

Designing for relatedness: learning design at the virtual cultural interface

Alison Reedy

Office of Learning and Teaching
Charles Darwin University, Australia

Michael Sankey

Learning Environments and Media
University of Southern Queensland, Australia

This paper draws on the initial analysis of data from an education design research study that investigated the experience of Indigenous higher education students in online learning. The interrelated themes of racial identity and relatedness were found to be significant to the experiences of these students. The paper examines a number of widely used learning design models and online facilitation approaches to determine the extent to which identity and relatedness are considered in the design of online environments and in the facilitation of learning. It concludes with a series of recommendations as to how an institution may mediate a level of relatedness for its students in online learning environments.

Keywords: Relatedness, design models, e-learning, Aboriginal and Torres Strait Islander.

Setting the scene

This paper explores emergent concepts and practices associated with identity and relatedness as they apply to learning and teaching (L&T) and the way in which Aboriginal and Torres Strait Islander higher education (HE) students experience this in online learning. Relatedness is understood in various ways across cultures: for example, in relation to kinship and country in Indigenous contexts (Martin, 2003), through social capital theory (Coleman, 1988), and in online environments through networked learning (Goodyear, Jones, Asensio, Hodgson, & Steeples, 2005) and connectivism (Siemens, 2004). Relatedness in the context of this study refers to the trust and reciprocity in bonding, binding and linking relationships (Woolcock & Narayan, 2000) that is mediated inside and outside of virtual learning environments and which affirms cultural and racial identity and practices. The conceptual location where these ideas and practices are negotiated and reframed is at the virtual cultural interface, extending Nakata's (2007) concept of the cultural interface as a space where collaborative meaning making takes place and where worldviews can be renegotiated through cross-cultural interactions.

This paper draws from an education design research (EDR) study conducted at Charles Darwin University (CDU), a regional university in the Northern Territory (NT), Australia. Due to its isolated geographic location and the NT's relatively small and dispersed population of 243,800 people (Australian Bureau of Statistics, 2015) CDU has a strong focus on external delivery. In 2014 62% of its students were enrolled externally (Reedy, Boitshwarelo, Barnes, & Billany, 2015), with almost all its units being offered online through CDU's learning management system (LMS). Aboriginal and/or Torres Strait Islanders comprise 30% of the population of the NT, the highest of any Australian state or territory (Australian Bureau of Statistics, 2015), and 5.5% of CDU's HE enrolments (CDU 2015). This compares well to the overall percentage of Indigenous students in Australian universities of 1.4% (Universities Australia, 2014). However, Indigenous student retention at CDU is 20% lower than for non-Indigenous students: 79% against 59% (CDU, 2015). This disparity illustrates there is significant change required in the learning environment to achieve equitable outcomes for Indigenous students.

The study was, therefore, undertaken in order to better understand the lived experience of Indigenous higher education (HE) students participating in learning environments where online study is increasingly the norm. The themes of identity and relatedness, described in this paper, are well researched in the fields of Indigenous health, wellbeing and education (Dudgeon, Milroy, & Walker, 2014), however, little is known of their impact on Indigenous HE students in online learning. The study draws on previous work that indicates that cultural difference impacts on the experience of learners in online learning environments (Hall, 2009; Russell, Kinuthia, Lokey-Vega, Tsang-Kosma, & Madathany, 2013) and needs to be considered in online learning design (McLoughlin & Oliver, 2000). The paper explores the extent to which cultural difference, around the notion of connectedness, can lead to a sense of relatedness in the online environment. This is initially seen through the eyes of

Figure 2: Evaluation of Components of Relatedness in Learning Design models

Relatedness at an institution level

None of the models represented in Figure 2 factor in identity representation at either institutional or unit levels. For example, none promote the establishment of online profiles that students can use to represent themselves across all their units. Nor do the models incorporate the establishment of institutional physical, or virtual spaces to provide students with the opportunity to extend learning networks with students outside their units. Or in this case, provide opportunities for Indigenous students to engage with other indigenous students enrolled at the institution.

In terms of models that demonstrate a relationship between the outside world and the institutional environment, Goodyear's Problem Space (Goodyear, 2005; Goodyear & Ellis, 2007) acknowledges the "social and physical/digital contexts for learning, as well as the activity itself, are co-produced by students, teachers and others" (p. 341). Also, the fifth Stage of Salmon's Five Stage Model considers linkages between student learning activities with existing networks and their intersection with online environments. While the majority of the models refer to the learners background and attributes as influencing learning, Goodyear's Problem Space and Salmon's Five Stage Model explicitly link the social nature of learning with others who may be outside of the formal learning environment, positioning the formal learning environment as part of a wider, linked network.

Relatedness in unit level learning design

By recognising the background and attributes students bring to their learning environments we acknowledge also the networks they leverage to support their learning. At the unit level some of the models take into consideration the background and diversity of the learner. For example Biggs 3-P model (Biggs, 1989), regarded as a classic model of teaching and learning, recognises the characteristics students bring to the learning environment and the diverse factors that influence the development of their worldview. The term 'presage' in this model suggests that student characteristics, combined with the context of the environment provides some for-shadowing of the learning experience. The LEPO and Goodyear models also make the link between student background and their learning. Goodyear and Ellis acknowledge that while teachers are not able to "manufacture community" (Goodyear & Ellis, 2007, p. 341), they have a duty to "help set up the social fabric" (p. 341) to support these connections. Goodyear's model provides a strong framework for understanding online learning spaces as situated locations of networked learning that draw on students' backgrounds. The Laurillard and Salmon models, on the other hand, do not reference the student background.

All the models have a focus on activity as the process through which learning takes place, and as the means through which interactions occur. The design of the activities includes consideration of the tools through which the activity and interactions can take place.

Relatedness in unit level interaction design

Activities in a learning environment can be designed as interactions between student and content, student and lecturer, and between students. In terms of moving towards relatedness, interactions between students and between students and lecturers are of most significance. All of the models included student to lecturer interaction as integral components of their design. However, only Salmon's 5 Stage Model and Goodyear's problem space of educational design are explicit about the interaction between students. This is not to say that student-to-student interactions are precluded in the other models, however, the LEPO model includes the teacher and the student as the main actors, but does not show student-to-student interactions as inherent features. Indeed, Biggs' 3-P model also may well include peer-to-peer interactions within the context of learning activities, but this is not explicit. Gilly Salmon's Five Stage Model of E-learning, on the other hand, focuses on group interaction and group activity and is based on knowledge construction through interaction in staged learning activities and is essentially about group formation and social capital building in the context of learning.

Of the models reviewed, Goodyear's problem space of educational design is the one that positions the concept of relatedness most highly and additionally situates it as a characteristic of well-designed

online learning environments and as a product of skilled facilitation. Elements of each model reviewed contribute in some way to an understanding of how online learning is constituted, but with respect to relatedness, Goodyear’s model is unambiguous about the centrality of connectedness to learning.

Recommendations for trial and limitations

It is seen from the discussion above that the issues related to traditional design models for online learning are predominantly related to situating students in a unit of study and looking to engage them at that level, where, in a sense, they have to reestablish their identity each time they go into a new unit. This is problematic, particularly where there may not be any collaboration between those teaching these units, and where there is little or no focus on building an online community that is wider than at the unit level. However, what this paper proposes is to link students into an online network greater than just studying a single, or group of single units. That is, the student may create for himself or herself an identity that transcends the single unit in order to represent, or position themselves within their learning in a more holistic manner, as represented in Figure 3.

Creating the opportunity for identity representation at a university level will involve institutional commitment and disposition to providing a place for this to occur. This could be as simple as re-conceptualising or extending the Goodyear model to incorporate concepts by which relatedness is achieved, particularly for Indigenous students, or it could be extended to incorporate other systems within the VLE that align with the LMS, such as an ePortfolio, an internal social networking tool, or allowing for the syndication of information from certain social media sites, as seen in Figure 3. Regardless of how it is conceived the following recommendations for trial stem from this work:

At an Institutional level:

- Engagement with a suite of technologies to facilitate the development of comprehensive student and staff profiles (identity), along with a openness to receive external social networking feeds.
- Train staff in the notion of digital and social networking literacy and on how to facilitate student engagement, based on a centralised profile (identity).
- Establish and support specific online spaces for Indigenous students (and other defined groups), within the institutional community site, to facilitate the networking across the institution.

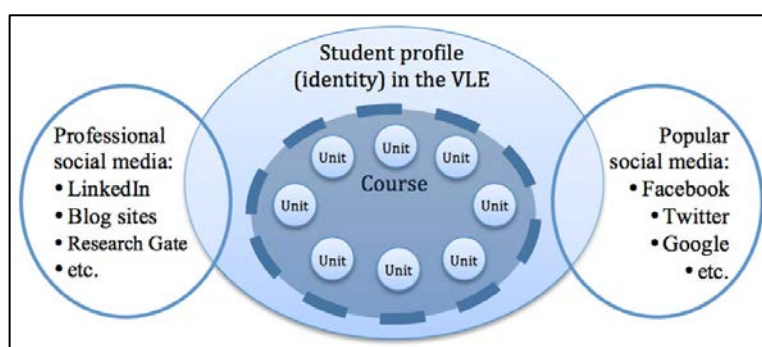


Figure 3. Institutional community focused model

At a Unit level:

- Ensure the design of unit environments can facilitate the use of, and align with, student profiles.
- Train and support students early in their engagement with the institution on how to represent themselves in a university based profile (identity). This requires a level of sophistication and may address ways to encode Indigeneity not visible to non-Indigenous students or staff, if this is desired.

The recommendations are based in the analysis and findings of a design based research project that was located at Charles Darwin University. The findings are in relation to the experience of Indigenous students studying online at CDU and are not presented as generalisable for other contexts. Indeed the recommendations have not yet been tested and are based on deconstruction and analysis of early findings from the research study discussed in the body of this paper. Despite this, based on the evidence provided we recommend that this model be trialed.

Conclusion

The experience of Aboriginal and Torres Strait Islander participants indicates that online learning spaces at the site of the study are not conducive to the sorts of relatedness upon which their lives depend. Additionally, representation of identity within the online environment is an essential prerequisite for establishing connections. However, opportunities to develop an online identity within units are ad hoc and the extent to which students are prepared to reveal their identities depends on a range of factors including the extent to which others in the environment are 'known'. The yearning for connection in online learning environments contrasts with the sense some students have of the online environment as a formal environment rather than a social one, and where the mechanisms for making connections (such as online discussion forums) are not often designed in ways that draw Indigenous students into the learning environment, or seen to be connected with other parts of their lives.

Furthermore, well known learning design models that guide the development of online learning spaces and learning interactions have very little focus on 'relationship' and 'connections', and where they do exist, it is mainly in the context of teacher-student processes and interactions around learning. However, if we take as our starting point the stories that our students tell of their lives and education, we can discern some emerging design principles that may help us establish better online learning ecologies, designed to support their learning journey. The recommendations for trial presented here highlight the social aspects of learning and the need for an institutional level approach to support holistic learning environments. These recommendations provide a means to integrate concepts and practices aligned with relatedness into HE institutions, to create friendlier and safer online spaces for Indigenous, and indeed for all students, in order to enhance the experience of online learning.

References

- Anderson, T., & Shattuck, J. (2012). Design-Based Research: A Decade of Progress in Educational Research? *Educational Researcher*, 41(1), 10.
- Australian Bureau of Statistics. (2015). 3101.0 Australian Demographic Statistics, Mar 2015. Canberra: Australian Bureau of Statistics.
- Babbie, E. (2007). *The Practice of Social Research* (11 ed.). Belmont CA: Thomson Wadsworth.
- Bandura, A. (1971). *Social Learning Theory*. New York: General Learning Press.
- Bessarab, D., & Ng'andu, B. (2010). Yarning About Yarning as a Legitimate Method in Indigenous Research. *International Journal of Critical Indigenous Studies*, 3(1), 37-50.
- Biggs, J. B. (1989). Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development*, 8(1), 7-25.
- Bolliger, D., & Inan, F. (2012). Development and Validation of the Online Student Connectedness Survey (OSCS). *The International Review of Research in Open and Distributed Learning*, 13(3), 41-65.
- Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). Review of Australian Higher Education Final Report. Canberra: Department of Education, Employment and Workplace Relations.
- Charles Darwin University. (2015). Charles Darwin University Annual Report 2014. Darwin.
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2).
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology*, 94 (Supplement: Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure), S95-S120.
- Dudgeon, P., Milroy, H., & Walker, R. (Eds.). (2014). *Working Together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice* (Second ed.). Barton, ACT: Australian Government Department of the Prime Minister and Cabinet.
- Ellis, R., & Goodyear, P. (2010). *Student experiences of e-learning in higher education: the ecology of sustainable innovation*. London: RoutledgeFalmer.
- Goodyear, P. (2005). Educational design and networked learning : patterns, pattern languages and design practice. *Australasian Journal of Educational Technology*, 21(1), 82-101.
- Goodyear, P., & Ellis, R. (2007). *Students' interpretations of learning tasks: Implications for educational design*. Paper presented at the ascilite conference 2007, ICT: Providing choices for learners and learning, Singapore.

- Goodyear, P., Jones, C., Asensio, M., Hodgson, V., & Steeples, C. (2005). Networked learning in higher education: Students' expectations and experiences. *Higher Education: the international journal of higher education and educational planning*, 50(3), 473-508.
- Hall, A. (2009). *Designing Online Learning Environments for Local Contexts, as exemplified in the Sultanate of Oman*. (Doctorate in Education), University of Wollongong, Wollongong.
- Kickett, M. (2011). Examination of How a Culturally Appropriate Definition of Resilience Affects the Physical and Mental Health of Aboriginal People. (PhD), Curtin University.
- Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251. doi: <http://dx.doi.org/10.1016/j.bushor.2011.01.005>
- Laurillard, D. (2002). *Rethinking university teaching: A conversational framework for the effective use of learning technologies* (2nd ed.). London: Routledge.
- Martin, K. (2003). Ways of Knowing, Ways of Being and Ways of Doing: a theoretical framework and methods for Indigenous re-search and Indigenist research. *Journal of Australian Studies*, 76(Voicing Dissent, New Talents 21C: Next Generation Australian Studies), 203-214.
- Martin, K. (2008). *Please knock before you enter: Aboriginal regulation of outsiders and the implications for researchers*. Teneriffe, Qld: Post Pressed.
- Martin, K. (2009). Thinkin' you know...getting it wrong...and us missin' out - Aboriginal worldview and knowledge, English literacy - great expectations or grating obsessions? *Dare to Lead: National Indigeneous Education Conference Melbourne*
- McConnell, D., Hodgson, V., & Dirckinck-Holmfeld, L. (2012). Networked Learning: A Brief History and New Trends. In L. Dirckinck-Holmfeld, V. Hodgson & D. McConnell (Eds.), *Exploring the Theory, Pedagogy and Practice of Networked Learning*. New York: Springer-Verlag
- McLoughlin, C., & Oliver, R. (2000). Designing learning environments for cultural inclusivity: A case study of indigenous online learning at tertiary level. *Australian Journal of Educational Technology*, 16(1), 58-72.
- Nakata, M. (2007). *Disciplining the Savages: Savaging the Disciplines*. Canberra: Aboriginal Studies Press.
- Phillips, R., McNaught, C., & Kennedy, G. (2012). *Evaluating e-learning: guiding research and practice*. New York: Routledge.
- QSR International. (2015). NVIVO10 for Windows from http://www.qsrinternational.com/products_nvivo.aspx
- Reedy, A., Boitshwarelo, B., Barnes, J., & Billany, T. (2015). Swimming with crocs: Professional development in a Northern context. Paper presented at the Australian Teacher Education Association (ATEA) conference, 'Strengthening partnerships in teacher education: Building community, connections and creativity', Darwin
- Reeves, T. C., McKenney, S., & Herrington, J. (2010). Publishing and perishing: The critical importance of educational design research. *Australasian Journal of Educational Technology*, 27(1).
- Rigney, L. I. (2006). Indigenist Research and Aboriginal Australia. In J. E. Kunnie & N. I. Goduka (Eds.), *Indigenous Peoples Wisdom and Power. affirming our Knowledge Through Narratives*. Hampshire: Ashgate.
- Russell, L. R., Kinuthia, W., Lokey-Vega, A., Tsang-Kosma, W., & Madathany, R. (2013). Identifying complex cultural interactions in the instructional design process: a case study of a cross-border, cross-sector training for innovation program. *Educational Technology Research and Development*, 61(4), 707-732. doi: 10.1007/s11423-013-9291-8
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Salmon, G. (2003). *E-moderating: The key to teaching and learning online* (2nd ed.). London, New York: RoutledgeFalmer.
- Schaefer-McDaniel, Nicole J. (2004). Conceptualizing Social Capital among Young People: Toward a New Theory. *Children, Youth and Environments* 14(1): 140-150.
- Seitzinger, J. (2014). *Curate Me! Exploring online identity through social curation in networked learning*. Paper presented at the 9th International Conference on Networked Learning 2014, University of Edinburgh.
- Siemens, G. (2004). Connectivism: A Learning Theory for the Digital Age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3-10, 2(1), 4-10.
- Thomas, L., & Heath, J. (2014). Institutional wide implementation of key advice for socially inclusive teaching in higher education. A Practice Report. *The International Journal of the First Year in Higher Education*, 5(1), 125-133.

- Torche, F., & Valenzuela, E. (2011). Trust and reciprocity: A theoretical distinction of the sources of social capital. *European Journal of Social Theory*, 14(2), 181-198.
- Universities Australia. (2014). Indigenous Higher Education Retrieved 27 September 2015, 2015, from <https://http://www.universitiesaustralia.edu.au/uni-participation-quality/Indigenous-Higher-Education>
- Voiskounsky, A. (1998). *Internet: Culture Diversity And Unification*. Paper presented at the Cultural Attitudes Towards Communication and Technology '98, University of Sydney, Australia.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Watters, A. (2015). *Learning Networks, Not Teaching Machines*. Paper presented at the EDEN 2015, Barcelona. <http://hackeducation.com/2015/06/10/eden2015/>
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15(2), 225-249.

Reedy, A. & Sankey, M. (2015). Designing for relatedness: learning design at the virtual cultural interface. In T. Reiners, B.R. von Kinsky, D. Gibson, V. Chang, L. Irving, & K. Clarke (Eds.), *Globally connected, digitally enabled*. Proceedings ascilite 2015 in Perth (pp. 235-247).

Note: All published papers are refereed, having undergone a double-blind peer-review process.



The author(s) assign a Creative Commons by attribution licence enabling others to distribute, remix, tweak, and build upon their work, even commercially, as long as credit is given to the author(s) for the original creation.