

The First Time eLearner's Journey: An examination of attrition and withdrawal issues in workplace-based eLearning programmes

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Keith Tyler-Smith
eProjects Manager
Tertiary Accord of New Zealand
Christchurch Polytechnic Institute of Technology
Tyler-Smithk@cpit.ac.nz

Abstract

The problem of dropout rates in eLearning programmes has been argued over at length without any consistent conclusions about the extent of the problem, or a clear understanding of what direct factors contribute to learners dropping out of eLearning courses. In examining the factors that affect attrition among distance online learners this paper focuses on the distinctive characteristics of mature adult learners undertaking part-time education by distance eLearning course for the first time. It also argues that undertaking an eLearning course for the first time can be experienced as daunting and overwhelming for the mature adult learner. The learner's initial experience of confronting simultaneous, multiple learning tasks at the start of an eLearning course can contribute to an overloading of a learner's cognitive processing ability and is one possible reason for the high levels of drop outs from an online course within the first few weeks of the course start.

This paper draws on experience in the development and delivery of online management training courses to employees in the New Zealand public sector. The experience is used to develop a conceptual model of the learning journey experienced by a first-time eLearner at the start of an online course. Conclusions are drawn as to the likely factors leading to learner withdrawal, and the type, and timing of support to enhance learner retention, engagement and achievement.

Keywords:

eLearning attrition, eLearning drop-out rates, retention rates in eLearning, cognitive load, eLearning retention strategies

Introduction

Distance education and the issue of student retention and completion rates have been investigated and argued over for at least the last seven decades (Berge & Huang, 2004). Since development of eLearning and its move from the periphery of mainstream and distance education and training to a more central role (Berge & Huang, 2004), student attrition rates have been the subject of much discussion. Some have reported attrition from eLearning as high as 70% - 80% (Forrester, 2000 in Dagger & Wade, 2004, Meister, 2002). Frankola, (2001) writing about corporate eLearning puts it at between 50 & 20%. Diaz and Carr (Diaz, 2002, Carr, 2000) estimate it at 10% to 20% higher than for on-campus education, which, Tinto (1982 in Berge & Huang, 2004) reported, at between 40% and 45% for undergraduates in US higher education, and that this had been fairly consistent for most of the last century.

Questions as to the relevance or validity of much of this reporting have been raised, (Hall, 2001, Wang, Foucar-Szocki, Griffin, O'Connor and Sceiford, 2003), as statistics on retention and drop outs are, at best, fragmented; do not compare like with like; and are either unreliable and/or misleading.

The issue of attrition in eLearning courses is important for two reasons: It is important insofar as determining to what extent attrition is a symptom of poor eLearning design and practice; a lack of preparedness of learners to undertake eLearning; unrealistic expectations of learner capability by the institution or a failure to fully understand the critical factors that impact on online learners. It is also important in evaluating what approaches and strategies might work to increase learner persistence and reduce attrition, thus increasing the cost effectiveness and learning effectiveness of online distance learning itself.

Researchers acknowledge that the reasons for attrition are many and complex and that there are no simple solutions. (Berge & Huang, 2004). While a growing body of research is seeking to address the issue (Parker 1999, Frankola, 2001, Diaz, 2002, McEwen and Gueldenzoph, 2003, Martinez, 2003, Wang, et al 2003, Rossett and Schafer, 2003, Berge & Huang, 2004, Simpson, 2004), little of this research considers the issue from the learner's experience or point of view (Rossett and Schafer, 2003).

The literature is particularly scant on the direct experiences of 'first-time adult eLearners' or how the first impression of eLearning might impact on a learner's decisions to persist or to abandon online study.

A case study of attrition in workplace eLearning

In 2003 the Tertiary Accord of New Zealand (TANZ), a consortium of four of the larger polytechnics and institutes of technology in New Zealand¹, won a government contract to develop and pilot the National Certificate in First Line Management and deliver it primarily as an online programme to various segments of the New Zealand public service sector. The pilot programme, contextualised to the requirements of the New Zealand core public service, began development in mid 2004.

A primary driver for the mostly online delivery was the geographical distribution of government workers and their need for ongoing professional development. It was acknowledged by the client that traditional forms of workplace training which usually consisted of two or three day off-job training workshops or seminars had, for the most part, not provided the employing organisations with the sorts of benefits wanted from training. It was argued that the longer, drip fed approach to training and professional development that an eLearning programme offers would provide a sustainable effect of greater benefit to both the employer and employee.

Programme design and delivery

The pilot programme design and delivery approach focussed explicitly on including features to minimise the rate of attrition among pilot participants. The programme design drew significantly on the work of Salmon, (2004). In particular in relation to the design of orientation module and hardcopy information on navigation, amount of content specific information and activity in the early stages, and in promoting a focus on development of learning group cohesion and the setting of group norms, expectations and the rules around online discussions.

A mixed-mode eLearning approach was taken for the programme's instructional design. In this, a number of optional workshops were also provided in specific locations for those who wanted the social support that the face-to-face workshop would give. The programme's design was predicated on the notion that no one would be disadvantaged by not being able to attend a face to face workshop.

Learning and assessment activities were situated in the workplace. The course design emphasised the role of asynchronous communication between facilitators and learners and between learners. An important feature of the programme's online design was the intent that the learners would contribute to the development of a cross-departmental community of practice focused around the content of the course based on the shared experience of those undertaking this course of study. This community of practice would operate in parallel to and draw on learnings from the one in which learners already participated as employees within their own department.

¹ The four institutions are: Manakau Institute of Technology, Auckland, Universal College of Learning, Palmerston North, Christchurch Polytechnic Institute of Technology, Christchurch & Otago Polytechnic, Dunedin.

To enable this community of practice model to be employed, the online programme was designed for a cohort focused and time delineated delivery. This was also done in response to the constraints imposed by the funding agency's contractual requirements.

The pilot programme began with an online orientation module designed to familiarise the learners with the Blackboard Learner Management System (LMS), the programme structure, learning outcomes and assessment schedule and with communicating online. In preparation for online orientation session each learner received hardcopy step-by-step instructions on how to log onto the Blackboard Learning Management System (LMS) course site; how the course content and navigation was organised and details of where to get access to online help. Interactive tutorials on most of the necessary aspects of the course's structure, content and resources were also made available.

It should be noted that in the delivery of this pilot, it was not possible to conduct a face to face workshop prior to the start of the online programme.

Learner Profile

The ages of the learners were symmetrically distributed with the greatest number of learners falling in the age range 40-44 years (Figure 2). Gender distribution was almost exactly split 50/50 and educational backgrounds were quite mixed, ranging from school certificate to higher level degrees (Figure 3). The largest number of this cohort majority had been in their position for between 1 & 5 years (Winter, 2005a).

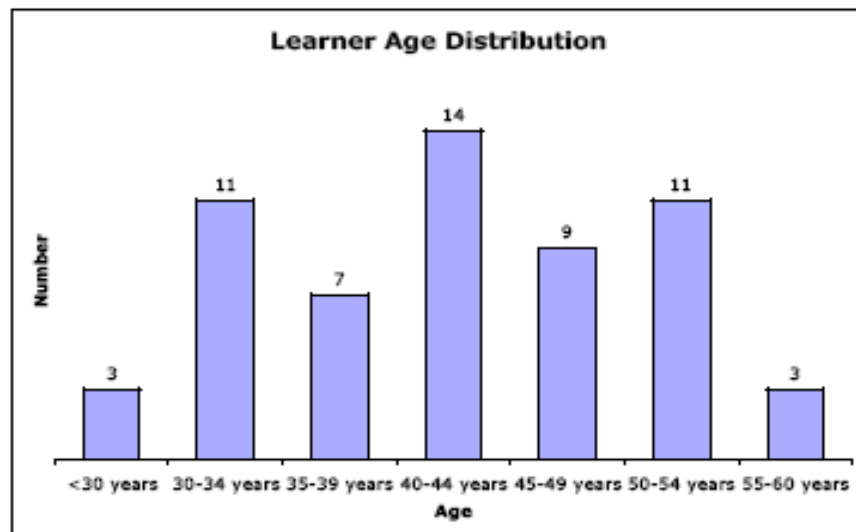


Figure 2: Learner Age Distribution

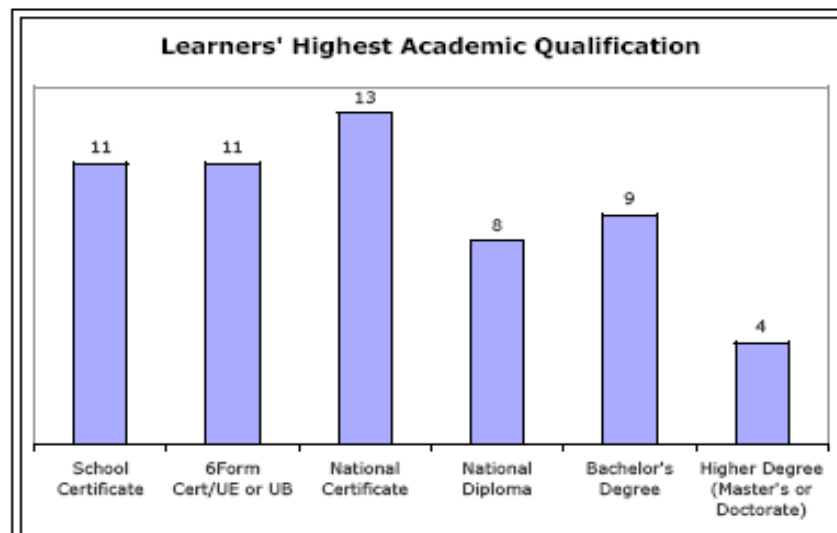


Figure 3: Learners Highest Academic Qualifications

Attrition in the pilot

Of the 89 people enrolled in the first six week module, 50 had dropped out within the first few weeks. (See Figure 3)². By the beginning of 2005 a further 10 learners had formally withdrawn or had not returned to their online programme.

After the first six week module, an external evaluator collected data from learners on the reasons for their attrition. Reasons cited included (a) lack of time; (b) workload pressures; (c) changes in personal or professional circumstances; (d) inappropriate course level; (e) technical and access problems and (f) lack of support from the employee's organisation, as the main reasons for withdrawing from the programme (Winter, 2004). However, Morgan and Tam (1999) suggest that often the reasons given by learners for dropping out may be superficial as learners "seek to protect their self-esteem..(p.97); as in reality the reasons for early withdrawal are likely to be deeper and far more complex (Berge and Huang, 2004). It may also be the result of a learner's inability to identify issues underlying increased levels of anxiety and a sense of becoming overwhelmed by unfamiliar modes of learning.

Questions concerning learners' experience with the early phase of the online programme were asked in focus group interviews conducted as part of a face to face workshop. These questions drew responses such as feelings of being "overwhelmed", "overloaded", "confused", "stressed" and "very anxious" at the start of the programme, (Winter, 2005c).

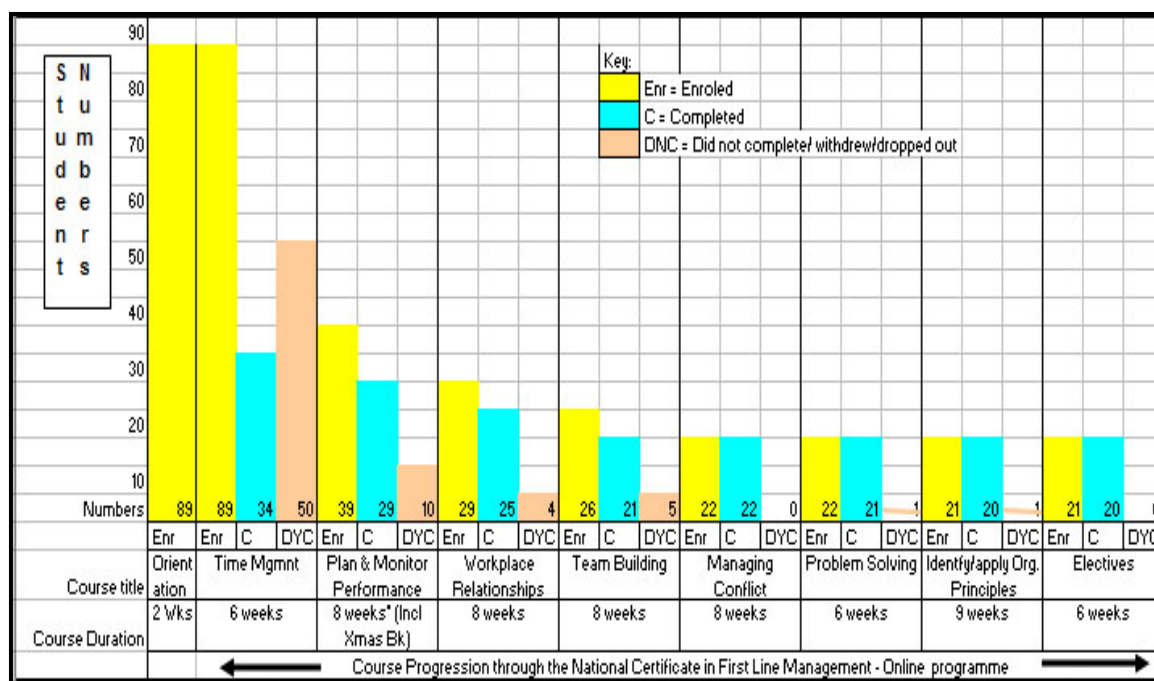


Figure 3: Details of Learner Completions & withdrawals for National Certificate in First Line Management - Online

Mature Adult learners

The profile of adult learners who are in employment is often quite different to learners enrolled in a full time programme of study and attending an institution. To begin with, learners in employment bring a

² CPIT Student Services and Information – Student records internal report 2005, CPIT is the Christchurch Polytechnic Institute of Technology and the institute responsible for delivering the National Certificate in First Line Management (QA Level 4) – Online

different set of needs, strategies and motivations to the learning process. They also tend to be older than their classroom-based counterparts (Diaz 2002), and are frequently geographically removed from the learning resources, information sources, learner peers and tutors/academics, compared to their on-campus peers. (Whittington & McLean, 2001)

Adult learners can be self-directed, experiential learners and have *"life experience that becomes an increasing resource for learning"*. Knowles (1984, p.12). They are able to generate internal motivation for their learning, often based on notions of self-development, career advancement and achievement. In terms of their learning style, they are intent on directly applying their learning in their practice and approach learning as primarily a problem-solving activity. While university, college or polytechnic learners are usually seeking qualifications that provide entry into the paid workforce, most mature adult learners are already based in the workforce. Their focus is much more concerned with promotion or a change in career direction.

Some researchers have addressed issues for employed adults engaged in eLearning and while these do not apply in all cases, they are noted here: Employed adults tend to complete eLearning in their personal time due to workload pressures in the workplace and/or Internet access issues at work. In addition, they are also often required to juggle conflicting priorities to do with work, family and social responsibilities, and develop effective strategies for doing so.

Studying in personal time can have a harmful effect on an employee's home life and family and may contribute to attrition statistics. (Thalheimer, 2004). It is also not uncommon for employees to feel stressed and conflicted in trying to balance work and study priorities. They can experience feelings of isolation through lack of collegial or organisational support and a perceived lack of control and frustration. This is particularly so if feedback and institutional support is slow or inadequate. (Takiya, Archbold & Berge, 2005). These sorts of circumstances can force mature learners into non-completion even though they may be performing well in their distance studies. ((Ozga and Sukhnandan, 1998)

Early attrition in eLearning

While many of the issues related to attrition over the life of a programme have received attention, what has not been adequately addressed is the rate of withdrawal in the very early stages of an online programme and the reasons for it. Simpson, (2004), for example, reports that the experience of the UK Open University is that more than 35% of learners withdraw before submitting their first assignment (p. 83), which suggests that a learner's initial experience with eLearning may well have a significant impact on their decision to drop out.

It is this author's contention that a significant contributor to learners dropping out early from an eLearning course is the degree to which they experience an overloading of their cognitive processes due to the scale and scope of the many learning tasks required at the start of an online course. This is particularly true of those who are undertaking eLearning for the first time and is doubly so for mature adults.

Cognitive Load Theory and the impact of cognitive overload on attrition

Cognitive Load Theory (Sweller, 1999, Sweller, Paas & Renkl, 2003; Mayer and Moreno, 2003; Brunken, Plass and Leutner, 2003; van Merriënboer, Kirschner and Kester, 2003 and Kalyuga, Ayres, Chandler & Sweller, 2003) states that learning is initially processed in working memory. Working memory is short term, low in storage capacity and can only process a very limited amount of new information at a time. Learning complex or technically demanding material requires the building up, in long term memory, of mental models or cognitive schemas about the subject being studied or the skill being developed over time. New material processed in working memory is progressively added or incorporated into these schemas. The schemas or mental models provide a knowledge structure into which the new learning can be fitted and integrated.

This cognitive architecture is built up through a lifetime of learning and experience and serves to free up resources in working memory. Working memory's limited capacity, when learning new material or skills for which a schema in long term memory does not exist, can cause working memory to overload

quickly. This results in an increase in anxiety and loss of confidence, which in turn results in the learning process, in effect, freezing and the learner being unable to continue.

A learner undertaking eLearning for the first time is confronted with multiple challenges that can impact significantly on their confidence and ability to succeed as an eLearner. These challenges include but are not exclusively "... *technical access, asynchronicity, text-based discussions, multiple conversations, information overload and isolation.*" (Whipp & Chiarelli, 2004, p.6). This conclusion is reinforced by Eshet-Alkalai (2004), who points out that:

"Digital literacy involves more than the ability to use software or operate a digital device; it includes a large variety of complex cognitive, motor, sociological and emotional skills, which users need in order to function effectively in digital environments." (p.93)

However, many mature adults do not have experience with digital literacy. They are generally far less adept at decoding the multi-media interfaces involved with eLearning than younger college aged students. Studying online presents mature adults with. "...*problems arising from the need to construct knowledge from large quantities of independent pieces of information, reached in a non linear "unordered" manner.*" (quote marks in original) (Eshet-Alkalai, 2004, p. 97).

Whipp and Chiarelli also report that those new to online learning experience apprehension about their ability to handle the technical, organisational and social challenges that learning in an online environment presents and that this may represent an aggravated instance of what Barnett (1999) calls "...*the existential anxiety of learning.*", (p.38).

While Cognitive Load Theory has mostly been concerned with the instructional design of learning materials, learning events, content and teaching approaches, it is argued here that it applies equally to the multiple learning tasks that form the early part of the learning journey of a first time eLearner. It stands to reason that the scale and scope of the new learning required can easily overload a learner's working memory and that this can lead to rapid rises in anxiety for the learner; a virtual shutting down of the learning process and feelings of being overwhelmed; of despair and a sense that eLearning is just too hard. At this point, the decision to drop out may seem the only option.

Discussion: A conceptual model of first time eLearning experience

It is hypothesised that this cognitive overloading experience is one of the prime reasons for learners to withdraw from courses within the first few weeks. Conrad and Kanuka, (1999) report that learners face "...*a steep and emotionally difficult learning curve when adapting to online technologies.*" and that their anxiety level is "...*universally high, even among those who have already completed many online courses*". (Conrad 2002, p. 220)

At the very start of an online programme, enthusiasm and interest can be quite high: However, when confronted by the multiple learning curves required, the learner can quickly become a stressed, anxious and de-motivated. Initially the new eLearner often does not appreciate the extent of his/her ignorance of the challenges, especially in the first three dimensions mentioned above. At this stage, learners can have an unrealistic level of confidence, which may be shaken soon after beginning an eLearning course. The learner's confidence plummets, and it is suggested that this can lead directly to the sort of drop out rate indicated in Figure 1 and illustrated by "Period of Maximum Attrition" in Figure 4. This is especially so if the learner does not receive adequate or appropriate support from either the delivering institution, the course facilitator or within the workplace.

In the case of a cohort driven and time constrained format of a course, learners who are struggling to master the multiple learning demands may quickly start to feel they are not able to keep up with pace of the course and feel they are falling too far behind to catch up. This can lead directly to a further loss in motivation in learners, who may not have dropped out at the earliest stage, but withdraw from the course at a later stage, either formally or through abandonment.

Tyler-Smith, (cited in Winter 2005c) proposes a conceptual model which identifies several dimensions that a first-time eLearner must deal with immediately and simultaneously on embarking on an eLearning course. These are: (1) negotiating the technology; (2) negotiating the course website; (3) negotiating the course content (4) becoming an eLearner (5) negotiating CMC interaction.

1. Negotiating the technology: This is where an eLearner is required to come to terms with the computing technologies involved. Osika and Sharp, (2002) comment that not only does a learner have to master the course material presented in course, but they must also become competent in using the range of technologies involved in online learning. Many overestimate their own skills in computing and underestimate the broader range of skills required. It also brings learners face to face with the vagaries of computing technology and their feelings of helplessness when technical support is not immediately available or easily accessed.
2. Negotiating the Learner Management System (LMS) interface: In this the learner has to develop a mental model of the content structure and navigation system in order to find his/her way around. Many learners do not have the experience of 'drilling down' through a deep website, preferring instead to "Google" many websites³. They tend only to peruse one or two pages until they find what they want. The site and content structure of an eLearning course is often multi-levelled and deep, requiring familiarity and understanding of the functionality of the LMS.
3. Negotiating the learning content: In this the learner has to engage with the learning materials, readings, activities and assessments that make up a programme of study. For many adult learners, this may be the first time in many years they have undertaken a formal learning programme and this in itself can provoke intense feeling of anxiety and apprehension.

It should be noted that this anxiety of negotiating the content may have two component parts: Confronting the actual content and of becoming a learner again. Many learners experience some apprehension when learning something for the first time. Negotiating the content relates more to the ability to master the material covered in the course. Levels of interest, aptitude and understanding would be factors in determining the level of confidence or anxiety.

Anxiety on becoming a learner again is more likely to relate to thoughts of whether one is capable of learning anything again after a long period without formal learning experience. This is especially so if the potential learner had poor experiences in the secondary school system or earlier. Thoughts like "Am I up to it? Am I clever/disciplined or literate enough? Will the others be smarter or more knowledgeable than me? Will I make a fool of myself?" All would contribute to levels of learner anxiety.

4. Becoming an eLearner: In this a learner is required to effectively abandon his/her existing mental model of what it is to be a learner in a formal learning situation. For most learners, this is likely to be the model of a teacher led classroom. eLearners need to embrace a model based on a self-directed and motivated learner who is isolated, physically from fellow learners and the tutor; and communicating primarily by electronic means.
5. Negotiating CMC interaction: In this a learner has to undertake the learning tasks involved in interacting with peers via synchronous and asynchronous Computer Mediated Communication (CMC). For those unused to the format and conventions of Discussion Forums and Bulletin Boards, communication via text, and with others a learner doesn't know, can be quite intimidating. Klem (1998, p. 1 cited in Smith, 1999, p.3) puts it this way: "...some are afraid they will embarrass themselves with postings that are not clever, erudite or interesting to others."

In addition, learners can become quickly overloaded if they are unable to get online for a period of time and the quantity of discussion forum contributions has grown to such an extent that trying to work through the backlog can be overwhelming and daunting. (Fox, 2002)

Figure 4, illustrates the learning trajectory a learner must make on their first encounter with a relatively demanding course of online study. It charts a journey from a state of relatively low levels of understanding of what's involved in terms of online competency demands, skills, relevant knowledge structures and confidence. In addition learners must deal with relatively high levels of anxiety and discomfort brought about by the lack of certainty with the new and unfamiliar digital environment. This is particularly so when levels of digital literacy are low or computing skills are confined to a few, limited applications.

If, as has been suggested here, that the learner's initial experience of the steep and multiple learning curves is a significant contributor to attrition and non-completion in eLearning courses, then clearly,

³ Personal communication with information literacy tutor, CPIT

this is something that needs close attention by eLearning designers, developers and facilitators. It is also an issue that would appear to have both the potential to be addressed relatively easily and to have a positive impact in reducing the rate of attrition at an early stage in the programme's delivery.

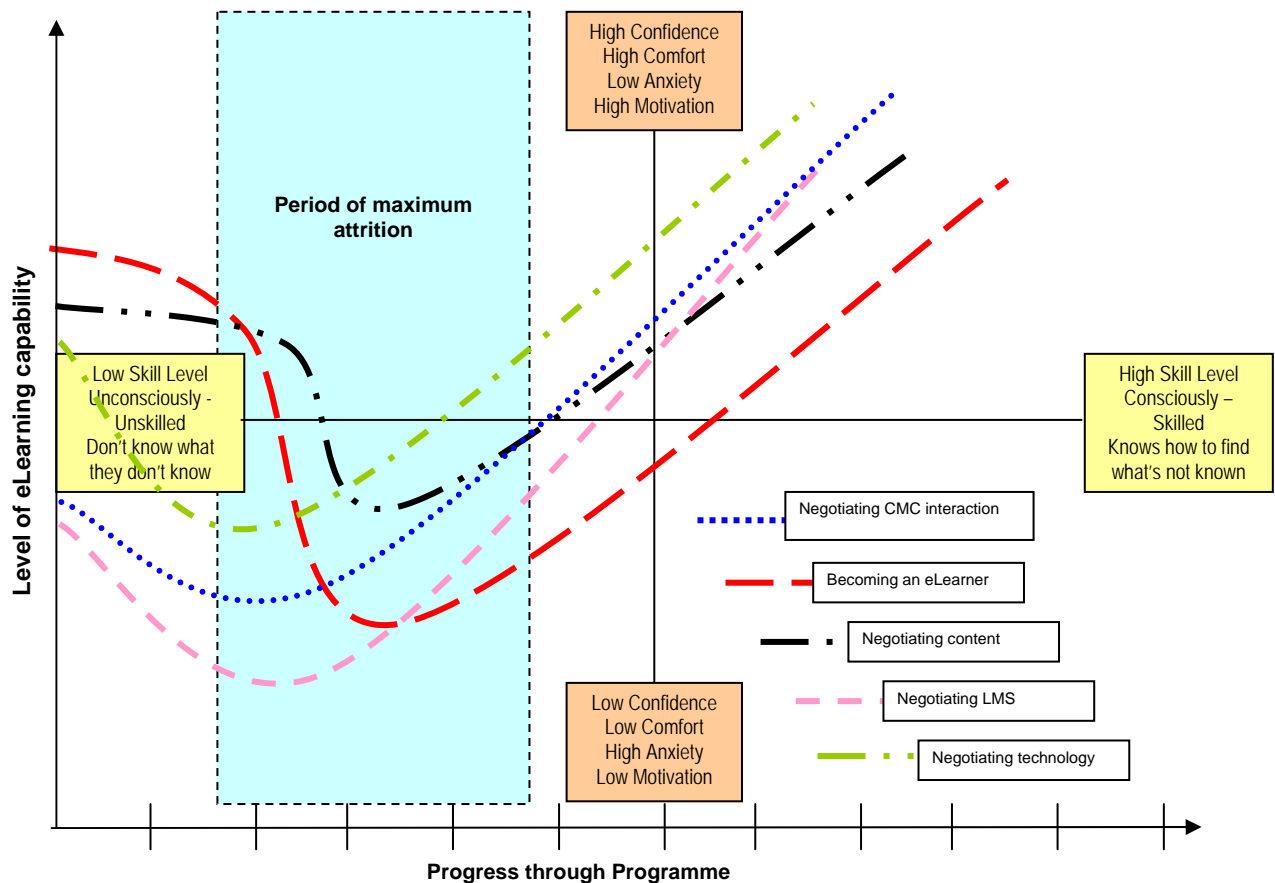


Figure 4: The Trajectory of a First Time eLearner's Journey

Suggested strategies for aiding retention and completion in online courses

Despite the extensive concerns expressed about eLearning attrition levels in the literature; the various attempts to identify contributing factors and develop models to predict and /or explain this phenomenon, there are few practical suggestions on what strategies may be employed to address this issue.

Much of the recommendations are general, non-specific and reveal little understanding or appreciation of the learner's direct experience. McEwen and Gueldenzoph (2003 p.12) for instance, include the following in their list of recommendations for retaining online students:

- *Take time to understand your students. Profiling data will be helpful, but even better are specific readiness and risk data gathered on your own online learners.*
- *Provide training and technological support that will help online instructors become competent in instructional design and online delivery.*
- *Provide opportunities for both synchronous and asynchronous communication; post and observe online office hours.*

- *Experiment with a variety of teaching strategies and note their effectiveness with online learners. Make adjustments, focusing on the characteristics and needs of the learners as well as the nature of the course. Try to develop a pool of teaching strategies that are effective for teaching information systems courses online.*

Martinez (2003) makes this suggestion, among others:

“Finally, collecting data about persistence associated with e-Learning and course completion has the potential benefit of guiding management decision-making with respect to planning, policy making, and providing future services aimed at learner support and improved return on investment.” (p. 9)

Diaz (2002) contributes this observation:

“Meanwhile, future research should consider many factors, including the role of teacher experience and/or instructional design and delivery quality in preventing attrition, the role of entry level student computer skills in preventing attrition, and the role of the online orientation process in preventing attrition.” (p. 5)

Salmon, (2004) a noted expert in online moderation and facilitation makes a number of useful and practical suggestions about inducting online learners. In particular, she identifies the need to limit the amount of content specific information and activity in the early stages, and to focus on activities (E-tivities) that promote the formation of individual identity, the development of learning group cohesion and the setting of group norms, expectations and the rules around online discussions. (p.197)

She also advocates the simplification/ limitation of navigation options early on and releasing the content as learners gain mastery with some of the basic skills. This would have the effect of reducing some of the cognitive overloading that learners experience at this stage.

Strategies to reduce early drop outs

Salmon (2004), a noted expert in online moderation and facilitation, makes a number of useful and practical suggestions about inducting online learners. In particular, she identifies the need to limit the amount of content specific information and activity in the early stages, and to focus on activities (E-tivities) that promote the formation of an individual’s identity online, the development of learning group cohesion and the setting of group norms, expectations and the rules around online discussions. (p.197)

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It is this author’s experience in designing, developing and delivering several eLearning programmes to public sector employees in New Zealand, that a face to face workshop prior the start of the online distance course, can make a significant difference to a first time eLearner’s perception and experience of eLearning. The value of having the learners meet face to face and be introduced to the technology as well as using simple online ice-breaking activities that scaffold later more complex tasks cannot be overstated. This circumvents much of the angst some learners initially experience. In addition some introductory and meaningful discussion board activities can be structured to break down the isolation, inhibitions and reluctance of some learners to engage with online conversations.

This type of pre-course face-to-face induction workshop can also be used to foster the group’s sense of itself, and to identify the individual participants and their backgrounds, along with their expectations and concerns. It is also helpful to have the course design, structure and philosophy explained and to discuss anxieties associated with beginning an online course.

Telling learners of the complex and sometimes challenging learning tasks involved in the start of an online course lets them know that this is not something only they are experiencing. Working on the basis that being forewarned is forearmed, it is this author’s contention that actually apprising learners of the issues of cognitive overload and how it is commonly experienced would go some way towards inoculating learners against its more pernicious effects.

Actively supporting, encouraging, gently cajoling and following up on learners who seem to be struggling will help to keep wavering learners in the course. Supporting learners till they are over the initial “eLearning learning-curve hump”, may involve a seemingly high level of resource and effort on the part of the course facilitator and associated programme administration staff, but the payoff is that

fewer learners will drop out at the early stage. As they gain mastery over the system and develop confidence are more likely to stay the distance.

Despite the complication and cost of bringing together geographically distributed learners, even to the extent of running such workshops in multiple centres, there are major rewards to be gained in terms of increased learner satisfaction, fewer technical issues in starting up, less time lost in getting the course underway and a significant reduction in learner isolation.

Where it is not possible to bring learners together, then the use of paper-based "How to get started" instruction booklets with screen shots and instructions in simple jargon free language will help get learners up to speed with the technology and web interfaces. This is particularly true for older learners as their comfort level and familiarity with paper documentation is high and readily fits their mental model of instructional texts. Similarly giving learners access to an orientation module on the eLearning LMS several weeks before the course begins can also help alleviate the pressure on learners. This module may provide an overview of both the course site navigation architecture as well as the structure of the online programme itself, along with some simple exercises to give the novice eLearner practice and a chance to resolve technical issues and develop an internal schema of how the course site works, before the pressure of the course schedule kicks in.

In terms of the actual course design and the structure of the materials and learning activities, then it is a useful practice to aim to start slowly and build the course tempo over time. In recognising the cognitive load issues of the early part of an eLearning course, it is reasonable to allow more time for the learners to engage with the content and with each other than might be thought appropriate in other circumstances. Similarly, it makes sense to design the course in such a way that the early tasks are relatively simple so that early success can be achieved by learners. In longer programmes that may involve a number of component courses, it is recommended that the first course in a programme be short, interesting but relatively undemanding. This allows confidence, capability and technical fluency to be developed by the learners. The scheduling tempo of the programme's content can be speeded up once learners have established the necessary competencies.

Conclusion

The problem of dropout rates in eLearning programmes has been argued over at length without any consistent conclusions about the magnitude of the problem, or a clear understanding of what can be done about it. In examining the factors that affect attrition among distance online learners this paper has focused on the distinctive characteristics of mature adult learners undertaking part-time education by distance eLearning course for the first time.

While the available research offers a constellation of causes of attrition among online learners, there is little on offer that can readily ameliorate the situation. The complexity and quanta of variables identified as to the potential or actual causes of drop rates and attrition in eLearning allow for few practical or readily applied solutions. In some respects this may be an evolutionary issue that may, in time, be resolved through improvements in technology, more effective course design, better understanding of online pedagogy and teaching skills, more learner centred design and support and the growth in a learner population for whom the whole notion of learning online is as fundamental as the classroom has been for earlier generations of learners for the last one hundred and fifty years.

The one area where something may be done to reduce attrition is in the early stages of an online course. Cognitive overload is a likely contributor to high drop out rates, particularly where those withdrawing do so within the first few weeks of the start of a course. Greater levels of persistence and completions may be achieved if learners are supported to anticipate, prepare for, recognise and recover from the cognitive burden they may experience as first time eLearners.

The issue of early drop out rates in eLearning needs further research, but it is believed that attending to and explaining how some learners may be affected by cognitive overload and the development of strategies to deal with it will reduce early attrition, improve retention and enhance learning outcomes among mature adult learners engaged in eLearning programmes.

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