Online student centred discussion: Creating a collaborative learning environment

Robert C. Dixon and Kathryn C. Dixon
School of Education
Curtin University of Technology, Perth, Western Australia

Mandi Axmann
Open Universities Australia

Many universities both in Australia and overseas are increasingly transferring courses and programs at both graduate and undergraduate level into fully interactive online environments. Online learning and teaching requires different and complimentary skill sets on the part of university teachers. Very little has been documented thus far in regard to training university academics to teach effectively in these environments. This paper investigates the pilot study implementation of the Online Student Centred Discussion Program (OSCD) as designed by Axmann (2006) across the cooperating institutions engaged with Open Universities Australia. The program has been based on Wright and Shoop's (2003) Student-Centred Discussion Model which places ongoing discussion at the centre of the learning process. The OSCD is designed to develop online protocols, peer- assessment strategies, critical thinking skills as well as promoting collaborative learning through ongoing engagement with online discussion environments. The research reports upon the results of a thirteen item questionnaire which was administered to forty nine participants throughout 2008. The findings indicated that academic staff engaged in learning and teaching online found the OSCD Program to be of value for a number of reasons. The program allowed academics to gain an authentic student experience, something which many of them had forgotten. It also highlighted the varying and different communication patterns and protocols associated with online learning and the development of quite distinct forms of language that are used in this mode of interaction. The research also revealed the need to re-conceptualise the overall instructional design of online learning environments in their own right and not as sub-sets or extensions of traditional face-to face methods of interaction.

Keywords: student centred discussion, collaborative learning, online learning

Introduction

During 2008 Curtin University of Technology engaged with Open Universities Australia to enrol academic staff members who were running online courses, into the Online Student Centred Discussion (OSCD) program. The aim was to determine the efficacy of OSCD as a program for training tutors to improve the quality and quantity of student interaction during their teaching, to encourage the skills required to create a collaborative learning environment for students and to gauge participant reflections of their experiences.

The student centred discussion model (SCD) on which the OSCD program is based, "Implementing Quality Discussions through Student Centred Discussions" was designed by Wright and Shoop (2003) as a tool for training students to develop, practice and strengthen efficient communication and interpersonal thinking skills in face-to-face tutorial group discussions. Axmann (2006) adapted this model for the online environment in order to engage student discussion and interactive skills. Axmann (2006) assert that the OSCD is designed to develop online protocols and communication tools to enhance critical thinking skills, provide for peer assessment, group activities and progress lifelong learning skills in a cooperative collaborative manner.

Axmann (2007) noted that the tutor's role in online learning, which includes moderating online discussions, facilitating group learning, problem solving, and guidance have been neglected in terms of their training needs. Moreover, there have not yet been practical proposals concerning "scaling up" online learning so that it can manage even current learner-tutor ratios handled by conventional distance learning, much less the usually large learner numbers facing open and distance learning providers. Since there are numerous ways

of tutoring in the online environment, it became important to ensure some level of consistency amongst the various tutors and how they facilitate the online learning environment

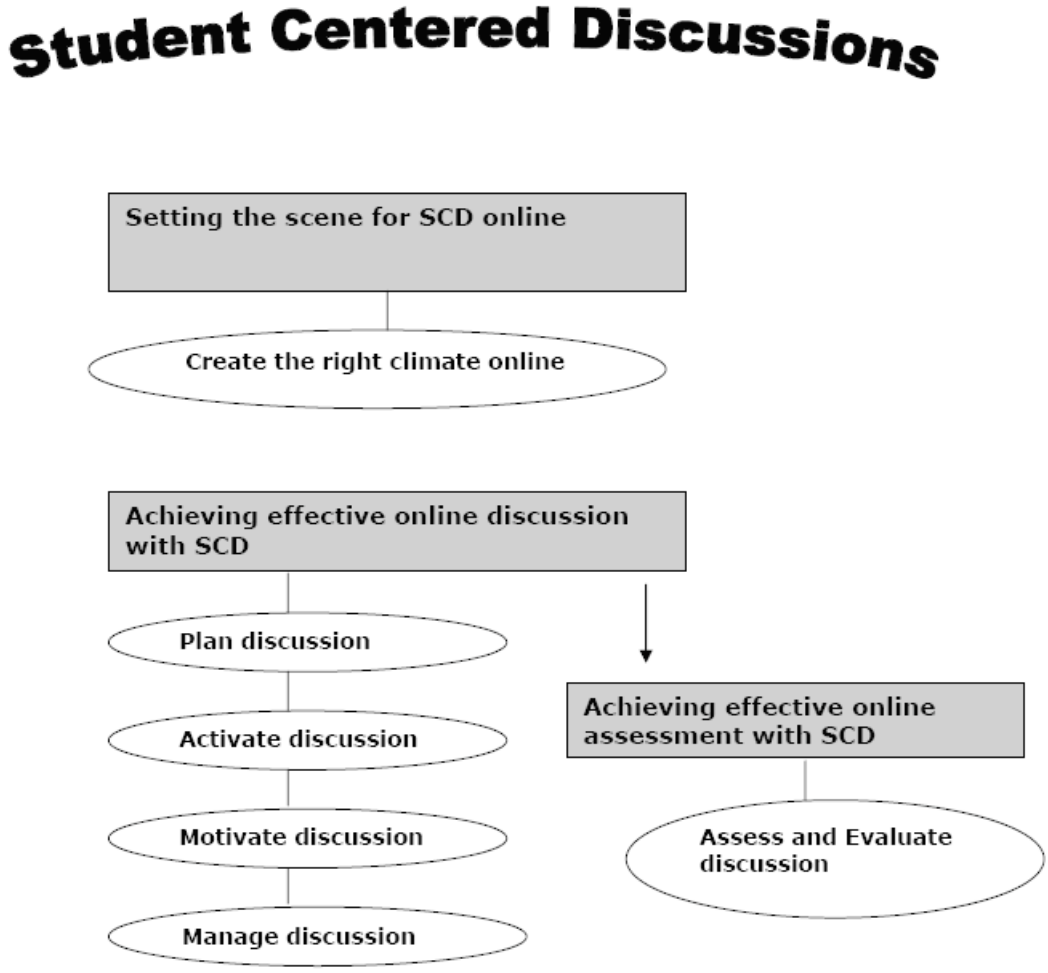

Figure 1: Online student centred discussion model (Axmann, 2006)

The model underpinning the program (Fig1) depends upon developing learning facilitation in a web based environment, highlighting the differences between face to face and online learning (e.g. emphasis on verbal as opposed to written skills, summarising on the spot as opposed to time to reflect on summaries, single conversation threads as compared to unrestricted online time and space variables, ephemera versus recorded content and management of equality of student contribution as opposed to encouraging participation).Computer mediated communication is developed in terms of its characteristics (synchronous versus asynchronous), its benefits and limitations and the range of competencies required to effect successful interaction. The "know thyself" edict is made apparent through associated profiling of both student and facilitator using a self critique matrix, composed of a strengths category, a skills inventory and recognition of personal attitudes values and beliefs evaluation and reflection upon how these impact on the online environment.

The OSCD model concerns an attempt to achieve effective online discussion through modules regarding planning, activating, motivating and managing discussion. Planning is couched in terms of the benefits of online discussion, such as up to date and relevant information, the cost effectiveness and ease of change, the ease of adaptation to changes such as current events and the ability to respond to problems efficiently. More importantly the planning module underlines goal setting, reiterates climate setting, and looks at time management issues, closure and evaluation. Important characteristics which are unique to adult learners, such as autonomous self directed learning, the accumulation of life experiences and knowledge, goal orientation, relevancy oriented, practical, respectful treatment are seen as integral to successful communication and collaboration.

In order to create a climate that is conducive for online discussions, the facilitators are required to engage in climate setting activities. Learning activities that create a positive atmosphere are namely ice-breakers, establishing ground rules for interaction, setting expectations of both facilitator and student, and establishing a learning contract with the student for the duration of the course (Shoop & Wright, 2003). A key element of the model is in the climate creating challenges associated with online learning and discussion. Activities such as conducting a climate check, developing an agenda (e.g. creating weekly topics for discussion), encouraging discussion within the forum provided, networking with fellow students and undertaking a series of icebreakers to facilitate a learning community atmosphere. It is this section which aims to promulgate facilitator expectation of both self and students and the use of "netiquette" in an attempt to civilise participants' contributions and maintain a professional atmosphere.

Facilitators are required to (i) *pro-actively plan* the online learning interaction at the start of the course. Elements to be considered in the planning are the general profile of the student population, setting challenging and achievable goals and consideration to the potential barriers of online learning (Jones, 2007; McKay & Martin, 2007). Online discussion is (ii) *activated* by the active reading process, active questioning and active responding. Both the facilitator and the students are required to activate the discussion by engaging in these activities.

During the course of the online discussion, the facilitator engages in mentoring activities to (iii*) manage and motivate* the discussion. The facilitator is required to be responsive and resilient in managing the discussion, to follow the principles of building an online community, to manage group dynamics and group development and to structure online collaborative group activities (Salmon, 2000; Bruckman, 2002). Students are required to assess their own and their peers online interaction. Similarly, active participation is encouraged through reading and responding to pertinent texts such as books or journal articles and the active questioning of important issues, which in turn facilitate active responses from participants. This is underpinned by Bloom's Taxonomy (1984); knowledge, comprehension, application, analysis, synthesis and evaluation. The module in the program which focuses upon motivating discussion further develops the psychology of adult learning, and interprets the key motivating factors (social relationships, social welfare, personal advancement, escape/stimulation and cognitive interest) as well as the key barriers (fear of the unfamiliar, fear of displaying one's writing abilities, fear of going public, anger, withdrawal and indifference) and suggests methods to take advantage of these traits and facilitate effective discussion. Managing discussion, being responsive and resilient and developing a vibrant, active, collaborative discussion is emphasised. Skills for building online learning communities, managing group dynamics and the introduction of a collaborative group project is developed.

Finally the OSCD model completes the loop with (iv) *assessment and evaluation* processes, including self, peer and facilitator formative and summative assessment as well as developing mechanisms for feedback. The online course is also in terms of access, interactivity and value-adding criteria.

As online learning moves from a marginal to an integral part of the overall educational and training arenas, questions and interventions related to learner success (however "success" is defined) are of both theoretical and practical importance (Berge & Yi-Ping, 2004; Axmann, 2001). Communication technologies are used in education to enhance interaction between all participants in the educational transaction. Student-teacher interaction is supported in online learning in a large number of varieties and formats that include asynchronous and synchronous communication using text, audio, and video. The facility of such communications leads many new teachers to be overwhelmed by the quantity of student communications and by the rise in students' expectations for immediate responses (Ally, 2004). This view is supported by a further review of existing literature.

Review of the literature

The creation of a discussion forum to encourage student interaction whilst undertaking studies online has become de rigueur as increasingly sophisticated learning management systems begin to pervade higher education. Pilkington & Walker (2003) assert that effective teaching and learning is predicated on the forum's capacity to facilitate collaborative and critical discussion to '…develop student ability to reason"

Fung (2004) points to the ubiquitous literature which lauds the successful impact of online communication in facilitating effective learning, where;

> …learners were found to have become more autonomous, (Hollenbeck, 1998), more critical in thinking (McDonald & Gabriel, 1998; Borra´s, 1999), and more effective in knowledge synthesis (Borra´s, 1999; Hong et al., Lai and Holton, 2001). Others have reported that

students performed better in their courses (Merron, 1999; Anderson et al., 2000; Weller, 2000); still others (see Lake, 1999) discovered that online communication had provided psychological support, reducing the feeling of isolation and drop-out rates.

Garrison & Cleveland-Innes (2005) report on the primary importance of student interaction in the virtual environment and reason that if the purpose of educational experience is predicated on structure designed to achieve acceptable outcomes, online interaction must therefore be structured and systematic in order to achieve predetermined goals. They point out that the nature of interaction in a "community of enquiry" needs to have elements of critical thinking, the exchange of ideas, critical reflection, modelling and scaffolding of key ideas, but where interaction moves beyond the merely social towards a more critical interaction between all participants.

Shea (2006) interestingly conceptualised the moving foundations and assumptions underpinning online learning per se as the philosophical shift from objectivism towards constructivism, the theoretical shift from behaviourism to the socio-cognitive and the pedagogical shift from direct instruction to facilitation of collaborative learning.

Much of the literature is now beginning to emerge regarding the nature of collaborative online learning, which is a key element of the OSCD. The terminology regarding individuals working together in groups shifts from 'collaborative learning' to 'cooperative learning', 'group learning' and 'group investigation' with incremental and varying distinctions. Davidson (1994) indicates that there are six approaches to the generic term, cooperative learning. These approaches include *student team learning, learning together, group investigation, structural approach, complex instruction and the collaborative approach*. Davidson (1994) suggests that the five major attributes of collaborative learning include the provision of a common task which is suitable for group work, the facilitation of small group learning, the development of cooperative behaviours, interdependence between group members and individual responsibility and accountability.

Much of the educational research which is currently available indicates that effectively designed collaborative learning projects assist participants to develop appropriate cooperative behaviours which in turn lead to enhanced learning outcomes. According to Slavin (1994) and Johnson and Johnson (1994) it is not enough for designers and facilitators of collaborative learning to provide simply a channel for communication. Ongoing and comprehensive monitoring of student behaviour and interaction along with sufficient guidance throughout the duration of each project must be embedded in the initial instructional design on order for each group to work effectively.

Jonassen et al. (1995) posit that it is social interaction that is most important in students' achievement of educational objectives. Collaboration is essential to create effective learning environments. The central theme in any collaborative enterprise is to discuss and reflect upon existing frameworks which support values and beliefs for it is these that inform much of our interactions throughout life. By entering into the collaborative model of problem solving each participant must, by the nature of the collaborative process, engage with peers to argue and negotiate the construction of knowledge (Harasim, 1989). According to Jonassen et al. (1995), the major components of a collaborative approach to learning include the provision of opportunities to enhance personal construction of knowledge. This can be achieved by setting an appropriate context for the learning as well as facilitating collaboration amongst learners through the use of conversation.

According to the literature there are a number of assumptions that underpin collaborative learning. Firstly, we assume that knowledge is created through interaction and not simply transferred. Secondly, learning needs to be student-centred (and particularly in the case of adult learners, with consideration given to individual experience and understanding). Thirdly, the educator's role is that of facilitator, developer and provider of the learning space or habitat whether that occurs in the physical face-to face setting or through the use of online learning environments.

Matthews et al. (1995) went further to expand on these commonly held assumptions to indicate that learning in an active mode is more effective than passively receiving knowledge and that participating in small group activities develops higher-order critical thinking skills which enhance the individual's ability to use knowledge. Their research also posited that accepting responsibility for learning as an individual and as a member of a group leads to enhanced intellectual development as well as increasing retention rates and each participant's sense of success.

The importance of social and cultural influences on personal development as well as task navigation is becoming more important particularly with the rise of e-Learning as facilitated through the Internet. Social

interaction, whether it be in physical or virtual manifestations does not simply offer a kind of intellectual nourishment in order to assimilate new knowledge but stimulates an activity of accommodation (Morin, 2000). According to Dillembourg (1999) this perspective is the basis for a socio-constructivist approach to collaborative learning. In this way learning is a dynamic process whereby even students with the same level of development (as is often the case with adult learners) may benefit from the interaction as each individual participates from their own unique perspective and this leads to learning.

As adult learners, these individuals have different needs, motivations, incentives and perspectives to those of younger students. Knowles et al (2005) in his work on "adult learners" identified that they need to have a level of self-determination and control with regards to their learning (Knowles, Elwood, Holton III, & Swanson, 2005). They come to a task with a depth of life experience which they feel should be recognised. This experience influences their perspectives and they frequently feel that it is useful in providing insights about solving a problem alone or collaboration with others (Long, 2004). Adults who have a problem or issue with their studies are most receptive to learning experiences through the online environment, when discussion and collaborative activities are designed to assist them to solve or resolve them.

The study

The pilot study tracked 49 participants from collaborating OUA institutions in three study periods, beginning in late January of 2008 and concluding in May of the same year. The participants were asked to respond to ten items that were directly linked to components of the program and were then encouraged to complete three open-ended items which were designed to elicit their overall feelings, attitudes towards and reflections on their experiences. The data collected were subjected to SPSS Text Analysis for Surveys, (version 2) in order to ascertain frequencies of responses, linguistic and semantic groups which provided context for the open ended reflections. SPSS Text Analysis authors, claim that their software uses "advanced linguistic technologies to extract and classify key concepts…and can code open ended text consistently and reliably" (SPSS, p.1-2).

Content analysis is an important research technique in the Social Sciences in that it makes sense of data as "symbolic phenomena" and is analysed in an unobtrusive way (Krippendorff, 1980). Furthermore, content analysis works within a framework in which the context of the data, how the analysis partitions reality, the target of the content analysis, inference and validity, combine to create a successful outcome;

> The framework is intended to serve three purposes; prescriptive, analytical and methodological. It is prescriptive in the sense that it should drive the conceptualization and design of practical content analyses for any given circumstance; analytical in the sense that it should facilitate the critical examination of content analysis results obtained by others; and methodological in the sense that it should direct the growth and systematic improvement of methods for content analysis. (Krippendorff, 1980, p. 26)

SPSS offers the opportunity to reduce the bias normally associated with manual content analysis techniques, and improves the validity of the findings. Content Analysis is an iterative process. Moreover, "content analysis is fundamentally an empirical approach in orientation, exploratory, concerned with real phenomena and predictive in intent." (Krippendorff, 1980, p.9). Conceptually, content analysis is able to make reproducible and valid inferences from data to their context, and is a systematic and quantitative description of the manifest content of communication. (Berelson, 1952:18)

Findings and discussion

Analysis of responses to questions regarding personal reflections on the program indicated five major emergent themes; that the OSCD was worthwhile, that the experience of being a student again gave important insights into teaching practice; that the nature of discussion and how it is facilitated is different from what was anticipated; that the collaborative and online activities, which were useful and stimulated new ideas also created unexpected problems of their own; and that the process of online discussion and collaboration is more time consuming than was first thought. (Fig. 2)

The value of the exercise

A common thread of the reflective comments of participants in the OSCD was that the experience was very worthwhile. Insights into other participants' teaching styles and their perceived dedication to the task and their students were cited; this had apparently awakened dormant self analysis and reflection.

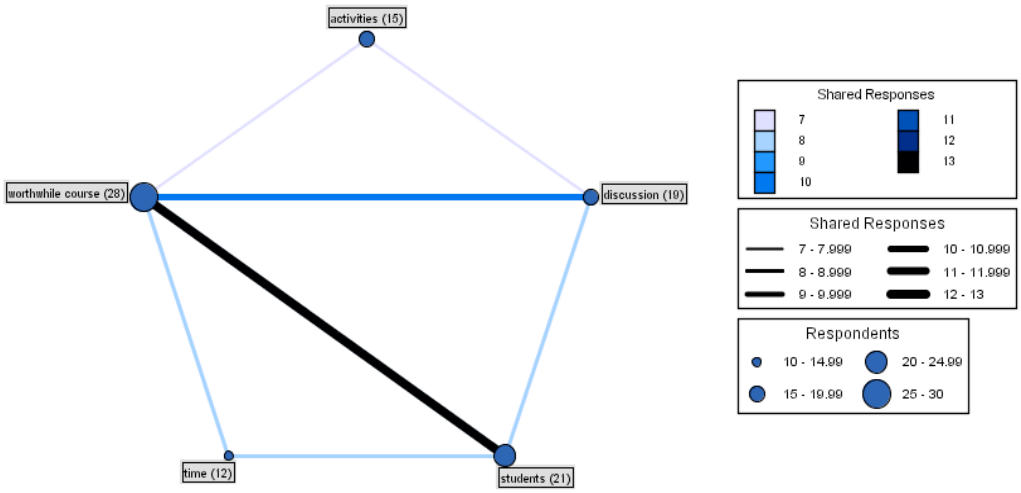

Figure 2: Five major themes emerging from the study

The program sparked new ideas because of interaction with new people and resulted in a "fresh take on old situations" It was seen as genuine professional development in skill building, especially technical skill building, and as a useful introduction to online teaching neophytes. For more experienced tutors, the worth of the program tended towards gaining inside knowledge as to how other tutors applied online content, how participants dealt with emotional issues in their discussions and in the facilitation of collaborative activities and on the pleasures of stimulating and provocative discussion. The more experienced tutors concentrated additionally on the delivery capacity of the Blackboard Learning Management System infrastructure in which the course was delivered, its strengths and weaknesses and provided for the sharing of useful technical knowledge.

Some of the interesting reflections indicated that tutors would make changes to their own behaviours in online teaching, including basing their discussions more around reading materials, making 'netiquette' guidelines clearer, and adding more questions into discussion posts to encourage student participation (as modelled by the facilitator). Some participants reported a new-found awareness for the need to be concise in their use of online language, and the need for written comments to be well constructed and sensitively considered before publication.

Student experience

Academics seemed to appreciate the opportunity to be able to give up their teaching for a chance at being a student again and delighted, even luxuriated in the process.

Several people agreed that participation with colleagues in the OSCD provided them with insights into different teaching situations and solutions to issues and problems which could be solved professionally and efficiently. It provided tutors with knowledge as to what problems students face in a similar environment, such as navigation problems, technical failures, the frustration of slow or temporarily inactive servers and understood the anxiety this created. Reactions to these experiences suggested that as tutors they would be more tolerant with their students because it alerted them to the fact that online problems tend to be very similar. Other intended behaviour changes from experiencing the student perspective were the incorporation of ice breaker activities, the setting up of student lounges for discussion and other interaction aside from course requirements and to differentiate forums for administrative information, assessment processes and informal and formal interaction. A welcome behaviour change was the recognition of the need for a sense of humour and the promise to use it in an environment where a very serious tone seems to pervade.

The nature of online discussion

The complex nature of online discussion and its interpretations and permutations appears to have surprised several participants, especially with regards to the demands it made on them and the variability of the experience.

The discussion exercises which were an integral demonstrable coalescence of theory and knowledge built up throughout the course caused confusion, primarily, according to participants, because they were unsure of exactly what was expected of them. In many cases it was the first time tutors had experienced the group

discussion process first hand and several people preferred not to cooperate or contribute, much to the consternation of those who did. One member postulated that the difference between face to face and online communication was quite considerable; for instance the use of a person's name in a conversation is very common in online communication, but not so in real time face to face. This seemed to create a sense of artifice. Many participants thought that communicating in an online discussion forum was very demanding in time and effort to effectively frame conversation. In response to questions regarding barriers to communicating, the overwhelmingly common thread was to do with the slowness of the server at times which meant that people were unable to follow through their thoughts and communicate effectively because of the interruptions and that interaction skills were limited by this. Online discussion as a student was unexpectedly difficult and demanding compared to the facilitation role.

Collaborative exercise

The most frequent reaction to the collaborative exercise seemed to be positive mainly where the opportunity to share ideas and communicate personally stimulated new ideas and reinforced current views.

Many participants agreed with the need for developing online collaborative exercises as an assessable process to encourage interaction and communication in a meaningful manner related to directly to the course outcomes.

It was noted that if it was to be effective, however, that it must be properly structured, that instructions as to what is expected (number of interactions, length of responses etc) was made explicit. People who were able to follow through with the exercise in their groups expressed a great deal of satisfaction with the collaborative exercise, whereas those who were unable to for whatever reason were frustrated with the exercise.

Time

The most common attribute which academics in the OSCD program made mention was time, or rather the lack of it. Time management is a genuine issue for academics and undertaking a program like this takes a great deal of commitment and effort. The demands of academe take precedence over additional professional development and as soon as pressure emerges regarding workplace deadlines and teaching and research the first thing which is lost is commitment to programs such as this.

As an adjunct to the main themes extracted from the comments of tutors undergoing the OSCD program, a frequency of positive and negative linguistic terms was tabulated (table 2)

Table 2: Frequency of positive and negative linguistic terms extracted from the reflective comments of the course participants

Positives	Negatives
Interesting	Embarrassing
Useful	Problems
Good	Difficulty
Important	Limited
Valuable	Struggle
Clear	Hectic
Concise	Time consuming
Great	Insecure
Simple	Impersonal
Enjoyable	Feel lost
Fun	Need more time
Rewarding	
Worthwhile	
Helpful	

Conclusion

There is little doubt that the participants who contributed to the OSCD Program found the experience useful. Although the difficulties associated with engaging in professional development due to increasing workloads

that are part of current higher education settings were highlighted, these seem to have been outweighed by the benefits inherent in the process.

The value of the exercise has been clearly articulated and it appears the program raised important issues for academics embarking upon such manifestations of professional development. As we become increasingly dependent upon online modes of communication and teaching in higher education, it is incumbent upon universities to not only provide ongoing and comprehensive professional development in online learning but to encourage participation through dedicated time release and/or other forms of workload relief in order for staff to effectively participate. For many academics who find themselves teaching in fully online environments (and the number is increasing), the skills and knowledge associated with this form of teaching have been developed through almost through trial and error.

Student feedback, both formal and informal usually drives the basis of improvement in many aspects of online learning environments. These include availability of discussion forums, access, communication clarity, clear links between assessment activity and unit outcomes, communication protocols and expectations regarding the frequency of postings, amongst other factors. This study has highlighted the genuine delight expressed by academic staff in finding themselves in the role of 'student' again. It would seem that one of the major outcomes to emerge from their engagement with the program has been their opportunity to experience an authentic shift in role from facilitator/teacher to student. By doing so, they have gained critical, first hand insights into the importance of developing clear and conversational online language as well as the need to carefully edit and reflect upon written information and responses prior to publication. Language and communication change in fundamental ways in online environments as evidenced by the participants and this has helped to shed some light upon how we manipulate language and conversation in online environments to enhance levels of comfort and accessibility as well as learning. From a learning technologies point of view the research has also illuminated the various difficulties associated with communicating as a student with peers as opposed to communicating as a facilitator. Navigating threaded discussions and devoting the often significant amounts of time necessary to read, reflect upon and then practice and implement a response has been highlighted as one of the major difficulties. As facilitators of online learning we are often so intent upon reading and responding to students ourselves we remain unaware of their immersion into the online environment and their subsequent experiences. Online learning and teaching processes are quite distinct in a number of ways from face –to- face teaching.

We cannot assume that academic staff who find themselves working in online environments naturally and automatically know how to proceed in such a way as to maximise student learning. Just as undergraduate teacher education programs rehearse students in the variety and application of learning theory, teaching professionals need coherent professional development in online learning and teaching strategies in order to build their repertoire of skills. We can longer assume that online teaching skills will somehow emerge over time while we experiment and move slowly forward through trial and error. If we continue along this pathway our students are not being presented with appropriate opportunities to maximise learning. Programs such as the OSCD are important resources for the increasing number of academics who are teaching online. The program as it stands represents sound opportunities for those who are starting out to engage with this mode of learning and teaching. It remains to be seen whether ongoing development of the program can also extend the skills of those early adopters, many of whom have now been teaching in online environments for a decade or more and are in need of more sophisticated technical and conceptual skills.

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Authors: Robert Dixon, Faculty of Humanities, School of Education, Curtin University of Technology, Perth, Western Australia. Email: R.Dixon@curtin.edu.au
Dr Kathryn C. Dixon, Faculty of Humanities, School of Education, Curtin University of Technology, Perth, Western Australia. Email: K.Dixon@curtin.edu.au
Mandi Axmann, Manager Educational Design and Development, Academic Products and Services, Open Universities Australia. Email: mandi.axmann@open.edu.au

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