

## **Building Academic Survival Skills Online: A collaborative, team-based approach to online course design and production**

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### **Abstract**

The growing accessibility and use of online educational technology has seen the provision of enabling 'distance' education move from paper-based traditional methods of delivery to the development of wholly online programs. With this has come the necessity to develop new approaches to course design that go beyond simply placing face-to-face teaching materials in a Learning Management System (LMS). To achieve the desired learning outcomes and encourage student retention, online course design and production requires not only specialist content knowledge, but also knowledge and implementation of: online pedagogical practices; instructional/educational design that facilitates and enhances learner experience in the online environment; and current educational technologies. Because multiple skills and knowledge are required, achieving quality outcomes for students in the online learning environment can be problematic if course design and production follows the traditional model of individual academics developing their courses in isolation. However, a collaborative team-based approach, which draws on the expertise of a range of professional, teaching and academic staff, is a way forward. This paper describes the collaborative process of re-designing a traditional face-to-face academic skills bridging course into a fully online course at the University of Newcastle and discusses the subsequent development of a model for a collaborative team-based approach to course design, production and evaluation. Further, the paper includes a discussion of the value of collaborative approaches to online course design and the concept of 'collective ownership'.

**Keywords:** online education, online course design, collaborative approach, collective ownership

### **Introduction**

The development of online courses in higher education has grown over the past decade as technology and infrastructure has become more accessible and universities respond to the demand for more flexible learning offerings. In Australia, 23 per cent of all Australian higher education students are currently classified as either fully external or part internal-part external (Norton, 2013). The University of Newcastle's *NeW Directions Strategic Plan 2013-2015* supports "the expansion and quality of online and 'blended' (virtual+) approaches across 80 per cent of the University's courses" by 2015 (The University of Newcastle, 2012, p. 5). With this growth, and with a growing body of literature, has emerged recognition that teaching and learning *online* requires different approaches than those taken in teaching and learning in a traditional face-to-face context (see, for example, Torrisi-Steele & Davis, 2000).

Drawing on recent discussion concerning best practice in online course design, this paper will describe the re-development of a previously face-to-face academic skills bridging course into a fully online offering delivered by the English Language and Foundation Studies Centre at the University of Newcastle. It will highlight the collaborative team-based approach to course design and production undertaken and trace the subsequent development of a formalised team-based model of online course design within the Centre. The benefits of collaborative team-based online course design will be discussed along with the concept of 'collective ownership'. It is important to point out here that the collaborative approach to online course design discussed in this paper refers to the *design* phase only, with course delivery during teaching periods remaining a distinct and, in the case under discussion, individual academic pursuit (Lipson, 2013).

## **Pedagogy and course design for online enabling education**

Recent online education literature argues that teaching pedagogies which fall into objectivist and behaviourist learning models - generally teacher-centred approaches which position the teacher or instructor as the 'expert' transmitting knowledge to the students - are problematic for online learning (Schell & Janicki, 2012). Online education scholars instead promote constructivist and social constructivist pedagogies for online learning environments (Lipson, 2013; Salmon, 2007; Schell & Janicki, 2012), emphasising that meaning is not acquired, but actively and subjectively constructed by learners as they relate new experiences to what they already know (Ally, 2004; Ertmer & Newby, 2013; Schell & Janicki, 2012; Swan, 2005). Proponents of such approaches argue that the academic or instructor is best positioned as a 'guide on the side' rather than a 'sage on the stage' (King, 1993) in contemporary learning environments.

However, while popular in the recent literature, constructivist pedagogies are also seen as problematic by some (Kirschner, Sweller & Clark, 2010). Constructivism may not be the most suitable strategy for all types of learners or disciplines (Ally, 2004; Ertmer & Newby, 2013), including inexperienced or beginner students who have not yet "learned how to learn" (Schell & Janicki, 2012, p.29). What emerges for online learning environments in the enabling education context, where most learners are unfamiliar with the expectations and challenges of tertiary education (Jeffrey & Hardy, 2010), is a need for a flexible or 'eclectic' (Honebein & Sink, 2012) approach to pedagogy drawing on aspects of behaviourism, cognitivism and constructivism in the design of teaching 'spaces' (Redmond, 2011). These spaces ideally contain the facility for new and inexperienced students to learn through supported interaction, discussion, reflection and interpretation as well as direct instruction (Ally, 2004; Ertmer & Newby, 2013).

To provide a quality teaching space online, incorporating non-traditional pedagogy, is complex (Caplan, 2004). It requires not only specialist knowledge in the specific content area, but time and consideration spent on good educational design to accommodate these pedagogical considerations (Redmond, 2011; Goodyear, 2005), and expertise in implementing current educational technologies. While we acknowledge that it is not impossible for individual academic staff to achieve this complex task working in the traditional solo model of course design and delivery, it is suggested by much of the online course design literature that an academic working in isolation may find it problematic to learn the requisite technology, adjust their pedagogical strategies, develop high-quality graphic, interactive or audio-visual materials, and find the time required for attention to sound educational design in the online environment (Caplan, 2004; Hixon, 2008; Goodyear, 2005).

Given the complexity of online course design and the range of knowledge and skills required to achieve a quality online teaching space, over a decade of literature agrees that online course design is most effective when approached collaboratively, with teams comprising individuals with disciplinary knowledge, technical expertise and educational design expertise, as well as — in some cases — library and administrative expertise (Caplan, 2004; Ellis & Phelps, 1999; Goodyear, 2005; Henry & Meadows, 2008; Hixon, 2008; Lipson, 2013; O'Reilly, 2004; Swan, Scott, Bogle & Matthews, 2014). A pivotal role within such teams is that of the educational designer. Goodyear (2005) defines educational design as "the set of practices involved in constructing representations of how to support learning in particular cases" (p. 82), while Caplan (2004) provides a list of the roles that instructional (or educational) designers perform in the online course design and production process. These roles are wide-ranging and include: input into pedagogical and curricula decisions; decisions about course structure and sequence; technical and editorial work; as well as project management throughout the course development and production phases. And where there may be resistance to developing online courses, educational designers are able to act as agents of change (O'Reilly, 2004; Torrisi-Steele & Davis, 2000).

### **Online enabling education at the University of Newcastle**

In 2012, the English Language and Foundation Studies Centre at the University of Newcastle launched its previously paper-based distance program, Open Foundation by Distance, as a fully online program delivered within the Blackboard LMS (Goode & Clark, 2012). Renamed Open Foundation Online, the program now comprises fourteen online courses offered over two semesters and enrolls 400–500 students each year. The re-development of Open Foundation Online will not be detailed here, but there are particular aspects that are relevant to this discussion. First, an experienced educational designer was hired to redesign the program as an online offering and project manage the immense course production process; and second, it was quickly understood by the educational designer that other human resources were required to: a) produce the online program to a tight deadline; and b) ensure the maintenance and quality of the program in the future. These 'other human resources' were sourced in-house and had backgrounds in publishing, teaching, communications and administration.

Following the successful implementation of the fourteen Open Foundation Online courses, it was decided that the Centre should expand its online offerings by developing an online study option in the pre-semester UoNPrep program. UoNPrep is a program of short bridging courses designed for enabling and undergraduate students commencing study at the University of Newcastle. The courses are delivered in the Summer and Winter semester recesses, and run intensively across several days or weeks. UoNPrep enrolls approximately 3,000 students annually, and until 2014 was offered only in face-to-face mode.

### **Developing Academic Survival Skills Online**

In mid-2013, Academic Survival Skills was chosen to be the Centre's first UoNPrep course to be offered online. The course was chosen for re-development for three reasons. First, the subject matter — academic skills for tertiary studies — complemented the already successful Week Zero online orientation for commencing Open Foundation Online students (Goode, 2013; Goode & Clark, 2012) by extending the basic academic skills preparation provided in the orientation program. Second, as an open access and equity education provider, the provision of online programs is an important part of the Centre's mission to improve access to opportunities to higher education for non-traditional students, including those who live far from a University campus or have family or work commitments which prohibit them from attending regular classes. Third, the course was deemed to have wide appeal for both enabling and undergraduate students, providing a generic, yet relevant, introduction to tertiary studies for commencing students in a variety of disciplines.

Once the decision to re-develop the course was made by the Centre's Executive, the first step was to bring together a small team of experienced professional, teaching and academic staff to work on the project. The team consisted of the Digital Content Manager (DCM), the Online Learning Coordinator (OLC) and two content specialists: the teaching academic who delivers the course face-to-face at the University's main campus, and the Centre's Deputy Director, who had developed and delivered the course many years before. The DCM and OLC had had a two-year history of working together in the Open Foundation Online program, and continued and strengthened that working relationship while developing Academic Survival Skills Online. They brought skills in web design and educational technology, as well as knowledge and experience in educational design, student support and project management. While the academics on the team had no previous experience working online and had not worked together or with the DCM or OLC in the past, they were highly experienced teachers with an intimate knowledge of the content and a shared interest in supporting students from diverse backgrounds.

Before the first whole-team meeting in August 2013, the DCM and OLC scoped the existing on-campus course material and developed a preliminary course structure, sequence of topics, assessment strategy and production schedule. The draft structure and timeline was

then brought to the whole team for review and consolidation. This first meeting resulted in several changes to the course topic sequence based on team members' experience of the needs of commencing students and yielded a discussion about the importance of introducing an overarching metaphor which would guide instructional language and the look-and-feel of the course. Specific content provision and production tasks were allocated collaboratively according to the interests, strengths and availability of team members and a timeline was agreed upon.

Over the following six months the DCM and OLC shared project management responsibilities and undertook tasks such as: briefing external multimedia production companies and University-based videographers; developing storyboard and video script templates; making decisions about the presentation of content; producing pdf resources and instructional videos; arranging for evaluation and promotion of the course; writing instructional content; and building the site within the LMS. Many of the storyboards, video scripts and course resources were written by the two academics, who shared these tasks according to their availability. Once drafts were complete the OLC and DCM edited, templated and built each element into the LMS. Whole-team meetings were held on a semi-regular basis during the development process to share progress and resolve arising course design and content issues, while the OLC and DCM often met formally and informally to clarify project management and production tasks.

### **The benefits of collaboration**

Collaboration has long been part of academic research culture, with research teams being the norm rather than research individuals (Bozeman, Fay & Slade, 2012). Collaboration in teaching and learning, however, does not share the same level of acceptance within the academy. Because working collaboratively in the development of courses is a new way to approach course design for most academics (Ellis & Phelps, 1999; Xu & Morris, 2007), one of the purposes of this paper is to outline the benefits of this mode of working. Collaboration in course design: yields opportunities for staff development; improves quality of course design through evaluation, feedback and reflection; encourages innovation through the exchange of ideas; and fosters concepts of collective ownership among team members.

#### *Staff development*

One of the benefits arising from a collaborative team-based approach to online course design is the opportunity for peer-to-peer professional development in the form of knowledge and skill transfer between team members (O'Reilly, 2004; Torrisi-Steele & Davis, 2000; Xu & Morris, 2007). For academic teaching staff, taking on the challenge of considering new pedagogical approaches and implementing those approaches using educational technology often needs to be supported with professional development. That professional development can take place through the transference of knowledge between team members working together on a common project. For example, as team members, educational designers act as change agents who stimulate innovation and pass on their skills and knowledge of online pedagogies and educational technologies to others in the team (O'Reilly, 2004; Torrisi-Steele & Davis, 2000).

Throughout the development of Academic Survival Skills Online, pedagogical approaches and technical solutions for the online learning environment were discussed and clarified at whole-team meetings. It was evident that shifting from developing academic texts and facilitating face-to-face classes, to 'writing for the web' and designing multimedia content for online delivery was a new experience for the academics involved in the course re-development. However, through working together as a team to plan and create content, the OLC and DCM's knowledge and experience regarding online pedagogy and educational technology was transferred to the content specialists. An added benefit was the growth of awareness of the time, consideration and expertise taken to design high quality online teaching and learning spaces by the Centre's Deputy Director.

### *Quality through evaluation, feedback and reflection*

Unlike in secondary and primary education, it is also not always a requirement of teaching academics to undergo formalised training in teaching and learning methods. Torrisi-Steele and Davis (2000) acknowledge that teaching in universities is not always 'effective' and that this can occur due to lack of awareness of best practice teaching and learning methods and lack of reflection on teaching practice. Xu and Morris (2007) suggest that a collaborative model for online course design can facilitate reflection on practice. They report participants in a course design team being more mindful and reflective about the quality of their contributions to the course design because those contributions would be shared and discussed among peer team members. Further, as discussed above, educational designers can share with team members their knowledge of effective online teaching methods and pedagogies such that quality learning experiences for students are enhanced. In a well-managed online course design project that employs a design model where evaluation is at the centre, such as Crawford's (2004) Eternal, Synergistic Design Model, each aspect of the course design is evaluated and adjusted according to feedback along the way to ensure quality. Evaluation and feedback from team members, as well as from those external to the core team, is central to the design process and can happen formally or informally.

In the case of Academic Survival Skills Online, working in a small course development team meant that all aspects of the course were informally evaluated by other team members from draft through to final form. For example, the content specialists added valuable input to the original course structure put forward by the OLC and DCM, suggesting that the modules be condensed from ten to nine by placing introductory course information outside of the module structure and into a dedicated 'Course Overview' page, which served both to lessen the perceived study 'burden' on students, and to highlight essential whole-course information. Formal evaluation was arranged towards the end of the re-development process, with six former Open Foundation Online students invited to provide detailed feedback on each of the modules. As a result of this feedback, several amendments were made to the way expectations and instructions were communicated in the course, for example, in the longer modules, advice was added for students to 'take a break' rather than try to complete the module in one sitting. In addition a number of technical adjustments were made to achieve enhanced user experience. Subsequently, formal evaluation after the first offering of the course in February 2014 evidenced high student satisfaction and strongly positive experiences (outcomes which will be detailed in a forthcoming paper).

### *Innovation through the exchange of ideas*

However, designing quality online learning spaces is not just about sequence, structure and technology. In their paper investigating small world networks, creativity and Broadway musicals, Uzzi and Spiro (2005) state: "We know that creativity is spurred when diverse ideas are united or when creative material in one domain inspires or forces fresh thinking in another" (p. 447). The benefits of creativity and the innovation it produces are not limited to the creative and performing arts. Many teachers and academics will agree that course and assessment design also requires creativity — both online and off (Conole et al., 2008; Conrad & Donaldson, 2011; Fink, 2013). In a collaborative team-based approach to the design of online courses, the process of sharing and 'trying out' of ideas between team members can encourage creativity and innovation and "force(s) fresh thinking" (Uzzi & Spiro, 2005, p.447).

In her small study of collaborative design of online assessment, O'Reilly (2004) found that teaching innovations were created through the exchange of ideas in small collaborative teams and that innovation in assessment can enhance student learning. The experience of the team members who designed Academic Survival Skills Online supports these findings. While we can't measure or see the result of 'what might have been' had the course been developed by an individual or by team members working in isolation on specific elements, many of the ideas around assessment, look-and-feel, course structure and instructional

features were developed through interactions between team members which led to shared inspiration. For example, at the initial whole-team meeting one of the academic team members suggested that we should design the course around a central guiding metaphor. Later in the course development process, the OLC remembered a map of the 'Island of Research' (Harburg, 1966) which had been given to her during a research methods course. This prompted discussions among the team about designing the course as an introduction to the 'Land of Academia'. It was decided that students would journey through different locations throughout the course (from Resource Jungle to Practice Plains) and unlock various 'survival kits' containing academic skills and techniques. This guiding metaphor evolved as a result of pooling the collective experience and creativity of the course development team members.

#### *Team membership and concepts of collective ownership*

As discussed earlier, team membership is at odds with traditional ways of teaching in academia. However being part of a team has been found by Torrisi-Steele and Davis (2000) to be a positive aspect of online collaborative course design and development, and one which has implications for perceptions of 'ownership' of a course. As part of their research into the effects of psychological ownership and organisations, Pierce, Kostova and Dirks (2001) assert that the concept of 'ownership' allows individuals to feel in control, establish self-identity, and to have a territory or space to possess. Regardless of intellectual property laws and rules, feelings of psychological ownership have also been found to increase a "sense of responsibility for work outputs" and to "nurture and develop the target of ownership" (Pierce et al. 2001, p. 303). So, not only can feelings of ownership over course design be seen to have benefits for individuals, psychological ownership may also have benefits for student experience and learning where the "target of ownership" is the course that has been 'nurtured' to ensure its quality.

While some, such as Hixon (2007; 2008), suggest that psychological ownership over instructional decisions should remain with individual academic staff despite the input of other team members, the experience in designing Academic Survival Skills Online suggests that another concept of 'ownership' is more relevant: that of *collective* psychological ownership. Collective psychological ownership is defined by Pierce and Jussila (2010) as "the collectively held sense (feeling) that [the] target of ownership (or a piece of that target) is collectively 'ours'" (p. 812). Furthermore, they posit that this feeling can have significant positive effects, findings that were also reflected in Druskat and Pescosolido's (2002) examination of effective teamwork models for self-managing work teams. They identified the importance of "a shared mental model of psychological ownership" (p. 291) which results in members feeling proud of the team and its products or 'outputs' and caring about making efforts to produce good performances. It is this sense of collective ownership, engendered by the numerous instances in which content and ideas were collaboratively generated during the course design process, that the Academic Survival Skills Online course design team members feel. For example, collective ownership has been evidenced practically through team members co-presenting to English Language and Foundation Studies Centre staff about the course. In addition, the OLC and DCM feel 'invested' in the success of Academic Survival Skills Online to a greater degree than other online projects they have worked on where the team-based collaborative approach was not employed.

#### **Towards a model for collaborative team-based online course design**

The experience of working collaboratively in a small team to re-develop a traditional face-to-face short course into a fully online course has been a positive one from which we learned many lessons. What emerged as we began to think about similar future projects was the need to formalise the way of working that had been so successful and produced a course that received excellent feedback from students. To this end, the OLC and DCM formulated a collaborative team-based model for the design and development of online courses and

projects (Figure 1), to be put forward for consideration and ratification by the Centre's Teaching and Learning Committee.

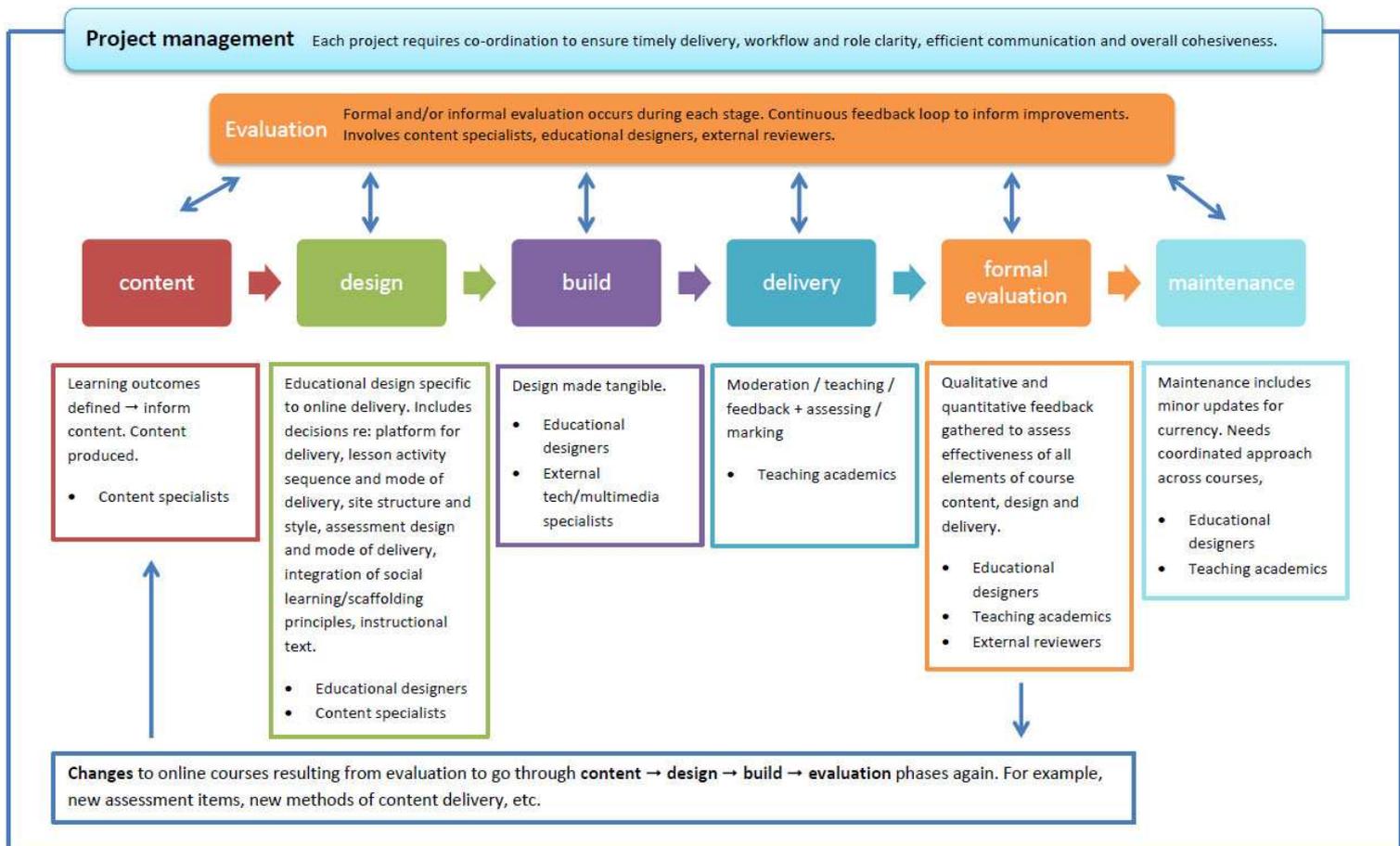


Figure 1. A collaborative, team-based model for online course design

While still only in draft form, it is hoped that this model will inform future online course development in the Centre. It must be noted that, while serving as a guide, the model is intended to be flexible. For example, project management could be performed by the OLC, the DCM, or any other academic, professional or teaching staff member who has the time and project management skills to oversee the development and production of materials. Furthermore, the content specialist could, but need not be, the same individual as the teaching academic who facilitates the course during a semester or term.

Importantly however, the model requires: a) constant evaluation which feeds back into course design and development; and b) consistent project management to ensure clear communication between team members and the timely production of quality digital content. The model has also been designed to acknowledge the varied expertise of course development team members while promoting a collaborative way of working where collective psychological ownership is fostered and quality courses are designed and delivered. It therefore adds to the growing body of literature (Caplan, 2004; Ellis & Phelps, 1999; Goodyear, 2005; Henry & Meadows, 2008; Hixon, 2008; Lipson, 2013; O'Reilly, 2004; Swan et al., 2014) advocating for collaborative, multi-skilled teams of staff working together to produce high quality online courses in higher education. The draft model is currently guiding the development of a second online UoNPrep course, and further enhancements to Academic Survival Skills Online.

## **Conclusion**

The process of re-developing Academic Survival Skills for online delivery was a collaborative and creative endeavour which resulted in quality outcomes for students and a variety of benefits for staff. Through a team approach to course design, academic staff who were new to designing and delivering online courses were able to maintain an active and valued role in the course development process while learning from professional staff with backgrounds in online course design and project management. Inviting formal and informal feedback and evaluation during the development phase enhanced the quality of the course design and the student experience, and led to innovation through the exchange of ideas among team members. Furthermore, the team developed a strong sense of collective ownership over the project and resultant course, and built mutual respect for each other's diverse skill sets and contributions. The positive outcomes and experiences described in this paper have underpinned the development of a collaborative, team-based model of course design. It is hoped that this model may guide the future production of online courses in the University of Newcastle's English Language and Foundation Studies Centre. The model recognises that the development of quality online courses is "a complex endeavour" (Caplan, 2004, p. 186) which requires not only specialist content knowledge and teaching experience, but project management skills, knowledge of online pedagogy, technical abilities and educational design expertise. The course development case described in this paper illustrates that producing a high quality online course is often best undertaken by collaborative teams who possess a range of complementary skills and expertise.

## References

- Ally, M. (2004). Foundations of educational theory for online learning. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 3–31). Athabasca, Canada: Athabasca University. Retrieved from [http://cde.athabascau.ca/online\\_book](http://cde.athabascau.ca/online_book)
- Bozeman, B., Fay, D., & Slade, C. P. (2013). Research Collaboration in Universities and Academic Entrepreneurship: The-State-of-the-Art. *Journal Of Technology Transfer*, 38(1), 1–67. doi:<http://dx.doi.org.library.newcastle.edu.au/10.1007/s10961-012-9281-8>
- Caplan, D. (2004). The development of online courses. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 175–194). Athabasca, Canada: Athabasca University. Retrieved from [http://cde.athabascau.ca/online\\_book](http://cde.athabascau.ca/online_book)
- Conole, G., Brasher, A., Cross, S., Weller, M., Clark, P. & Culver, J. (2008). Visualising learning design to foster and support good practice and creativity. *Educational Media International*, 45(3), 177–194.
- Conrad, R. & Donaldson, J. A. (2011) *Engaging the online learner: Activities and resources for creative instruction*. San Francisco: Jossey-Bass.
- Crawford, C. (2004). Non-linear instructional design model: Eternal, synergistic design and development. *British Journal of Educational Technology*, 35(4), 413–420.
- Druskat, V. U. & Pescosolido, A. T. (2002). The context of effective teamwork mental models of self-managing teams: Ownership, learning and heedful interrelating. *Human Relations*, 55(3), 283–314.
- Ertmer, P. A. & Newby, T. J. (2013). Behaviourism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly*, 26(2), 43–71.
- Fink, L. D. (2013). *Creating significant learning experiences, revised and updated: An integrated approach to designing college courses*. San Francisco: Jossey-Bass.
- Goode, E. (2013). *Encouraging engagement and enhancing student experience: Can an online orientation help?* Paper presented at the National Association of Enabling Educators of Australia Conference; Flexibility: Pathways to Participation, 27–29 November 2013, Melbourne, Australia. Retrieved from <http://enablingeducators.org/conference/2013.html>
- Goode, E. & Clark, H. (2012). 'Week Zero' in *Open Foundation by Distance: The successes and challenges of embedding an online orientation into an enabling distance program*. Paper presented at the Create and Collaborate: Foundation and Bridging Educators New Zealand Inaugural Conference, 3–4 December 2012, Auckland, New Zealand. Retrieved from <https://ako.aotearoa.ac.nz/ako-aotearoa/ako-aotearoa/resources/files/fabenz-proceedings-2012>
- Goodyear, P. (2005). Educational design and networked learning: Patterns, pattern languages and design practice. *Australasian Journal of Educational Technology*, 21(1), 82–101.
- Harburg, E. (1966). *The Island of Research* [Image]. Retrieved from <http://www.flickr.com/photos/barbourians/5660570787>

Henry, J. & Meadows, J. (2008). An absolutely riveting online course: nine principles for excellence in web-based teaching. *Canadian Journal of Learning and Technology*, 34(1). Retrieved from <http://www.cjlt.ca>

Hixon, E. (2007). *Working as a team: Collaborative online course development*. Paper presented at the 23<sup>rd</sup> Annual Conference on Distance Teaching & Learning, 8–10 August 2007, Madison, Wisconsin. Retrieved from [www.uwex.edu/disted/conference/Resource\\_library/.../07\\_5084.pdf](http://www.uwex.edu/disted/conference/Resource_library/.../07_5084.pdf)

Hixon, E. (2008). Team-based online course development: A case study of collaboration models. *Online Journal of Distance Learning Administration*, XI(IV). Retrieved from <http://www.westga.edu/~distance/ojdl/winter114/hixon114.html>

Honebein, P. C. & Sink, D. L. (2012). The practice of eclectic instructional design. *Performance Improvement*, 51(10), 26–31.

Jeffrey, R. & Hardie, J. (2010). "Hungry for it": Mature, second chance students in a "do more with less" tertiary funding environment. In J. Terrell (Ed.), *Proceedings of the 9th Conference of the New Zealand Association of Bridging Educators* (pp. 90–102). Auckland: Unitec Institute of Technology.

King, A. (1993). From sage on the stage to guide on the side. *College Teaching*, 41(1), 30–35.

Kirschner, P. A., Sweller, J. & Clark, R. E. (2010). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential and inquiry-based teaching. *Educational Psychologist*, 41(2), 75–86.

Lipson, K. (2013). *Dealing with megaclasses in an online environment*. Paper presented at the 59<sup>th</sup> ISI World Statistics Congress, 25–30 August 2013, Hong Kong. Retrieved from <http://www.statistics.gov.hk/wsc/IPS040-P3-S.pdf>

Norton, A. (2013). *The online evolution: when technology meets tradition in higher education*, Grattan Institute. Retrieved from [http://grattan.edu.au/static/files/assets/ed9a3429/186\\_online\\_higher\\_education.pdf](http://grattan.edu.au/static/files/assets/ed9a3429/186_online_higher_education.pdf)

O'Reilly, M. (2004). Educational design as transdisciplinary partnership: Supporting assessment design for online. In R. Atkinson, C. McBeath, D. Jonal-Dwyer & R. Phillips (Eds.), *Beyond the Comfort Zone: Proceedings of the 21<sup>st</sup> ASCILITE Conference* (pp. 724–733). Perth: ASCILITE. Retrieved from <http://www.ascilite.org.au/conferences/perth04/procs/oreilly.html>

Pierce, J. L., Kostova, T. & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *The Academy of Management Review*, 26(2), 298–310.

Pierce, J. & Jussila, I. (2010). Collective psychological ownership within the work and organizational context: Construct introduction and elaboration. *Journal of Organizational Behavior*, 31(6), 810–834.

Redmond, P. (2011). From face-to-face teaching to online teaching: Pedagogical transitions. In G. Williams, P. Statham, N. Brown & B. Cleland (Eds.), *Changing Demands, Changing Directions: Proceedings ascilite Hobart 2011* (pp. 1050–1060). Hobart: ASCILITE. Retrieved from <http://www.ascilite.org/conferences/hobart11/downloads/ProceedingsV3.pdf>

Salmon, G. (2007). 80:20 for e-moderators. *cms-journal*, 29, 39–43.

Schell, G. P. & Janicki, T. J. (2012). Online course pedagogy and the constructivist learning model. *Journal of the Southern Association for Information Systems*, 1(1), 26–36.

Swan, K. (2005). A constructivist model for thinking about learning online. In J. Bourne & J. C. Moore (Eds.), *Elements of quality online education: Engaging communities*. Needham, MA: Sloan-C. Retrieved from [http://www.rcet.org/research/publications/constructivist\\_theory.pdf](http://www.rcet.org/research/publications/constructivist_theory.pdf)

Swan, K., Scott, L.D., Bogle, L.R. & Matthews, D. B. (2014). A collaborative, design-based approach to improving an online program. *Internet and Higher Education*, 21, 74–81.

The University of Newcastle (2012). *NeW Directions Strategic Plan 2013-2015*. Retrieved from [http://www.newcastle.edu.au/\\_data/assets/pdf\\_file/0004/33538/NeW-Directions-StrategicPlan.pdf](http://www.newcastle.edu.au/_data/assets/pdf_file/0004/33538/NeW-Directions-StrategicPlan.pdf)

Torrise-Steele, G. & Davis, G. (2000). “A website for my subject”: The experiences of some academics' engagement with educational designers in a team based approach to developing online learning materials. *Australian Journal of Educational Technology*, 16(3), 283–301.

Uzzi, B. & Spiro, J. (2005). Collaboration and creativity: The small world problem. *American Journal of Sociology*, 111(2), 447–504.

Xu, H. & Morris, L. (2007). Collaborative course development for online courses. *Innovative Higher Education*, 32(1), 35–47.