



MELBOURNE CSHE TEACHING AND LEARNING SHORT GUIDE SERIES

A GUIDE TO DESIGNING AUTHENTIC ONLINE COLLABORATION

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Introduction

Authentic online collaboration focuses upon exploring (often complex) real world problems or practice, and highlights the importance of designing learning experiences that involve interdisciplinary collaboration. All disciplines can benefit from authentic online collaboration. Our graduates need the skills and capabilities to work in diverse teams to explore and develop creative approaches to the complex problems and issues that they will face in the workplace and the wider community within an increasingly unknown future. Most professions involve some form of teamwork and collaboration across a variety of discipline and cultural boundaries, and therefore this is a key graduate capability identified by employers.

“learning for an unknown future has to be a learning understood neither in terms of knowledge or skills but of human qualities and dispositions. Learning for an unknown future calls, in short, for an ontological turn.” (Barnett, 2012, p. 65)

Online teamwork and collaboration is often maligned by students, however teamwork and collaboration are key graduate capabilities, and designing authentic online collaboration can lead to rich and transformative learning experiences for students as they develop this capability.

“Capability is a holistic attribute and concerns the capacity to use one’s competence in novel situations rather than just the familiar, a justified level of self-efficacy for dealing with novel problems, having appropriate values, being able to work in teams, and knowing how to learn.” (Hase & Kenyon, 2007, p. 113)

Why is it important?

Authentic online collaboration challenges both students and academic staff to reimagine their roles in learning and teaching. It involves moving away from a focus upon knowledge transmission to the development of learner capabilities and characteristics. The role of the teacher becomes more a designer and facilitator of authentic learning experiences that immerse students in interdisciplinary collaboration.

Interdisciplinary collaboration facilitates student projects that can include the development of interdisciplinary teams to collaborate on real world issues that are often messy and ill-defined, with many impacting factors that may include knowledge and input from several disciplines, as well as inter-cultural considerations. Online environments facilitate collaboration across geographic and timezone barriers, and model how many global companies now work creating a 24 hour productivity via a mix of synchronous

(for example video conferencing) and asynchronous collaboration on projects (for example file sharing via cloud-based services such as OneDrive or GitHub, project management tools such as Trello, and communication via chat and team tools such as Slack, Microsoft Teams, and Twitter). The University LMS can also be used as a secure environment for facilitating online collaboration.

Interdisciplinary collaboration builds upon ‘ontological pedagogies’ or learning strategies that emphasise students ‘becoming’ professionals within their chosen discipline or field of expertise through their learning experiences. Learning experiences need to acknowledge “the interconnectedness and synergy between knowing, doing and being” (Danvers, 2003, p. 53).

For example, traditional knowledge-based disciplines can embed aspects of the way design and arts disciplines model professional learning environments (Brown, 2006), and build creativity into the online learning environment. Danvers (2003) makes some great points about what this type of authentic online collaboration entails.

“Creativity thrives in an atmosphere that is supportive, dynamic, and receptive to new ideas and activities. The learning environment has to encourage interactions between learners in which: action and reflection are carefully counter-balanced; open-ended periods of play and ‘blue-sky’ thinking alternate with goal-oriented problem-solving; stimulating inputs and staff interventions are interwoven with periods in which learners develop ideas and constructs at their own pace; critical thinking and robust debate co-exist with a supportive ‘space’ in which risk-taking, imaginative exploration and productive failure are accepted as positive processes of learning and, the development of meanings and interpretations is inseparable from material processes and production”. (Danvers, 2003, p. 52)

How do we design for online collaboration?

Example frameworks that provide tips for designing and evaluating collaborative learning environments:

- > A Framework for Designing Collaborative Learning Environments Using Mobile Augmented Reality (Cochrane, Narayan, & Antonczak, 2016).
- > A layered framework for evaluating on-line collaborative learning interactions (Daradoumis, Martínez-Monés, & Xhafa, 2006).
- > Design Thinking and Collaborative Learning (Leinonen & Durall, 2014).
- > A flexible framework for online collaborative learning (Redmond & Lock, 2006).

Summarised here:

- I. Design student team projects that explore real-world issues
- II. Broker involvement in team projects from a range of relevant disciplines
- III. Collaborate with:
 - industry or professions to identify critical current issues
 - local or relevant cultural groups as stakeholders in authentic projects
- IV. Negotiate learning objectives, assessment strategies and project milestone timelines with all stakeholders, including students
- V. Set realistic timelines for the collaborative project milestones, realising that many students may be learning the skills and teamwork capabilities they need as they go for the first time
- VI. Utilise a range of online communication and collaboration technologies to facilitate global teams, and input from global experts (for example webinars, video-conferencing, project management tools, social networking tools, team eportfolios, online presentation tools such as Adobe Spark)

- VII. Enable and establishment a culture of individual student reflection spaces for peer and formative feedback throughout the length of the project – not just at the end of the project!
- VIII. Facilitate the use of social online spaces for the student teams to get to know each other and any external stakeholders (for example discussion forums or asynchronous chat or welcoming introductory exercises)
- IX. Assign specific team roles to students, or allow students to negotiate what their role in the team may be from a list of suggested team roles
- X. Set team project milestones and assign a percentage of assessment marks to each major project milestone
- XI. Build in student team presentations into the project, including the opportunity for formative feedback before the final project deadline, and involve all of the students as peer reviewers of the summative team project presentations
- XII. Create a marking schedule or rubric that clearly outlines the requirements expected for each critical project milestone that will be assessed
- XIII. Negotiate with students how individual student and team marks will be allocated fairly

For more information on authentic online interdisciplinary collaboration see some of the following curriculum design examples:

- > Scaling-up collaborative practices through mobile technology (Antonczak, 2019).
- > Learning for an unknown future (Burnett, 2011).
- > Designing ‘phygital’ spaces: Integrating mobile social media in health education (Lees, Antonczak, & Cochrane, 2017).
- > Unpacking two design for health living lab approaches for more effective interdisciplinary collaboration (Reay, Craig, & Kayes, 2019).

References:

- Antonczak, L. (2019). *Scaling-up collaborative practices through mobile technology*. Paper presented at the 2019 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC).
- Barnett, R. (2012). Learning for an unknown future. *Higher Education Research & Development*, 31(1), 65-77. doi:10.1080/07294360.2012.642841
- Brown, J. S. (2006). New Learning Environments for the 21st Century: Exploring the Edge. *Change: The magazine of higher learning*, 38(5), 18-24. doi:10.3200/CHNG.38.5.18-24
- Burnett, R. (2011). Transdisciplinarity: A new learning paradigm for the digital age? In *Critical approaches to culture + media* (Vol. 2012).
- Cochrane, T., Narayan, V., & Antonczak, L. (2016). A Framework for Designing Collaborative Learning Environments Using Mobile AR. *Journal of Interactive Learning Research*, 27(4), 293-316.
- Danvers, J. (2003). Towards a radical pedagogy: Provisional notes on learning and teaching in art & design. *International Journal of Art & Design Education*, 22(1), 47-57. doi:10.1111/1468-5949.00338
- Daradoumis, T., Martínez-Monés, A., & Xhafa, F. (2006). A layered framework for evaluating on-line collaborative learning interactions. *International Journal of Human-Computer Studies*, 64(7), 622-635. doi:<http://dx.doi.org/10.1016/j.ijhcs.2006.02.001>
- Hase, S., & Kenyon, C. (2007). Heutagogy: a child of complexity theory. *Complicity: an International Journal of Complexity and Education*, 4(1), 111-118. doi:<https://doi.org/10.29173/cmplct8766>

Lees, A., Antonczak, L., & Cochrane, T. (2017, 5-7 September). *Designing 'phygital' spaces: Integrating mobile social media in health education*. Paper presented at the ALT Annual Conference 2017: Beyond islands of innovation – how Learning Technology became the new norm(al), University of Liverpool, UK.

Leinonen, T., & Durall, E. (2014). Design Thinking and Collaborative Learning. *Comunicar*, 42(1), 107-115. doi:<http://dx.doi.org/10.3916/C42-2014-10>

Reay, S., Craig, C., & Kayes, N. (2019). Unpacking two design for health living lab approaches for more effective interdisciplinary collaboration. *The Design Journal*, 22(sup1), 387-400.

Redmond, P., & Lock, J. V. (2006). A flexible framework for online collaborative learning. *The Internet and Higher Education*, 9(4), 267-276. doi:<http://dx.doi.org/10.1016/j.iheduc.2006.08.003>

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