PROFILE OF AN ON-LINE LEARNING COMMUNITY

Allan Briggs
Central Queensland Institute of TAFE
Rockhampton, AUSTRALIA 4700

ABSTRACT

This paper attempts to provide a detailed profile of a group of students who are studying on-line. The purpose of this will be to identify the positive and negative features of an on-line learning community. Through the use of tools including a questionnaire, follow-up interviews and focus groups, qualitative information has been extracted and common themes determined. This data should be revealing about a range of features that are of interest about on-line learning communities.

THEORETICAL FRAMEWORK

Considerable criticism has been levelled at on-line learning by both educators (Noble 1997) and students (Cashion and Palmieri 2001). One of the critical features of successful on-line learning is seen to be the creation of a cooperative and interactive community that enhances the learning experience (Warschauer 1998). In order to create such a community a number of essential attributes need to be pulled together and presented to students in a workable format. The focus of this research was to examine a group of on-line learners in order to identify a profile of an on-line learning community. The analysis of data obtained from the research was used to determine some of the attributes of a successful on-line learning community.

The research questions that were posed for the study were:

To what extent can on-line learning accommodate different learning styles?
Can on-line learning create a real sense of a learning community?
What influence does life style have on learning style?
Student expectations of on-line learning?
What is the contribution of individuals to the learning community?
What is the perceived value of contributions?
What degree of enrichment, enjoyment and exhilaration does on-line learning create?
To what extent does previous learning support current learning?
What barriers prevent full participation in on-line learning?
How much empowerment do on-line learners experience?
Was there evidence of critical reflection that resulted in profound personal development?
Was there any realisation by students of a commitment to lifelong learning?

The results were compiled in a format that identified the general profile of the group and revealed strong trends that were considered as attributes. The author believes that the study provides useful information for the better understanding of on-line learning communities.

WHAT DO WE MEAN BY 'LEARNING COMMUNITY'

A study of the literature by Morris (2001) revealed that there are many different definitions of a *learning community*. Most would associate the term with the Adult Community Education (ACE) programmes that provide personal development courses within local communities. So, does the broad humanistic personal development framework of community education apply to on-line learning?

Much on-line learning is course specific and very narrow where you would not expect to find the full supportive infrastructure of a community. However, the suggestion is that if on-line learning is to be successful then it must incorporate the essential features of a learning community such as empowerment, cooperation, team work, integration and so on (Warschauer 1998).

This paper seeks to establish the profile and attributes of a learning community. This paper adopts the working definition of *learning community* as supplied by Kearns, P. McDonald, R. and Candy, P. (1999) as any group of people, whether linked together by geography or some other shared interest, which addresses the learning needs of its members through proactive partnerships.

METHODOLOGY

An on-line questionnaire was made available to students taking the course. This tool was designed as a screening process to identify specific areas for follow up interview questions. The questionnaire had seven groups of statements and respondents were required to rate each statement on a Lichert scale of five. Statements were grouped as follows:

- statements about learning styles
- statements about a learning community
- statements about lifestyle and learning
- statements about learning expectations
- statements about learning barriers
- statements about using technology
- statements about personal development

The data from the questionnaire were compiled into a spreadsheet for analysis and a series of follow up questions were derived from the results. The questionnaire could also be used for quantitative data, although with such a small sample the validity of the data would be questionable. Each student was then telephoned and a one-to-one interview was conducted to ask the follow up questions. Finally, two focus groups were conducted where the results of the questionnaire were made available as discussion topics.

DEMOGRAPHIC PROFILE OF THE STUDY GROUP

The group of students who participated in this study were not typical of the normal vocational student; they were all mature professionals who worked in the VET sector. An increasing number of Diploma courses offered by TAFE are attracting the more mature students. This is supported by NCVER statistics (2000) that shows some 21% of all TAFE students study at AQF5 and nearly 46% of TAFE students at that level are over 25 years of age.

Total number in study group:	25
Female:	13
Male:	12
Previous experience with on-line learning:	12
No experience of on-line learning:	13
Average age:	44
Occupation:	All employed full time in the VET sector
Course of study:	Diploma in Training and Assessment Systems

RESULTS AND DISCUSSION

For the purposes of this paper I will concentrate on the compiled results, follow-up interviews, focus groups and their implications. Since there were seven groups of questions as well as follow up interviews and focus groups it was considered appropriate to examine the results from each group of questions and consider these in conjunction with the results of the follow-up interviews and focus groups.

Statements about learning styles

Statement	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
I prefer face-to-face classes	4.0	24.0	24.0	32.0	16.0
I prefer to study on-line	8.0	40.0	40.0	8.0	4.0
I would like a mixture of face-to-face and on-line learning	0.0	16.0	16.0	40.0	28.0
I would like to see my teacher face-to-face to get to know what he or she is like	0.0	12.0	24.0	44.0	20.0
I would like to see my fellow students face-to-face so that I can get to know them personally	0.0	20.0	24.0	44.0	12.0
I am happy to study in isolation	4.0	24.0	0.0	48.0	24.0
I need the teacher and other students around me when I study	16.0	64.0	8.0	8.0	4.0

Table 1: Results of responses to statements about learning styles

The most significant results from this set of statements is that 72% of students are happy to study in isolation and 80% say that they do not need a teacher or other students around when they study. In contrast to this only 12% of students prefer to study on-line but 68% say they would like a mixed mode of delivery.

In probing for the reasons for this it seems that busy lifestyles are forcing students to achieve their learning goals by any means. Comments that indicate this attitude are:

"I prefer to study alone, but it doesn't really matter as long as I can achieve my learning objectives."

"I have no problem with self discipline and prefer to study around my work/home routine. However, I do enjoy networking with other participants."

"As long as I feel supported, I really don't mind the methodology."

"I study what I want to study for my own skills development and not for the qualifications. Just in time training is what is needed."

"Time is so important."

Statements about a learning community

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
I really feel part of a learning community when studying on-line	16.0	36.0	24.0	24.0	0.0
Chat sessions helped me to feel part of a learning community	20.0	20.0	28.0	32.0	0.0
The threaded topic discussions help me to feel part of a learning community	16.0	20.0	36.0	24.0	4.0
I felt that my contributions to chat and threaded discussions were welcomed and valued by the teacher and other students	0.0	8.0	76.0	16.0	0.0
Email communication helped me to feel that help was available at any time	4.0	12.0	20.0	52.0	12.0
On-line interaction with the teacher and other students considerably enhanced my learning of the course material	4.0	44.0	36.0	12.0	4.0
I feel that I can contribute more effectively on-line than I could in a face-to-face	32.0	56.0	12.0	0.0	0.0

Table 2: Results of responses to statements about learning communities

Several interesting responses to this set of statements include very low positive responses for everything except email as an aid to being part of a learning community.

Roughly half the students (52%) did not feel part of a learning community when studying on-line and a higher proportion (88%) felt that they could contribute more effectively in a face-to-face situation. On the face of it these results seem to indicate that on-line learning does not create a very good sense of a learning community.

Some of the reasons for this were indicated in the follow-up interviews and focus groups with comments such as:

"Participants talk nonsense in chat sessions"

"I just need my problems solved quickly and then I can move on"

"Personally, I have yet to participate in a synchronous chat session where educational learning has actually been transferred".

"There are too many components of on-line learning, it is just confusing".

In discussing these issues with students it became apparent that most of them were self directed and motivated learners who had little time for anything but the essentials of learning the course content and completing the assignments. They did not exhibit much of a sense of a learning community or even express a need for one. Chat session attendances were low, threaded discussions would start off vigorously but fade very quickly, web site hits were quite high at the beginning of the course, fell off dramatically during the course but picked up again at assignment times. Email was the most frequently used means of communication but only occurred between teacher and student, not student to student. It seems that students just wanted to get their particular problem attended to and then get on with the assignment or the next chunk of learning.

Schofield, Walsh and Melville (2001), in looking at the beliefs of VET practitioners, found that:

"With only one exception, participants believed that good online teaching is about building community, caring for students and being responsive."

Cashion and Palmieri (2001), in their pilot study for NCVER, surveyed students involved in online learning and the most positive statements did not mention a learning community. Instead they were more concerned about convenience and the quality of the learning materials.

The results of this study indicate that, in general, students are more focussed on outcomes than participating in a learning community. There certainly seems to be a disparity between the beliefs of VET practitioners and what students really want. On the one hand, VET practitioners Schofield *et al* (2001) and the proponents of good educational practice Warschauer (1998) are advocating that a learning community is essential for successful online learning. On the other hand, students seem to be saying they are more concerned with outcomes than participating in a learning community.

The following comment offered by a respondent is a good summary of the general sentiments of most of the students:

"Learning is a survival skill. On-line learning just gives us another option. Being self-directed helps in that."

However, a more provocative comment questioned the validity of the concept of a learning community:

"I am not convinced that "community" is an aspect of traditional classroom learning. Why should it be pushed for on-line learning? Is it the latest fad that we need to be seen espousing in order to be chic?"

Statements about lifestyle and learning

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
My work commitments mean that on-line learning is the best method of study for me	12.0	32.0	16.0	28.0	12.0
I am too busy to do any study during the week and do all of my study at the weekend	12.0	36.0	12.0	20.0	20.0
On-line learning means that I can participate in the course at any time even when I am at work	12.0	32.0	12.0	44.0	0.0
Learning has become a continuous process for me and on-line learning means that I can integrate learning with my life style	0.0	12.0	24.0	52.0	12.0

Table 3: Results of responses to statements about learning styles

The results indicate fairly widespread lifestyle and learning attitudes, with some preferring on-line learning and some not, some do study at work and some do it all at home. The most significant result was that 64% consider learning a continuous process that can be integrated with their lifestyle.

Data collected from the interviews and focus groups appeared to indicate that the motivation for study was not necessarily to gain qualifications to achieve career goals. Often the student principally wanted to acquire skills to solve problems. Busy lifestyles in the demanding and ever changing VET sector seems to throw up new challenges that often need the acquisition of new skills.

Fitting the learning process into the lifestyle was something most students seemed to be struggling with. Many were studying several courses at the same time. In some cases picking the essentials out of a course and then dropping it, The emerging picture was of many people with very crowded schedules that ran into evenings and weekends. Not many students seemed to be coping well with the pressure and it has to be said that the quality of their learning experience was seriously eroded by trying to 'fit it all in'. This aspect of the findings was supported by comments such as:

Deleted: ¶

Deleted:

"Learning may be a continuous process but that does not necessarily include formalised credentialed courses."

"My time means money to me and I cannot afford to be stuffed around waiting for something to happen. Given the extremely poor bandwidth and download speeds in Australia, on-line learning means very slow progress".

"My work can vary between quiet times and utter bedlam. On-line learning offers me the opportunity to take 'bits of study' where/when I can".

"Sometimes I just work, work, work and don't have time for anything else."

"My lifestyle, commitments and particularly sleep habits/routine means that I do a lot of studies/research after hours."

"Forced into on-line because of time, career, cost and opportunity."

"I came to the course with specific problems and objectives. The course provided a solution to the problems and helped to achieve my objectives."

Statements about learning expectations

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
My expectations of the course were fully realised	4.0	24.0	24.0	40.0	8.0
The course guide and readings were well written and well organised	4.0	16.0	12.0	36.0	32.0
The web site was a good source of information and provided links to useful on-line resources	4.0	8.0	48.0	36.0	4.0
I am satisfied that the skills I acquired on the course were relevant to my job	4.0	0.0	20.0	40.0	36.0
The course provided me with a quality learning experience	4.0	0.0	24.0	52.0	20.0

Table 4: Results of responses to statements about learning expectations

In general there was a positive response to the quality of the learning experience. In previous groups of statements there was some dissatisfaction with certain elements of on-line learning (especially the chat sessions). However, in looking at the course as a whole, 48% said that their expectations were fully realised, 76% were satisfied that the course was relevant to their job, and 72% said the course provided them with a quality learning experience.

In the interviews and focus groups the discussions reinforced that the quality of learning seemed to be directly related to the usefulness of the course, and how well it

satisfied each student's needs. There was not a sense of the course having an intrinsic value in itself; more a feeling of 'what practical benefits did it give me'? These attitudes are reflected in the following comments:

> "The matrix of what assessments to choose depending on the language used in the unit is excellent and I have passed this on to staff already."

> "It has improved my whole of process approach to the content".

> "I have learnt how complex, time consuming, at times frustrating, the writing of assessment tools can be, particularly if you want to do it well before taking it to the market place."

> "The course has assisted in so many ways. Knowing I am not 'ALONE' in this system, is one extreme boost, and to know that I have been doing it to the best of my abilities ---------- has reinforced ideas and made me look at changes."

The level of satisfaction in the course meeting expectations, was quite high. However, there seemed to be a different set of expectations about the online learning experience as compared to the traditional face-to-face learning experience. Noble (1997) reported the rejection of web-based delivery by students at the University of California, University of Los Angeles, and the University of British Columbia (the home of WEB-CT). Perhaps when students have the time to fully involve themselves in study, they prefer the traditional face-to-face delivery. Busy professionals seem to opt for the less fulfilling but more convenient online delivery.

In a recent study of learner expectations, Choy, McNickle and Clayton (2002) found that prompt feedback on assignments, regular contact with teachers and support for learning were among the most important requirements. Dissatisfaction was expressed with teachers who were not adequately prepared for on-line learning, with their own preparation for on-line learning and with inadequate support for the various facets of learning on-line.

Perhaps what we are seeing is a period of adjustment where both teachers and students are coming to grips with what might be termed as best practice. In time we might develop a set of commonly accepted standards to ensure that on-line students are not disadvantaged.

Statements about learning barriers

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
Coping with the technology required for on-line learning is a barrier to full participation in chat sessions and threaded discussions	8.0	36.0	20.0	32.0	4.0
Learning at a distance is a barrier to full participation	8.0	40.0	8.0	40.0	4.0
Fitting study into my busy life is a barrier to full participation	4.0	28.0	8.0	44.0	16.0
The cost of on-line learning (computer, modem, ISP, as well as course fees) is a barrier to full participation by the wider community	12.0	32.0	16.0	32.0	8.0

Table 5: Results of responses to statements about learning barriers

The strongest result with this set of responses was that 60% found that fitting study into a busy life was a barrier to full participation. This is consistent with other results. Coping with the technology was fairly evenly divided with 44% not having any problems while 36% did. This was to be expected since roughly half of the group did not have any experience with on-line learning. The cost of on-line learning was a problem for only 40% of the group but this figure may be distorted by the fact that many of the participants have free access to computers and the Internet at work. This figure may well be higher for the general community.

In the interviews and focus groups there were two aspects that surfaced with regards to barriers to learning. One was learning how to use the technology for the newcomers to on-line learning and the other was coping with the frustration of newcomers learning the technology for experienced on-line learning students.

Comments that revealed this situation were:

> "Technology is being used as the 'easiest' way of delivering training, not to mention the 'cheapest'. I believe real learning experiences involve a good mix of face-to-face, distance and on-line. IT skills and availability of the equipment for the wider community is a barrier."

> "Technology is one of the biggest barriers I feel. I get very frustrated trying to learn something using the on-line chat/postings and having to 'live' with others learning the technology."

> "I think that a 'how to' course for new on-line learners would help wonderfully."

> "Using technology was a barrier in that people were strangers."

"There should be a pre-requisite course in on-line learning technology for new on-line learners. Putting up with their problems was a real turn off for me and it affected the quality of my learning experience."

These comments are supported by the work of Cashion & Palmieri (2001) who reported considerable concern among students about using the technology of online learning. In a true learning community those with skills would normally help others to acquire them. In the high pressure, results oriented work environment of the experienced on-line learners in this group they did not have time to help less experienced students. They only had time to address their study needs and then move on; they had no time for 'lending a hand'.

Coming in at a tangent was a different point of view that is probably self-evident, but nevertheless is most important.

"We all allocate our time on the basis of personal priorities. As the relative priority of the course increases, so the barrier effect reduces."

This is so very well put and I found myself nodding my head in agreement. Most of the barriers to on-line learning can be surmounted if there is sufficient motivation to study the course.

Statements about using technology

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
I had no idea about on-line learning before starting the course	40.0	36.0	8.0	12.0	4.0
My skills in using computer hardware (keyboard skills, mouse, modem) were adequate for on-line learning	0.0	8.0	4.0	52.0	36.0
My skills in using computer software (browser, Internet connection, web page addresses, WebBoard) were adequate for on-line learning	0.0	8.0	8.0	52.0	32.0
I was given support in learning how to use the hardware and software	0.0	28.0	48.0	20.0	4.0
The web pages were easy to use and helped my study	0.0	16.0	44.0	40.0	0.0
The chat sessions were easy to access and be part of	8.0	28.0	28.0	32.0	4.0
The WebBoard was easy to access and use	0.0	12.0	40.0	44.0	4.0
I need a lot of support with on-line learning	20.0	40.0	24.0	12.0	4.0
Learning on-line is really frustrating	4.0	32.0	24.0	28.0	12.0

Table 6: Results of responses to statements about using technology

Despite some expression of difficulty with using on-line learning technology in previous sets of statements, it seems that basic computer skills were quite good with 88% having good hardware skills and 84% having good software skills. The highest level of dissatisfaction seems to have been with the chat sessions where 36% did not find them easy to access or use. However, 60% say that they do not need a lot of support with on-line learning but 36% say that on-line learning is frustrating. So on the one-hand students have good computer skills but on the other they found on-line learning frustrating. There was also supporting evidence about difficulties with hardware and software from the number of students who asked for help of some kind or another.

In the interviews the cause of these difficulties was discussed to determine the type of support that could be offered in future. It seems that there were two types of difficulty. One difficulty was with getting used to new software, such as that used for chat sessions and threaded discussions, as well as getting used to navigating around the web site. The other difficulty was getting the hardware to work properly. Some students had problems with firewalls that would not permit chat software; others had very slow systems that caused problems with refresh rates on chat. The first problem dissipated after users got used to the software, but the second problem needed technical support.

These technical problems definitely impacted on the quality of the students' learning experience and caused several students to consider withdrawing from the course as indicated by the following comments:

> "The problems are all with not having access from home and the quality of our computers at work."

> "The only problem was becoming familiar with the layout on the screen. Other discussion boards etc I have been involved with were set out differently."

> "I found the chat sessions slow and cumbersome."

> "I found the technology very frustrating and can't say I got a lot out of on-line learning."

> "Found it difficult to locate the WebBoard to get on the chat sessions."

> "The security firewall on my work server does not allow chat so I decided to withdraw from the course."

> "I found the Internet very slow and by the time it refreshed (using chat) I had missed some things."

Results seem to indicate that there is a strong case for some pre-course training in the use of on-line software and for checking out the capabilities of students' hardware. If these problems were addressed before the course started the educational experience of the students would have been considerably enhanced.

The importance of removing the technological barriers to participation in flexible delivery structures is recognised by ANTA (2000) in its Australian Flexible Learning Framework in VET 2000-2004. One of the goals is to provide a supportive technological infrastructure that facilitates "affordable access by all communities, learners and employers to online services".

Statements about personal development

Statements	Strongly Disagree %	Disagree %	No Opinion %	Agree %	Strongly Agree %
The study experience was not just something I had to do but something that I enjoyed	0.0	4.0	44.0	40.0	12.0
The study experience enriched my life by having interactions with different personalities and points of view	0.0	16.0	40.0	32.0	12.0
The study experience was quite exhilarating in the way that it stimulated my mind	4.0	36.0	20.0	28.0	12.0
The study experience provided me with many moments when I had to critically reflect on what I knew about the subject. These moments resulted in profound personal development	0.0	16.0	28.0	32.0	24.0
The course study materials, the web site, the chat sessions, threaded discussions and Email communication empowered me to take charge of my own learning	4.0	8.0	40.0	40.0	8.0
My previous learning in this subject supported the development of new learning	0.0	4.0	8.0	72.0	16.0
I am committed to a process of lifelong learning to pursue my personal development	0.0	0.0	4.0	52.0	44.0

Table 7: Results of responses to statements about personal development

Some very interesting results were recorded from this set of responses. Enjoyment (52%), enrichment (44%), and profound personal development (56%) were quite positive results since there was a low level of disagreement with these statements. However, the vote was split on exhilaration with 40% in agreement and 40% in disagreement. One student even found the language used in the questions questionable:

> "I feel that you have overdone the emotional language in this questionnaire. For example, exhilarating and profound."

This was the same student that found the concept of 'community' a bit faddish.

Of considerable interest is the 88% agreement that previous learning supported new learning and the 96% agreement of a commitment to lifelong learning. It would be interesting research to pursue the latter to determine if many had a plan for their lifelong learning. Comments recorded include:

> "I have no personal development plan but all my studies are job related and mostly ad hoc depending on cost and availability."

> "I used to plan specific courses of study but not now. I now have a personal approach and study what I want for my own requirements. Skills development is my motivation not qualifications."

> "I undertook this course for personal professional development and to gain knowledge to improve my business."

> "I have been involved in a formal lifelong learning program now for in excess of 10 years."

The comments indicated that few of the students had a personal development plan. Most tended to respond to the demands of their job and pursue studies that solved work related problems. This may be a function of the demographics of the group since most had settled into a career and held full time jobs. A younger group may exhibit a more structured approach to personal development.

In support of this fragmented approach to lifelong learning Kearns, McDonald and Candy (1998), in a study of the implications of lifelong learning for VET, note:

> "The report considers the impact of globalisation, new information and communication technologies, major changes in the workplace and the organisation of work, the shift from an industrial and service economy to a knowledge-based economy, and shifts in social attitudes and values which, in their cumulative impact, have produced a context of radical discontinuity."

This work identifies an era of discontinuity, and the authors coin the term 'punctuated equilibrium' to describe the climate in which the function of lifelong learning has to operate. It would seem that many of the subjects of the research under discussion in this paper are exhibiting a type of ad hoc personal development in response to the constant change in their professional lives.

CONCLUSIONS

I will focus my conclusions on describing the attributes of an on-line learning community that have been revealed by the research. This should generate a profile that can provide some useful information about the design of an on-line learning community for educators. However, I would preface my conclusions by saying that the demographics of the study group need to be kept in mind. I would suspect that another group with a different demographic profile would exhibit quite a different set of attributes.

Learning styles

The majority of students were happy to study in isolation and seem to be forced into on-line learning by life style and a busy work life. They were well motivated and task oriented. The quality of the learning experience was secondary to achieving their goal.

This implies that the educator should not expect that all students would want the all-embracing, supportive learning community that we might think is a desirable attribute of on-line learning. Educators should be prepared to facilitate the 'smash and grab' student who wants the bare minimum.

Learning community

The sense of being part of an on-line learning community was very limited and was influenced by the learning styles. It seems that busy professionals, who have a focussed learning need, do not see a learning community as a desirable attribute of on-line learning. This is not to say that it is an undesirable attribute for other students, rather that some students will participate and others will not.

Lifestyle and learning

Lifestyles were very busy and demanding and students had little time for the 'nice to know' all that they wanted was the 'have to know' in order to complete the programme. The implication for designers of on-line learning is that padding is not appreciated. On-line learning environments should be lean, well structured, relevant, and easy to use.

Learning expectations

Learning expectations were centred on the relevancy of the course to student needs and students were either satisfied or not accordingly. The interesting aspect is that there is some evidence (Noble, 1997) to suggest that the learning expectations of on-line learners are different to that of face-to-face learners. This is interesting since the learning outcome (achieving competency) is the same, so why should there be a difference in learning expectations?

One strong expectations is that the teacher needs to have considerable involvement to maintain the feeling of a learning community. Learner queries need to be answered promptly, assignments marked and returned promptly and any other assistance that may be required is provided.

The ability to satisfy the student's learning expectations is a powerful motivator to have the student complete a course of study and to enrol in other courses of study. This suggests that more research is needed in the area of on-line learning expectations.

Deleted: ¶
----------------Page Break----------------

Learning barriers

Technology is a clear barrier to novice on-line learners and coping with novices is a barrier to the experienced on-line learner. The implication here is that some screening needs to be done and the novice user should be offered training in the use of technology for on-line learning.

Using technology

Both software and hardware caused problems for students. While the teacher could often provide assistance with the software, hardware was a different matter. Technical support should be provided to on-line learners. The ideal situation would be some form of 24 hour support since students study at all hours. Where this is not possible some form of automated email reply service could be provided. For example: the University of Southern Queensland has a database driven email service that responds immediately to queries 24 hours a day.

Personal development

The strong correlation that previous learning supports current learning should encourage designers of on-line learning to provide links to the chunks of prior learning that are the building blocks to current learning. This would also enhance the relevance of current learning. Ausubel (1960) coined the term 'advance organisers' to describe this linkage. It is common practice in well designed text based materials and should be applied to on-line learning.

The ad hoc nature of course selection that seems to be driven by constantly changing workplace demands demonstrates a need for educators to be pro-active in identifying market needs and supplying relevant content in a timely manner.

The strength of commitment to personal development, the ever present need to up-skill or re-skill and the confusion about how to do it indicates a need for personal development plans that are constantly reviewed. This would be something for the learner to undertake but on-line learning communities could provide the learner with advice on how to develop personal development plans.

Concluding remarks

It is apparent from this research that the design of an on-line learning environment that promotes a real sense of a learning community is a complex task. The design is influenced by a wide range of considerations that are valid for some students but not for others. Cost factors mean that we cannot individualise the learning experience and so must accept that we cannot please everyone.

To conclude I would like to leave the last words with Albert Einstein (1931). Even that great icon of the indecipherable was concerned with the effect the systems we create have on the individual.

"Concern for man himself and his fate must always form the chief interest of all technical endeavours, … in order that the creations of our mind shall be a blessing and not a curse to mankind."

REFERENCES

Ausubel, D.P. (1960) The use of advance organisers in the learning and retention of meaningful verbal learning and retention. *Journal of educational psychology,* 51, pp 267-272.

ANTA (2000). Australian flexible learning framework for the national vocational education and training system 2000-2004. Brisbane: ANTA. http://www.flexiblelearning.net.au/1frame.pdf

Candy, J. (1999) Learning to plan: Planning to learn (Learning cities and town planning for the twenty-first century) unpublished Honours Thesis, Bachelor of Regional and Town Planning, University of Queensland.

Cashion, J. and Palmieri, P. (2002) Quality in online learning: The learners view. Swinburne Institute of TAFE. Retrieved January 23rd, 2002 from the World Wide Web: http://www.tafe.swin.edu.au/ncver/text/NCVER_Pilot_survey.ppt

Choy, S. McNickle, C. Clayton, B. (2002) Learner expectations and experiences: An examination of student views of support in on-line learning. Leabrook: NCVER.

Einstein, A. (1931) Address to the California Institute of Technology.

Kearns, P. McDonald, R. and Candy, P. Knight, S & Papadopoulos, G. (1999) VET in the learning age: The challenge of lifelong learning for all. Volume 2: Overview of international trends and case studies. Leabrook: NCVER.

Morris, R. (2001) Learning communities: A review of literature. UTS Research Centre for Vocational Education & Training.

Noble, D.F. (1997). Digital diploma mills: The automation of Higher Education. First Mind: A peer reviewed journal on the Internet. Retrieved 3rd, March 2002 from the World Wide Web. http://www.firstmonday.dk/issues/issue3_1/noble/index.html

NCVER. (2000) Students in vocational education and training. Leabrook: NCVER.

Schofield, K. Walsh, A. and Melville, B. (2001) Online learning and the new VET practitioner. UTS Research Centre for Vocational Education & Training. Retrieved 1st, February 2002 from the World Wide Web: http://www.uts.edu.au/fac/edu/rcvet/working%20papers/WP0021Schof.pdf

Warschauer, M. (1998). Online learning in sociocultural context. *Anthropology & Education Quarterly, 29:1*, 68-88.