st century competences, advocated by employers, governments, and universities for some decades as 'employability skills' (DOE, 2006; Hill & Petty, 1995). These skills have been identified as beneficial in many workplaces and learning environments, but the inconsistency with which they are incorporated into content-dominated learning systems could illustrate what popular educational provision values. It could be agreed that these skills are what people need to work with others and add value to the modern workplace(s) (Jan, 2012), and that they highlight the distinction between content knowledge and the application thereof via real world experience. The potential for the incorporation of these skills into the design of OEP can drive collaborative innovation in how learning environments are designed, leading to a more effective learning experience.

Arguably, OEP and 21CC can be seen as having a symbiotic relationship – without 21CC as a framework for ensuring OEP are conducive to 'real world' application, OEP could cease to be effective as a deeper learning practice. This is not to say that technical and content knowledge have no integral significance to pedagogy, as researchers have pointed out (Shulman, 1987, Mishra and Koehler, 2006), but via 21CC and OEP design for learning, their value could be more efficiently realised through deeper, considered application.

2.3 Approaches To Learning

Freire (1970) writes of authentic education being a collaborative process carried out *with* the learner, and that "…education is … the organised, systematized and developed re-presentation to individuals of the things about which they want to know more" (p.74).

Freire's presentations of these types of educational programs can be seen in OEP by their flexibility, adaptability and relinquishing of power over learning to the participant themselves. Zijdemans Boudreau (2014) positions the learner as "the principal lead in the education enterprise" (p.2), aligning with the Freirian approach to cooperative learning. Given another layer of design for learning by 21CC, OEP could potentially form a framework for this entrepreneurial, 're-presented' and empowered learning to be conducted by individual participants.

2.4 Yolŋu and Situated Learning

In articulating some Indigenous Australian perspectives, Guthadjaka (2011) speaks about Yolŋu[1] teaching and learning, and how *Learning on Country* (Ford, 2010, Fogarty & Schwab, 2012) embodies a connection to *where* learning happens. Without this, the knowledge gained has no grounding, or context. Guthadjaka describes Learning on Country as similar to a joining of tributaries; it comes from a series of sources, as opposed to the one learning object, teacher, or book; we learn from our environments, so the more rich that environment is with information, senses and stories, the deeper the learning can be: "...the children will learn the land, and who s/he is, and the stories, and where the breeze is blowing from, and where it is going, because that child has breeze on his skin, he knows." (Guthadjaka, 2011)

This can inspire the design of OEP to collaborate with a range of world views and 're-present' (Freire, 1970) knowledge to people in a participatory process: informed by the environment and the experience it offers us, not a prescriptive structure that is imposed on the environment.

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[1] Yolŋu are the Indigenous people of North East Arnhem Land in the Northern Territory of Australia. The term 'Learning on Country' refers to the methods of interconnected ceremonial, survival, environmental and spiritual learning that has developed and been practiced over thousands of years.

Guthadjaka's framing of learning also aligns with the participatory approach to situated learning (Lave & Wenger, 1991), particularly the sense of belonging gained from participating in an (open) community of practice. As opposed to being passive in the banking model of learning (Freire, 1970), legitimate participation is an active, collaborative endeavour for all participants. Reflecting on ancient methods such as Yolŋu Learning on Country can inspire collaboration with increasingly diverse learner populations and their associated world views, and could be the innovation that modern education systems and learning design required to meet the needs of modern learner populations. The *Learning On Country program* conducted in the Arnhem Land region, as well as the Yolŋu Studies program offered at Charles Darwin University also embodies this by teaching *on and from* the land of origin via livestream lectures from the country from which the language and theory is generated. This placed knowledge practice provides a good example of the situated practice of embedding knowledge practice in the system which has authority over it, rather than extracting it in an abstract context.

2.5 Motivation, Distance and Online Education

The theory of transactional distance (Moore, 1993) has relevance here, as this could be said to have informed much of online and open educational approaches. The "interplay amongst the environment, the individuals and the patterns of behaviour in a situation" (Boyd & Apps, 1980) occurs in a special relationship between teacher and student. The 'transactional distance' in the context of OEP, then, could be seen to be characterised not just by the openness of the platform but also in the framing and behaviours of how information is organised *for* learning via 21CC. Means of communicating the 'instructional dialogue' is crucial (Moore, 1993), and via interactive design of OEP and its associated instructional dialogue via 21CC, a more fertile transactional distance could be achieved.

Open Education is a community characterised by the inherent motivation of its members. Through using Moore's features of design (1993), the embedded, contextualised interaction in a community of open practice is heightened. Others have emphasised the role of these affective elements of learning design as pivotal in cultivating learner success (Bruning & Horn 2010, Magnifico 2010, Xiao 2012, King 2012), and the need for lecturers to increase technology-enhanced teaching skills to enrich transactional distance use.

The motivating elements associated with OEP and 21CC could provide this affective support and enhance outcomes and engagement for on line learners, as well as teachers. In these ways the transactional distance remains a generative opportunity for more evolution in learning, not a potential issue that is problematized and requires alleviation.

2.6 English as Another Language theory

Cummins (1996; 2000) introduces concepts of context embedded and cognitively demanding learning that could further innovate learning design for OEP if authentic contexts are used to frame learning. Learners will be acknowledged for capacity for higher order thinking, not whether they can simply access content. The embedding of 21CC in OEP design for learning could enhance the cognitive demand on learners. Cummins' context embeddedness of second language skills could apply to any skill, illustrating the layering of innovative pedagogical approaches that creative learning design can facilitate. Given the rates of OER use by learners that have facility with multiple languages, this theoretical application also seems an appropriate practice, if not for *all* learners. Cummins also argues that this embedding approach fosters a more "collaborative relation of power" (1996, 2000) by acknowledging the stages at which students are in their skill acquisition yet still providing a demanding contextualised learning experience to illustrate the relevance of the skills *and* content in the learning. These collaborative power relations could enhance online open learning and perhaps bring about more 'on earth' outcomes for participants in these communities of practice. The PreVET Project exemplifies this practice by meeting the learners where they are, with more relevant, motivating and context-embedded learning tasks.

This dynamic grants learners the opportunity for learners to *claim* their education, not *receive* it. Teacher-Learning designers, too, have an opportunity to adapt their roles into a more collaborative format, embodying different balance of power relations. This can also be illustrated through Crowd Learning (Sharples, et al, 2013):

> The role for the educator in a system of crowd sourced and self-directed learning is to indicate what resources are available, help learners to diagnose their needs, and support a variety of study methods. (p.22)

This speaks to the possibility that a shift in teacher–learner power dynamics might parallel a shift in employee–employer relations, and that more independence and self-management is required in both contexts. Adversely, this shift could also challenge this dynamic in some workplaces, depending on traditional structure and levels of systemic flexibility.

2.7 Smart Use of Technology

The methods above point to innovative, embedded layers of design that utilise the richness of technology; attempting to emulate collaborative, On-Country, context-embedded and motivated learning via a 21CC 'filter'. These practices reinforce the potential of using digital resources. It isn't sufficient to merely use a digital resource and assume the medium it is in will enhance educational outcomes:

> Technologies cannot be used uncritically; rather they are used within social contexts. It is important to understand the relationship between social, cultural and physical contexts in which learners and (mobile) technologies operate (Wallace, 2011, p. 120).

This aligns with the theories discussed above in that a collaborative, purposefully motivated and situated function needs to be added to the use of OEP in order to meet the specific requirements of a knowledge creating group. Researchers from Northern Institute, East Arnhem Indigenous Fisheries Network and the FRDC are developing an Indigenous Fisheries Training Framework which complements existing training provision for Indigenous rangers and uses technology and practices that collaborate with the learners' language and learning needs.

2.8 What does this mean for learning design and OEP?

It could be inferred that the embodiment of 21CC in student assignments enhances the use of an OER and makes it much more than just a free textbook, in digital form as illustrated by Wiley (2012). The adaptability of the task, as well as the requirement for students to develop conceptual, connectivist and human competencies during the work aligns with the theories and approaches mentioned in this paper. Rather than just assigning readings and an exam, rigorous design for learning highlights the collaborative, situated and motivating use of the transactional distance between teacher, student and content, via innovative 21CC processes, and arguably better prepared the students for the intended workforce.

3. Conclusion

The practice of being competent in using knowledge (*knowing-how*) is more important for work success than just having knowledge (*knowing-that*). Wiley's remix illustrates that design for learning can encourage empowerment in learners to practice the processes they will need to demonstrate in the working world. Examples like this are in alignment with ancient, seminal and contemporary learning theories and approaches that enable disenfranchised learners and extend and challenge all learners. Whilst everyone learns differently with different preferences, and some content may be more easily taught in a range of ways, the application of quality knowledge and understanding via OEP and 21CC could be one of many enablers for the increased evolution of effective formal learning.

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