Individuals' perceptions of online environments: What adult learners are telling us

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This paper reports upon the results of ongoing research into student responses to their online learning habitat at a Western Australian university. The university in question has been at the forefront of innovation for flexible, online delivery of its Training and Development Program since the late 1990s. A number of reviews and evaluations of the program have taken place since then, with changes being made in direct line with academic research. This has pointed to ways of improving the quality of delivery and therefore student learning. This investigation focuses upon students' reactions to their online learning environment and utilises student questionnaire data which concentrates upon factors relating to communication apprehension and competence, the experience of perceived loneliness, locus of control, collaboration by students regarding the learning experience, institutional support and the students' sense of self efficacy. The results indicated that students' personal perceptions of the importance of peer interaction and group work were surprisingly lower than anticipated. It appeared that the majority of students preferred to work alone and were less likely to initiate contact with fellow students as they believed their learning styles were not collaborative. Communication apprehension and competence were highly influential on their overall expectations of educational success in the unit studied. The students' sense of control over the learning materials and environment led to an increase in their belief regarding a timely and successful completion of the unit of study and their perceived ability to interact effectively with others.

Background

This paper focuses on describing and understanding the responses of a small case of students (n = 40) towards an adult learning program which is delivered fully online from a Western Australian University. The research took place in the later part of 2006 and the case study sample comprised forty students who were engaged in the completion of units in the Training and Development Program. Typically the program attracts professionals who work in a number of settings including the health system, mining, the public service, Colleges of Technical and Further Education and private training providers. Typically students are attracted to the program due to the flexibility of delivery. Many of these work in isolated regions both in Australia and overseas and the online format allows students to work at their own pace. One of the major aims of the Training and Development Program is to enhance teaching and learning skills through practical and reflective application in the workplace. The program offers students the opportunity to complete both undergraduate and postgraduate courses which are aimed at professional educators and trainers in the field. The sample were all considered adult learners in that they were in full time employment in their own context during the study and most were typically also involved with various family and community pursuits at the time of the research. The average age of students in the cohort was 38 years and the majority (73%) were involved in parenting and partnership responsibilities alongside pursuing promotional opportunities in their respective workplaces.

The Training and Development Program has been offered to students completely online since the late 1990s. It is designed to enhance teaching and learning in a variety of contexts as well as skill development in related fields such as curriculum development, professional practice, communication and reflective practice. The program was developed to complement Brennan's (2000) concept of utilising computers as tools to support the teaching and learning process. The initial decision to implement an online approach was influenced firstly, by the financial implications of continuing to offer face-to face teaching. Secondly, the online refinement and development of both programs adheres to what Craig (2002); Goddard (1996), and Ruberg, Taylor and Moore (1996) suggest should influence teaching and learning online which includes the need to cater for students who actively avoid face-to-face communication and use online options to a greater extent. The majority of students are attracted to the current method of delivery and as adult learners the online nature of the program allows many of them to work at their own pace in between further ongoing commitments.

Late in 2006 students were invited to complete a thirty five item questionnaire which had been developed by academic staff working in the program. The students were also given the opportunity to contribute any further comments regarding the program content and delivery in an open-ended item at the conclusion of the questionnaire. The aim of the questionnaire was to gather both quantitative and qualitative data related to the students' levels of comfort when learning through technology, their potential sense of apprehension when communicating online, their level of communication competence, their feelings of loneliness in the online environment, their locus of control, their willingness to collaborate with other students and the lecturer , their sense of institutional support and their conceptualisation of their own self efficacy in relation to their study.

Online delivery

In order to accommodate an increased mass of learners and demand for flexibility, universities are delivering a growing number of their courses through the Internet. The term "online learning" is often used to describe the wide variety of uses of the Internet for learning. While this term implies that learning is occurring online, this may not always be the case. An "online learning environment" may, in some cases, only be used for a repository of information (e.g., unit outline, lecture notes, assessment requirements, etc.) for students to access, print out, and read away from their computer. In these cases where learning is not actively occurring online, the term "class Website" may be more appropriate. A class Website may be built within an online learning management system (LMS), such as WebCT, or it may be a Website that does not utilise an online LMS. The term "online learning" may be used to describe active learning which occurs through the students' interaction with the learning materials via the Internet. Online learning can occur through meaningful interactions with other students and their lecturer using online communication facilities. Students are actively encouraged to engage with the online learning materials within a predetermined structure. For example, students may be required to read information about a particular topic on the screen, reflect upon what they had just read, and then post their thoughts onto the class bulletin board for other students to add their comments. Another example of online learning is where students are required to complete pre-programmed automated activities on the Internet

Much of the literature supports the notion that students who tend to avoid communication with fellow students and teachers in face-to-face contexts tend to contribute much more in online learning situations (Craig, 2002; Goddard 1996; Ruberg, Taylor & Moore 1996). While issues surrounding technologies and technology use are dramatically altering all areas of education and training in Australia, online delivery is still in a relatively embryonic stage. Ongoing evidence from the literature suggests however, that the maturation of online delivery will be realised once innovators begin to develop realistic strategic, pedagogical and commercial models as we move further into the twenty first century.

Brookes et al. (2001) argued that the most effective learning environments require educators "… to create and employ strategies to make learning active" (p. 108). Laurillard (2002) argued that a teaching strategy needs to be developed to form a "…bridge between what we know about student learning and what we should therefore do as teachers" (p. 62). To facilitate active online learning, suitable learning strategies need to be developed. However, authors such as Greening (1998) argued that "… generally, instructional designers either do not always appear to take advantage of the hypermedia technology, or do so without pedagogical foundation" (p. 2). Thus, the literature would suggest that there are gaps between the bodies of knowledge relating to learning theories, instructional design principles and research into student learning in higher education, and the application of this body of knowledge to the use of online learning technologies.

Salmon (2000) sees the term 'online learning' as covering a range of technologies such as informatics, computer-assisted instruction and computer-mediated conferencing. Brennan (2000) defines it as requiring situations where computers support teaching and learning and where there is a mixture of computer support and online delivery or computer technology alone delivering education and training.

The adult online learner: A conceptual approach

Adults bring to the learning environment a wealth of experience. They also bring very clear ideas about themselves as learners, their expectations from the learning situation and pre-conceived ideas about what constitutes learning and teaching. They return to education seeking specific identifiable goals and usually expect an education that is either related to a job or a life situation and which stresses the application of knowledge rather than theory (Moore, 1980; Merriam & Caffarella, 1999; OECD, 2003). Adults are usually motivated to complete programs of study in the minimum amount of time, with their time

commitments and ability to attend classes often being interrupted by other demands (OECD, 2003). Merriam and Caffarella (1999) believe that traditional assumptions about learning and teaching are to be challenged if we are to meet the needs of the adult learner. This stems from the belief that adult learners perceive themselves differently to the traditional student and expect to be treated as autonomous individuals. Self-directed learning and the concept of facilitation are at the core of adult education (Nesbitt, Leach & Foley, 2004). The idea that learning is facilitated as opposed to being taught is closely connected to the idea of adults directing their own learning. This becomes highly evident in the process of facilitating adult learning in online environments. Online learning has long been considered a method of distance education (Moore & Kearsley, 2005). Accepted aspects of distance education such as self-direction, lifelong, accessible education which is open to all adults have been viewed as also pertaining to varying degrees of learning in online environments (Spencer, 1998). Online learning can also be viewed as potentially moving students away from the isolation of individualised study towards increased communication and a sense of 'classroom'. However the process remains written and textual in essence as opposed to oral and as a result many of the dynamics of the real classroom are not present. As available technologies have forced a re-conceptualisation of distance education they have also shifted the focus to a more student-centred, self directed learning approach and by doing so have highlighted the importance of the attributes of the learner on the outcomes of the learning process.

Learner attributes such as a willingness to communicate, locus of control, expectations of gaining higher grades, level of education upon entering the course, loneliness, collaboration and institutional support have been found to be related to their overall success in learning at a distance, in particular, in online environments.

Coggins (1988) found that students enrolled in external degree programs who had high levels of education upon starting the courses were more likely to complete than those who had lower level qualifications. These same students were also more likely to have higher expectations of success and higher results over time. Dille and Mezack (1991) studied locus of control and learning style as predictors of risk among distance education students. Their research involving 151 students enrolled in telecourses revealed that students with an internal locus of control were more likely to obtain higher results than those with an external locus of control. According to Garland (1993) other factors such as institutional procedures as well as course scheduling and pacing were seen to impact upon the student as a barrier to successful completion of online programs. A study by Pugliese (1994) revealed that other factors such as loneliness, communication apprehension, communication competence and also locus of control impacted on a student's likelihood of persisting with the preferred course. Many researchers agree that the student is central to successful online learning. It appears that learners who are comfortable with technology and interacting with others through technology are more likely to be successful in online programs. According to Brown (1998) further qualities include a willingness to interact effectively with peers and engage in group processes, an ability to communicate effectively through writing, a willingness to take risks and be creative and the ability to 'speak up' if problems arise.

Research method

The research is essentially quantitative in nature and relied upon the development and administration of a questionnaire instrument. The quantitative data were analysed using the Lertap application (Lertap: www.lertap.com). Qualitative data were collected through the use of an open-ended item at the conclusion of the questionnaire. The sample was asked to comment on any area of their online learning experience which they felt had not been covered in the bank of items. The qualitative open-ended responses were analysed using Statistics Package for Social Sciences, Text Analysis for Surveys, V2. The qualitative data were used to further examine additional information regarding the learners in the online environment. The use of the content analysis tool provided quantitative semantic analysis of the open-ended responses including classification, keyword frequencies and linguistic coding of concepts and propositions in a relational and hierarchical context. This enabled the researchers to use both a-priori and emergent coding to aggregate common themes and the clustering of related themes to be compared and contrasted in order to gain an insight to the online learning experiences of the participants.

Data collection

Towards the end of semester two in 2006, a questionnaire containing 35 Likert-type items and one open-ended item was distributed to all students enrolled in one or more units in the Training and Development Program. The number of students receiving the questionnaire totalled 60. The number of completed questionnaires returned by post totalled 40, giving a response rate of 66.7%. While the response rate was not as high as expected, this was considered satisfactory for the purposes of this study. The majority of

the respondents remained anonymous, while 10 percent of the sample preferred to acknowledge their identity. As mentioned earlier, all units in the Training and Development Program are delivered online and the environments, design and terms of access for these units follow a common template. While the content of each unit of study is different, students have commented in the past that the familiar 'branding' utilised via the use of the template increases the ease of access overall. Students do not need to 'go hunting' for icons, links and other navigational tools as over time they become familiar with the location of online components associated with each unit. The questionnaire responses were entered into a Microsoft Excel spreadsheet. The quantitative data were analysed using the Lertap application, and the qualitative responses were analysed using the SPSS Text Analysis for Surveys application. The following sections describe these analyses.

Quantitative data analysis

Table 1 provides a scale analysis of the dimensions used in the student questionnaire. With each of the dimensions, Likert-type (1 = Strongly disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly agree) question items were selected for the scale analysis. Table 1 also reports the mean (the calculated average of the mean scores for each item within each scale) and median scores for each of the scales. The following Tables 2 through to 7 display the item statements and response rates for each item. For the purposes of this study, the analysis is based upon item-by-item rather than whole scale analysis.

Table 1: Scale reliability, mean ranges, mean, mode, median and standard deviation from initial student questionnaire analysis

Scale	No. of scale items	Range of items means		Scale					
		Lowest item mean	Highest item mean	Mean	Mode	Median	S.D.	Kurtosis	Skewness
Apprehension	5	1.80	4.80	3.82	4.00	4.00	0.64	1.08	-0.87
Competence	5	3.00	5.00	3.88	4.20	3.90	0.52	-0.26	0.14
Loneliness	5	1.40	4.80	3.38	3.80	3.60	0.67	0.87	-0.77
Control	5	2.80	5.00	3.84	4.00	3.80	0.44	1.04	0.06
Collaboration	5	1.20	4.20	2.84	2.80	2.80	0.74	-0.19	-0.45
Support	5	3.00	5.00	4.29	4.00	4.40	0.61	-0.49	-0.69
Efficacy	5	2.80	5.00	4.02	3.80	4.00	0.54	-0.04	-0.32
Student n=40									

The following reports on the findings from the Likert-type items for the *Apprehension*, *Competence*, *Loneliness*, *Control*, *Collaboration*, *Support* and *Efficacy* scales presented in Table 1. Items 8, 9, 11, 15 and 19 have been negatively polarised. That is to say, the negatively polarised scores have been reversed so that they are scored and displayed as positive statements. Reverse scoring has been done for all Likert-type items in the questionnaire which are interpreted as being negative statements about the participants' online learning experience. For example, item 11 is worded as a negative statement "I found the technology difficult to master". However, as it is reversed-scored, the mean score of 4.18 indicates that more participants disagreed with this statement from those which agreed.

Communication apprehension

Table 2 shows the response rates to the questionnaire items in the *Communication Apprehension* scale. The overall mean score (3.82; Table 1) for this scale indicates the respondents' somewhat high levels of confidence towards using online communication. The majority of participants (95%) either agreed or strongly agreed that they felt comfortable with engaging in the online environment. While the majority of the sample (83%) looked forward to discussing the unit content with their lecturer online, fewer participants (71%) enjoyed discussing the unit content with their fellow students. Most respondents (71%) either disagreed or strongly disagreed that they were worried about typing their responses to the online discussion forum. The online unit helped to build most of the sample's confidence with using the Internet (58%), while a further 28% were uncertain.

Communication competence

The response rates to the items in the *Communication Competence* scale are presented in Table 3. On the whole, the participants perceived that they had reasonably high levels of online communication

competence as indicated by the overall mean score (3.88; Table 1) for this scale. The majority of the sample (93%) either agreed or strongly agreed that they were comfortable with learning through technology, while most of the sample (81%) did not experience difficulties with mastering the technology. Although most participants (66%) either agreed or strongly agreed that the online interactions they had with their lecturer affected their assignments' end results, fewer (60%) found that typing their thoughts in the online discussions forum helped to clarify their ideas. Some of the sample (65%) either disagreed or strongly disagreed that they found typing their thoughts in the online discussion forum to be difficult.

Table 2: Statements and response rates for communication apprehension

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q4	I feel comfortable engaging in the online environment.		3%	3%	60%	35%		+	4.28	0.63	0.49
Q5	I look forward to discussing the unit content with my lecturer online.		10%	8%	58%	25%		+	3.98	0.85	0.71
Q6	This unit built my confidence with the use of the Internet.	3%	13%	28%	35%	23%		+	3.63	1.04	0.46
Q7	I enjoy discussing the unit content with my fellow students online.	5%	20%	3%	58%	13%	3%	+	3.53	1.10	0.64
Q8	I worry about typing my responses to the online discussions.	18%	53%	13%	13%	3%	3%	-	3.70	0.98	0.16

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Table 3: Statements and response rates for communication competence

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q9	I find that typing my thoughts in the online discussion is difficult.	15%	50%	23%	8%	3%	3%	-	3.68	0.91	0.24
Q10	I find that typing my thoughts in the online 'discussion forum' helps to clarify my ideas.		18%	20%	50%	10%	3%	+	3.53	0.89	0.51
Q11	I found the technology difficult to master.	43%	38%	13%	5%		3%	-	4.18	0.86	0.18
Q12	I am comfortable learning through technology.		3%	3%	63%	30%	3%	+	4.20	0.64	0.26
Q13	The interactions that I had with my lecturer affected the end result of my assignments.	3%	10%	20%	33%	33%	3%	+	3.83	1.07	0.26

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Loneliness

Table 4 presents the response rates to the *Loneliness* scale items. The overall mean score (3.38; Table 1) for this scale indicates that, generally, the respondents had perceived moderate levels of loneliness. The majority of the sample (75%) either agreed or strongly agreed that the responses received from their lecturer helped them to feel less isolated. Most of the respondents (65%) either disagreed or strongly disagreed that they felt isolated from other students in the online environment. Approximately half of the participants (51%) preferred to work alone. While more than half of the sample (56%) felt connected to fellow students in the online environment, only 21% were more likely to share their thoughts regarding the online unit content.

Table 4: Statements and response rates for loneliness

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q14	I prefer to work alone when learning.	3%	20%	28%	28%	23%		+	3.48	1.12	0.10
Q15	I feel isolated from other students in the online environment.	20%	45%	18%	15%	3%		-	3.65	1.04	0.51
Q16	I feel connected to fellow students in the online environment.	10%	18%	18%	53%	3%		+	3.20	1.08	0.57
Q17	I am more likely to share my thoughts regarding the unit content in an online environment.	10%	38%	30%	18%	3%	3%	+	2.65	0.96	0.42
Q18	The responses I got from my lecturer helped me feel less isolated.	3%	13%	10%	40%	35%		+	3.93	1.08	0.39

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Locus of control

The response rates to the *Locus of Control* scale items are shown in Table 5. Overall, the sample perceived rather high levels of locus of control as indicated by the overall mean score (3.84; Table 1). Most participants (96%) either agreed or strongly agreed that they had control over the pace of their studies, and the majority (93%) did not have difficulties with online learning. The majority of respondents

(96%) either agreed or strongly agreed that they understood from the content what they were expected to learn, and most (73%) persisted with their online study even when the content was difficult to understand. Only 28% of the sample initiated contact with other students.

Table 5: Statements and response rates for locus of control

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q19	I find learning online difficult.	35%	58%	5%		3%		-	4.23	0.76	0.37
Q20	I understood from the online content what I was expected to learn.				83%	13%	5%	+	4.08	0.41	0.32
Q21	I persist with my study online even when I find the content hard to understand.	3%		25%	58%	15%		+	3.83	0.77	0.34
Q22	I believe I have control over the pace of my study.			5%	58%	38%		+	4.33	0.57	0.19
Q23	I initiate contact with other students in the online unit.	10%	38%	25%	23%	5%		+	2.75	1.07	0.30

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Collaboration

Table 6 presents response rates to the questionnaire items for the *Collaboration* scale. The overall mean score (2.84; Table 1) shows that the sample perceived rather low levels of collaboration. Approximately one-fifth of the respondents (21%) indicated that their learning style was group orientated. Although most of the sample (75%) either agreed or strongly agreed that they found the online discussions with their lecturer and peers to be valuable, only 43% had agreed (none had strongly agreed) that the online environment allowed them to build relationships with other students. Approximately half of the sample (53%) either disagreed or strongly disagreed that the online approach provided them with appropriate opportunity for group work, while a further 23% were uncertain. Similarly, approximately half of the participants (56%) either disagreed or strongly disagreed that fellow students contributed to the achievement of their learning goals, while a further 20% were uncertain.

Table 6: Statements and response rates for collaboration

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q24	My learning style is group orientated.	13%	45%	23%	18%	3%		+	2.53	1.00	0.30
Q25	The online approach used in the program allows me appropriate opportunity to work in groups.	15%	38%	23%	20%	3%	3%	+	2.58	1.05	0.56
Q26	The online environment allowed me to build relationships with other students.	10%	30%	18%	43%			+	2.93	1.06	0.66
Q27	Fellow students contribute to my achievement of learning goals.	18%	38%	20%	20%	3%	3%	+	2.53	1.07	0.59
Q28	I found the online discussions with my lecturer and other class members valuable.	5%	13%	5%	60%	15%	3%	+	3.68	1.03	0.56

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Institutional support

The response rates for the *Institutional Support* scale items are presented in Table 7. On the whole, the sample had perceived receiving very high levels of institutional support as indicated by the overall mean score (4.29; Table 1). Most respondents (85%) either agreed or strongly agreed that they were well supported by the University, and most (85%) perceived that their onsite facilitator was supportive of their study. The majority of the sample (90%) either agreed or strongly agreed that they had received adequate feedback from their lecturer regarding their study progress and, similarly, most (88%) indicated that their lecturer nurtured an online learning community. The majority of respondents (90%) either agreed or strongly agreed that they had easy access to the learning materials.

Self efficacy

Table 8 shows the response rates for the items in the *Self Efficacy* scale. The overall mean score (4.02; Table 1) shows that, generally, the sample perceived that they had high levels of self efficacy. Although most of the participants (86%) either agreed or strongly agreed to the statement that they were willing to speak up when they encounter difficulties with their online learning, less than half (46%) believed that they had interacted effectively with their online peers while a further third (33%) were uncertain. The majority of the sample either agreed or strongly agreed that they took more responsibility for their studies (83%), that they expect to achieve high level results for their assignments (81%), and that they would complete their studies (98%).

Table 7: Statements and response rates for institutional support

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q29	I feel supported by Curtin University in my study.			15%	50%	35%		+	4.20	0.68	0.51
Q30	My onsite facilitator is supportive of my study.		3%	10%	40%	45%	3%	+	4.28	0.77	0.79
Q31	My lecturer nurtures a learning community in the online environment.	3%	5%	5%	40%	48%		+	4.25	0.94	0.77
Q32	I received adequate feedback from my lecturer about my progress.			10%	35%	55%		+	4.45	0.67	0.83
Q33	Learning materials are easy to access.	3%		8%	50%	40%		+	4.25	0.80	0.46

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Table 8: Statements and response rates for self efficacy

Item	Statement	1	2	3	4	5	other	pol.	mean	s.d.	cor.
Q34	I am willing to 'speak up' when I have a problem with my online learning.	3%	5%	8%	58%	28%		+	4.03	0.88	0.44
Q35	I expect to achieve high level results for my assignments.		3%	18%	53%	28%		+	4.05	0.74	0.31
Q36	I believe I will complete my study.			3%	30%	68%		+	4.65	0.53	0.34
Q37	I interact effectively with peers in the online environment.	8%	15%	33%	38%	8%		+	3.23	1.04	0.45
Q38	I took more responsibility for my own learning studying online.	3%	5%	10%	38%	45%		+	4.18	0.97	0.45

(1 = Strongly disagree; 5 = Strongly agree; other = null response)

Summary of the quantitative analysis

The quantitative analysis examined the responses to the five-point Likert-type items in the questionnaire within the scales of *Communication Apprehension*, *Communication Competence*, *Loneliness*, *Locus of Control*, *Collaboration*, *Institutional Support* and *Self Efficacy*. The sample demonstrated that they were, on the whole, rather positive regarding their online learning experiences within the Training and Development Program. They perceived that they had received very high levels of institutional support from the University, particularly in regards to the feedback they had received from their lecturer and with the ease of access to the online learning materials. The respondents perceived high levels of self efficacy including taking more responsibility for their studies and believing that they were highly likely to complete their online studies with high level results. The sample also perceived reasonably high levels of locus of control, communication apprehension and competence, particularly with having control over the pace of their studies and with competently engaging and learning in the online environment. Although the participants had perceived moderate levels of loneliness, the online lecturer had helped them to feel less lonely. While most of the sample had perceived that the online discussions with their lecturer and peers to be valuable, less than half had agreed that the online environment allowed them to build relationships with other students or to work collaboratively in groups. One of the major themes to emerge from the quantitative analysis was clearly the dilemma faced by the cohort surrounding the need for collaboration, contact and relationship building with peers. The results have indicated that the majority of students preferred to work alone and felt that they possessed learning styles that did not necessarily lend themselves to collaboration. They appeared to want to take greater responsibility for their own learning as adults and this did not include working with peers for the majority of the sample. They did not perceive other students as contributing to the achievement of their learning goals. These were surprising result as the researchers had expected group collaboration and the use of discussion boards and chat rooms to increase over time as students became more adept at navigation. It may be that students believed once the initial introductory phase concluded where they were asked to for example describe their work environments, they believed their time was better spent concentrating on the required assessment tasks rather than furthering relationships. The further implementation of group work and peer interactivity in the units of study may need to be investigated as part of the annual review of the program. Group work in a collaborative sense was not viewed overall as being attractive or effective. It must be remembered though that approximately 41% of the sample was situated in offshore, isolated or interstate settings. This could have contributed to the difficulties associated with the alignment of timeframes and may have militated against collaborative efforts by students.

Qualitative data analysis

The last item on the questionnaire asked the respondents to write any comments regarding the Likert-type questions or their online learning experience in general. The responses made by the sample to this open-ended item were analysed using the computer aided content analysis application, SPSS Text Analysis for Surveys, V2. This tool provided semantic analysis of the full written responses including classification,

keyword frequencies and linguistic coding of concepts and propositions in a relational and hierarchical context. This enabled the researchers to use both a-priori and emergent coding to aggregate common themes and the clustering of related themes to be compared and contrasted in order to gain an insight to the feelings and attitudes of the sample towards the course and the online environment in general. Categories of words were examined in context of the open-ended responses. Table 9 presents the most frequently occurring words of the total language selection by the respondents.

Table 9: Frequency of key themes in cohort survey responses

Category	Bar	Selection %
support		51.6
online discussion		45.2
unit		38.7
feedback		35.5
lecturer		25.8
like		25.8
excellent		25.8
rewarding		22.6
course		22.6
progress		19.4
complete		19.4
students		16.1
assignment		16.1
online facilities		12.9
experience		12.9
time		12.9

Students demonstrated a strong emphasis in the open ended question on tutor support and towards the need for regular communication with their peers. This became evident in the linguistic relationship with online discussions which were important to stave off feelings of isolation often experienced by online learners and the communication apprehension which emerged from responses to the quantitative questions.

Regular feedback from the tutor was linked with positive attitudes towards both the course and the tutor. This was demonstrated in the frequencies and close links between feedback (35.5%), lecturer (25.8%), like (25.8%), excellent (25.8%), and rewarding (22.8%). The links between student progress, (19.4%) rates of assignment/course completion (19.4%) personal experiences with the course (12.9%) and the amount of time students allocated to the program (12.9%) appear to other important concerns of the cohort.

Other less significant themes but those worthy of mention include concerns about their access to and use of online facilities (12.9%), lack of experience (12.9%), and issues of confidence in navigation of the WebCT forum (9.1%).

Positive outcomes

Figure 1 gives a visual representation of the areas students most like about their online experience with the course which is the subject of this study. From a linguistic perspective, students liked the supportive nature of the tutor (11), the unit (9), the online discussion (7) and the level of feedback (7). These four elements are illustrated by student comments and feedback as themes.

Theme 1: Supportive nature of tutor

> …very thankful for the opportunity. It has all worked extremely well for me and I have been well supported.
> Great opportunity and has worked very well for me. I have felt well-supported.
> Any clarification I required I received directly from my lecturer who gave me the support necessary to complete the assessments I received in the workplace.

Theme 2: The unit

> I very much enjoyed the unit and have found it very helpful in my teaching environment.
> I found this unit very rewarding. … an excellent course. Thanks.

The Curtin tutor was very helpful in assisting me through the unit. He gave me very good advice and kept me on track and I found that this made the unit effective and practical to my work situation.

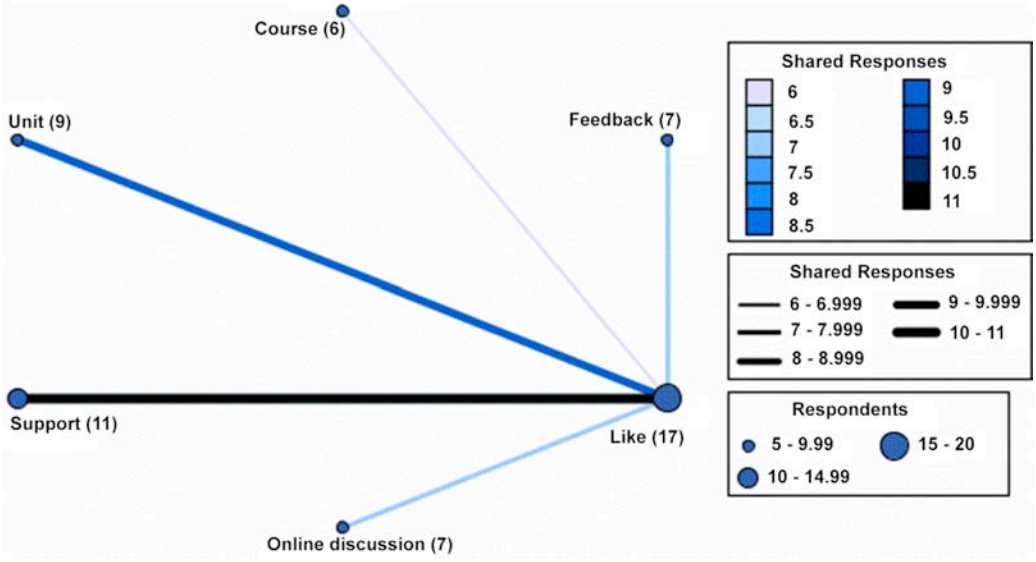

Figure 1: What students liked about their online experiences

Theme 3: Online discussion

I found this unit very rewarding. The online discussion was really dynamic and I believe my lecturer has fantastic communication and tone in her emails and discussions. …was always very enthusiastic and gave great tips for assignments … your positive comments encouraged and supported students to get involved.

I found that online communication is not a barrier to sharing humorous comments. The sense of humour of one of my tutors was a pleasant relief that eased my stressful study and workload.

Theme 4: Level of feedback

All communications with staff were attended to as soon as possible, usually within 48 hours. All issues were dealt with within the semester timeframe Action was taken on all of my requests. Nothing was left unfinished or left me without a clear answer, resource or materials.

The constructive feedback was extremely valuable as it gave me understanding of where I was going wrong and hopefully I was able to improve.

I personally believe that the Department of Education is very good at delivering online because they have a variety of strategies in place that makes online learning effective and enjoyable. More importantly, the staff seem to be interested in the student's learning experience and success.

Negative outcomes

To counterbalance the positive comments of participants in the survey, open ended comments were linguistically coded to determine which issues students considered to be problems in their online learning experiences (Figure 2). Students were negative about the level of feedback they were receiving (9), the amount of support they were receiving from their tutor (8), the quality and quantity of the online discussion (5), the quality of the course (5) and the amount of learning (5).

Theme 1: Level of feedback

Contact with the tutor and the level of feedback received was limited.

I felt isolated in my studies and I attribute this to lack of contact with the tutor.

Assignments needed to have more thorough comments to show me where I had gone wrong.

The lag time between submitting an assignment and getting it back was 3 weeks. This meant that the next assignment, which built upon the first, became due too soon and I didn't get enough information on how to improve my work until it was too late.

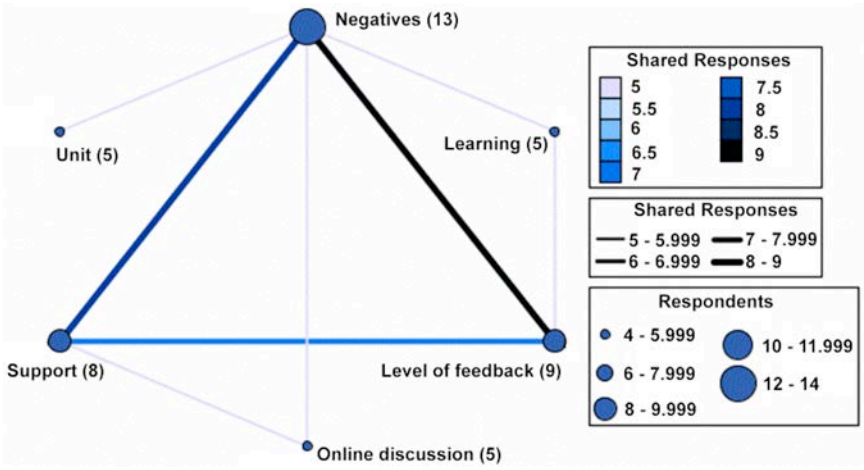

Figure 2: What students disliked about their online experiences

Theme 2: Supportive nature of tutor

> In the online environment it is important to have support from a lecturer that understands the technology. I found that some lecturers did not provide the correct support because they were either unfamiliar with the online environment or were unwilling to be part of the environment.

Theme 3: Online discussion

> I started the unit keen to participate in the online chat room area but I never saw any action there for the first six weeks and then I gave up checking. I wonder if some structure could be put in place for set times to engage for example Monday and Wednesday at five o'clock to seven o'clock so people can be encouraged to participate. Just a suggestion as I felt disappointed that I never saw it used.
>
> In regard to communication competence I was uncomfortable typing my thoughts about online discussion. Once I read some examples I was firstly daunted by the sophisticated response, then comforted and inspired that an example was available to read and then interested that such an array or experiences were available. I guess it makes you get to the point or communicate better but it has taken two and a half years practice.

Theme 4: The unit/course

> I think online learning suits my needs as I work full time and have a young family (three children). The only problem I found with some of the units is that the assignments are not spaced evenly across the semester. For example, first assignment due in week eight, second assignment due in week ten, third assignment due in week twelve does not give you adequate time to read and complete the last two assignments.

Theme 5: Learning

> I hate online learning and would much rather attend classes as I value face to face interaction. I find online learning isolating and only did it because there is no option.
>
> Sorry but I don't really enjoy the online aspect of distance education. I simply prefer to read my readings, complete the assignments and get my results back. Anything else to me is an interruption.

Surprisingly the negative comments correlated quite strongly with the positive comments with the only new theme to emerge related to the online nature of learning. Otherwise the issue associated with the nature of the tutor and the quality, quantity and timeliness of feedback is of paramount importance according to the analysis of the survey data. The quality of the course and the unit undertaken as determined by the survey cohort is also very important. The importance of creating a learning community through the use of communication protocols in online discussion was the final prominent feature of the feedback provided.

Conclusion

The quantitative and qualitative analyses uncovered similar findings. The support the sample received from their institution, including the supportive nature and feedback they received from their lecturer, was

perceived as having very high levels of importance. Although the majority felt that they had received satisfactory levels of feedback regarding their assignments, a small number indicated that the feedback was not as thorough and prompt as they had desired in order to assist them with upcoming assignments. The building of an online learning community was also perceived as being important by many of the participants. While the majority believed that the online unit was of high quality and contributed positively towards their professional development, some did not enjoy the online learning experience as they had felt somewhat isolated. However, the responses they had received from their lecturer and peers via online communication facilities helped the majority of them to feel less isolated. The majority of the sample preferred to work alone and enjoyed having control over the pace of their study, which resulted in little opportunity for collaboration. As adult learners with family and work commitments as well as being isolated from each other due to distance, they were generally content with focussing on the required assessment tasks leaving little time for engaging in online collaboration. With online learning becoming a more attractive form of studying for adult learners, issues such as the role of the lecturer including the building of an online community of learners through maintaining online communication, providing opportunities for collaboration, providing timely and thorough feedback in order to minimise feelings of isolation needs to be the subject of ongoing investigation and consideration for future development of online learning environments.

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