

An exploration of the experiences of mature learners (post-qualified nurses) using a managed learning environment for the first time

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Abstract

This mixed methods study aimed to explore the experiences of mature learners (post-qualified nurses) using a managed learning environment (MLE) for the first time. The experience of using MLEs in education is still relatively unexplored with research to date tending to focus on the experiences of technologically capable students whilst little attention has been given to the less confident, less competent users of technology. One group of learners who typically present with these characteristics are part-time, mature students who attend post-qualifying courses in nurse education. The quantitative (survey) findings of this study indicate that many of these students (41% of survey respondents) commence their Higher Education studies with no prior experience of using an MLE and with widely varying information and communication technology (ICT) skills, factors which impacted on their ability to use the MLE effectively, despite it being an integral part of their curriculum provision. Interview participants (5) described a variety of problems including a lack of pre-course preparation and limited organisational support; the feelings they expressed included anxiety, fear and frustration. Problems were further compounded by the complications of balancing family, work and study commitments. The difficulty of dealing with varying levels of ICT skill in a large class group and the consequential impact on core content was also evident in the discussions.

The key message from this piece of work is that MLEs may have a negative impact on the learning experience if students do not possess the skills to use them and do not receive ongoing support to cope with difficulties encountered.

The provision of pre-course preparation and early recognition of ICT skill level along with using ongoing support strategies such as 'buddy' systems are included in the recommendations. A need for large scale research into the student experience is required to determine the relevance of the findings to the general student population.

Introduction

Managed Learning Environments (MLEs), also sometimes known as learning platforms, first starting appearing in the UK in the mid-1990s (Stimson and Tompsett, 1997). They enable teachers to deliver learning resources in a variety of different ways allowing students' choice about how and when they learn as well as maximising the use of face to face teaching time. Benefits from the student perspective include ease of communication and 24 hour, off-campus access to teaching resources (Jefferies et al, 2007).

Although numerous higher education institutions have now implemented MLEs successfully (Sharpe *et. al.* 2006) they remain a relatively infant technology with a somewhat patchy evidence base to underpin their role in pedagogy. In particular, the experiences of the learners themselves are yet to be fully explored. Initial work in this area has focused

on the perspective of technologically capable students (JISC, 2007); however the changing profile of learners in Higher Education (HE) calls for attention to be given to the less confident, less competent users of technology who now form a small but significant part of the student body.

The need to hear the 'voice' of these students, typified by the post-qualified nurse learner, provided the key impetus for the study described here, the aim of which was to *'explore the experiences of mature learners (post-qualified nurses) using a managed learning environment for the first time'*. This was achieved using a mixed methods approach comprising survey and interview elements. The findings presented here focus primarily on the interview (qualitative) component.

Post-qualified nurses in HE

HE student populations have changed significantly in the last 10 years, largely due to the Government's widening participation agenda (National Committee of Inquiry into Higher Education, 1997; Department for Education and Skills (DfES), 2003) which demands that students from a wide variety of ages, backgrounds, culture and abilities are given equal access to opportunities within HE. This diversity is particularly noticeable in post-qualifying nursing programmes where many recently qualified nurses will have come to nursing through the widening participation gateway, often as overseas or mature learners (Kevern and Webb, 2004).

MLEs offer students flexible delivery patterns, 24 hour accessibility, convenience and choice; significant benefits for students combining study with work and family responsibilities as many qualified nurses do. However, a significant number of these students will have been through schools before the widespread introduction of information and communication technology (ICT) and consequently possess varying degrees of ICT related skills and knowledge. Those they have acquired will usually have been gained as adults, often on a need-to-know basis rather than as part of a structured learning process, consequently leaving many gaps in their ICT skills set. For these students the prospect of learning how to use an MLE before they can learn anything else can not only be daunting, it can also detract substantially from their enjoyment of learning (Vuolo, 2007). It is important, then, to take account of the student perspective when planning the use of MLEs in curricula, as highlighted by Ruth Kelly in a UK Government report concerning the use of technology to support student learning: 'We need to listen to people's views and ensure that technology meets their needs.' (DfES, 2005).

Methodology

To gain insight into the student experience a qualitative approach was adopted (interviews with 5 students). The interview discussions were contextualised by the use of quantitative data (85 surveys in total).

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Cohort and data collection

Survey participants were recruited from a stand-alone module for qualified nurses (age range 26-58, average age 35). Data was collected initially by use of a paper-based survey which incorporated a mix of descriptive multiple-choice and dichotomous questions plus a free text box for additional comments. A minimum sample size for the survey was determined to ensure findings were statistically representative; although not required for the purposes of this study the sample size would allow for further analysis at a later date if desired.

Surveys were given to participants with a verbal and written explanation and participants were asked to return them to a pre-arranged collection point with an indication of their willingness or otherwise to participate in the interview stage. Interviewees were then selected on the basis of their availability. Interviews were conducted on a 1-1 basis using an unstructured approach with an aide-memoire to ensure the research focus was maintained. Local and national ethics guidelines (BERA, 2004) were followed throughout the study period.

Generalisability, Credibility, Reliability and Confirmability

The means of sample selection and sample size were specified in order to allow for some cautious generalisation of the quantitative results. Whilst there was no intention to generalise the qualitative findings, sufficient circumstantial detail is available to allow consideration of whether thematic findings relate to other similar instances (Denscombe, 2007).

Basic between-methods triangulation was achieved using the three sets of data (tick box survey, free text written answers and interview transcripts) as sources of complementary data (Denscombe, 2007).

Reliability of the quantitative aspects should be self-evident through the choice and design of measurement tools and through the objectivity of analysis. For the qualitative aspect, the researcher themselves is an integral part of the data collection and analysis processes, particularly in interview scenarios. Efforts were therefore made to ensure dependability was achieved by the use of a memo system to allow tracking of decision making processes retrospectively.

The process of arriving at constructs and themes and of their interpretation must be visible for qualitative findings to be confirmable (Holloway and Wheeler, 2002). As part of this process the personal perspective of the researcher was explored through the production of a reflexive account during the data analysis stage.

Data analysis

Quantitative data was collated and used for descriptive purposes. Interview transcription was undertaken by the researcher, re-read and subjected to a line-by-line analysis. A

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category scheme based on emerging themes was then produced (Figure 1).

Category scheme with sub-categories

Theme 1. People support: the influence of the support or otherwise of various people present in the student's life during the learning experience.

- 1a: Family
- 1b: Student peers
- 1c: Work colleagues
- 1d: University staff (Learning Resources Centre staff and Teaching staff)

Theme 2: Relationship with computer technology: the student's relationship with computers including their feelings about using computers generally and their willingness or otherwise for it to be part of their learning experience.

- 2a: Feelings about using computers generally
- 2b: Feelings about using computer technology in learning

Theme 3: Emotional consequences: the emotions and feelings described by students as a consequence of the learning experience.

- 3a: Fear and stress
- 3b: Sense of helplessness
- 3c: Frustration, anger and dissatisfaction
- 3d: Diminished self worth

Theme 4: Coping strategies: the coping strategies described or alluded to by students in relation to their use of MLEs

- 4a: Avoidance
- 4b: Seeking help of others
- 4c: Blaming
- 4d: Self preservation

Figure 1. Category scheme with sub-categories.

Findings

A summary of the findings is presented here. The quantitative findings set the context for the qualitative and are therefore presented first.

Summary of quantitative findings

93 surveys were administered and 85 returned (91% response rate). Survey questions are given in Figure 2 for reference.

Survey questions
1) How would you rate your confidence when using a computer? (<i>not very confident, a little confident, quite confident, very confident, other</i>)
2) How would you describe your computer skills? (<i>novice, intermediate, competent, other</i>)
3) Which of the following computer related skills do you possess? (<i>word processing, naming/saving files, sending email, sending attachment, using memory stick, using internet</i>)
4) How keen are you to use information technology (IT) in your studies? e.g. computers, discussion forums, DVDs, podcasts (<i>not keen, a little keen, quite keen, very keen, other</i>)
5) Do you have easy access to a computer with an internet connection? (<i>yes, no</i>)
6) Have you ever used a managed learning environment before? e.g. StudyNet, Blackboard, WebCT or similar (<i>yes, no</i>)
7) How do you feel about using StudyNet (the University's Managed Learning Environment) in your studies? (<i>nervous, anxious, daunted, threatened, don't mind, willing to give it a go, interested, enthusiastic, other, don't know</i>)

Figure 2. Survey questions.

Of the 85 respondents, 41% (n=35) had not used a MLE before. Of these 28% (n=10) reported being 'not very' or 'a little confident' when using computers with 62.5 % (n=22) describing themselves as having novice or intermediate skills (8%, n=3; 54% and n=19 respectively).

Despite their relative inexperience, the majority of first-time MLE users indicated that they were either 'quite keen' (42%, n=15) or 'very keen' (45%, n=16) to use IT in their studies. However, they also reported feeling anxious, daunted and threatened about using an MLE specifically.

When the responses of both groups were compared, the overall trend was for the first-time users to be more anxious, daunted and threatened and less willing, interested and enthusiastic about using an MLE than the previous users. The responses of each group are illustrated in Figure 3.

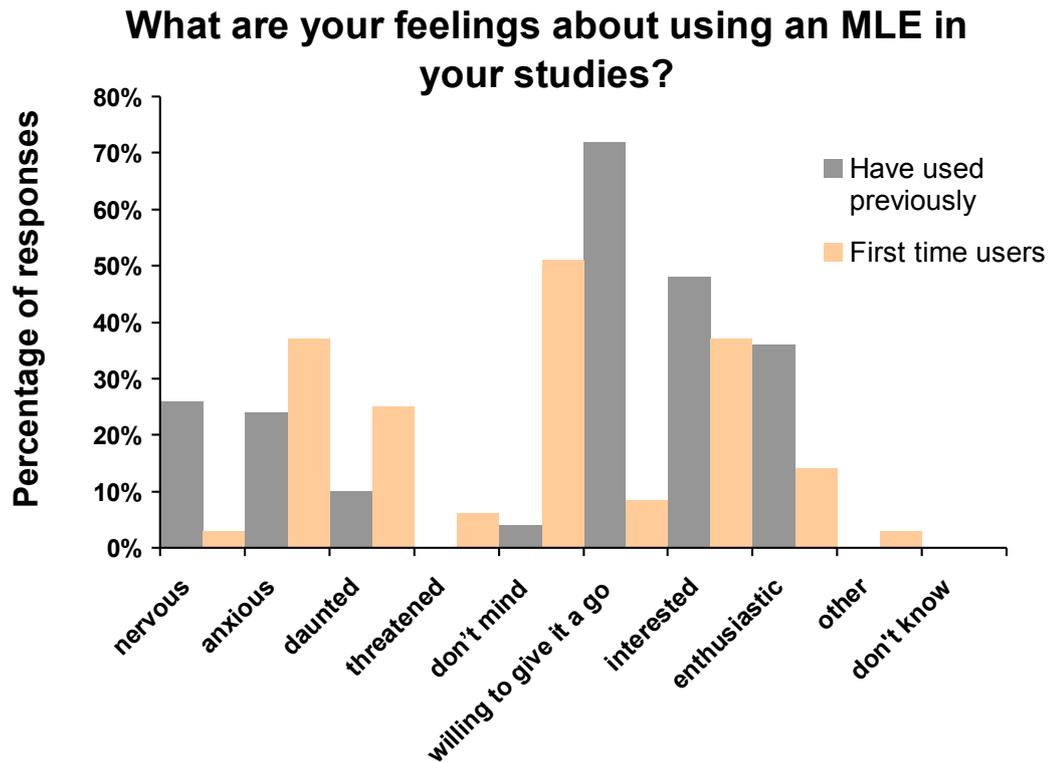


Figure 3. Survey responses: How participants felt about using an MLE in their studies. Although the primary interest is in the first-time user's group it is important to note there were feelings of being daunted, anxious, nervous and threatened in both groups.

Summary of qualitative findings

5 interviews were conducted in total. Findings are presented according to the 4 themes identified in the category code (Figure 1). Interviewees are identified as Int1, Int2, etc.

Theme 1: People support: the support or otherwise of various people present in the student's life during the learning experience

Interviewees reported using a variety of external sources of support (family, work colleagues and friends) but described problems when accessing internal (organisational) support.

1a: Family

Int2 described drawing on family support from her husband *'an IT consultant, so I know he would be able to help me'* and two young children. Int5 had also received help from her son who was, she said *'a computer whiz'*. Int3 said she was *'dependent on my colleagues, my sister and anyone else'* to find out how to do things whilst Int4 did not refer to any support saying *'I can feed myself if you know what I mean'*.

1b: Student peers

Int3 described receiving support from two work colleagues who were also attending the course whilst Int5 said she shared some things with another girl in the group which helped although this girl was also struggling. Although a level of peer support was evident, other comments suggested that family commitments and distance made it difficult for peer support networks to develop easily. Int1 said *'only coming in a few times on a course means it's hard to help each-other, we all live in different areas and I've got children...'* Int4 said *'once you did access the MLE you were completely on your own at home rather than in a group...'*

1c: Work colleagues

Previous users were cited as a source of support by several interviewees. Int1 described having to ask a student nurse in her workplace for help with the MLE whilst Int3 and Int5 both reported relying for MLE help on a colleague who had attended the course previously.

1d: University staff

Int3 described the mixed abilities in the classroom as problematic for lecturing staff saying *'at the end of the day there is (are) 50 students and what can she (the tutor) do, you know she has to pitch it to everyone, I'm sure some people will be bored you know.'* Other interviewees concurred, for example Int4 said *'a lot of time in class was taken up with people saying how do you get this and how do you get that ... I would say a lot of time was spent with problems on the MLE ... it was very frustrating'*. Int5 also referred to the high number of questions in the class related to use of the MLE and the difficulty of *'sorting everyone out'*.

The problem of managing different levels of ICT skills in the classroom clearly impacted on some students although additional ICT support was made available as Int 3 commented, *'I've been to all the extra tutorials which M has put on'*.

A lack of preparation for MLE use was also noted by three of the interviewees as follows: Int3 *'I could have been identified in advance as needing additional support'*; Int1 *'you just are sort of expected to know how to do it (use the MLE)'*; Int5 *'we weren't really told what to do'*.

The need for access to face-to-face support in a supportive environment was also commented on. Int1 described going to the LRC helpdesk with a problem and being there for 10 minutes without making progress, she said *'you think oh stuff this I'm going home'*. Later she talked about there being *'no librarians to help you'*. Int4 indicated that she didn't feel comfortable asking for help in the LRC environment because of all the young people there who were *'typing on keyboards intently'*.

Theme 2: Relationship with computer technology: the student's relationship with computers including their feelings about using computers generally and their willingness or otherwise for computer technology to be part of their learning experience.

Interviewees expressed a range of emotions and feelings about computers, including fear, frustration, stupidity and a lack of confidence. They also expressed a desire to focus on course content rather than on using new learning technologies.

2a: Feeling about using computers generally

Int1 described herself in the survey as a 'novice user' who was 'not very confident at all'. In the interview she talked about her fear of computers saying *'I have a fear of pressing the wrong button and launching a missile and taking down the whole...nursing home'*. She also expressed frustration at the increasing prevalence of computer technology *'it does really bug you when everyone says it's on the computer, what would we do if it all goes down?...I think people will lose their social skills...we'll be emailing our patients to see how they are'*.

Other interviewees expressed a more comfortable relationship with computers although even those who were computer literate had frustrations with the requirement for a student email address: Int4: *'you only have limited time in the day you know.. I don't have time to faff about between two (email) systems'*.

2b: Feelings about using computer technology in learning

Concern about the use of computers in learning was expressed: *'I can see its benefits but don't like the idea of courses going computer-based'*. The possible *'loss of classroom contact time'* was mentioned as was the lack of ability to *'bounce ideas around'* with others. The difficulties of studying in an HE environment as well as learning to use computer technology left Int1 feeling *'stupid'*, *'brain dead'* and like a *'rabbit in the headlights'*. She added *'...the hassle of getting to grips with the MLE and the LRC and all these other things have really put me off.'* Whilst the high quality of some resources was acknowledged the amount of new information to absorb left one interviewee feeling she was *'drowning a lot of the time'*.

Several interviewees reported frustration about having to learn to use an MLE instead of their chosen subject: *'I don't really want to spend time learning computers, I would rather*

learn the course stuff.’ For part-time students, many of whom have significant commitments beyond their studies, the consequence of having to learn to use an MLE in addition to their chosen course content could be loss of motivation and disengagement with the whole learning experience.

Theme 3: Emotional consequences: the emotions and feelings described by students as a consequence of the learning experience.

In this section the focus is on the lived experience of these students through the examination of their emotional language and descriptors. The anger, fear, helplessness and frustration described by interviewees links throughout to the requirement to use an MLE.

3a: Fear and stress

Fear was expressed by Int1 explicitly *‘I have a fear of pressing the wrong button’* and implicitly *‘oh this is all my worst nightmares’*. Int3 described her fear of failure *‘My thought is I’m actually going to fail you know God forbid because that’s going to do nothing for me whatsoever and I have to pass every single bit of work for the course...and God forbid because my confidence is you know...’*. She also commented on her stress levels saying *‘To be fair if I didn’t have the MLE I’d be far less stressed’*.

3b: Sense of helplessness

Int1 described feeling invisible *‘If it’s not on the computer you feel you are not really there’* and of feeling helpless when having to ask a student nurse for help. Int3 said she felt like *‘a rabbit in the headlights,’* adding *‘I’m still struggling on my own at home’*. Int5 described feeling *‘out of her depth’* and adds *‘actually I felt like I was drowning a lot of the time’*

3c: Frustration, anger and dissatisfaction

Int1 referred to her frustration and anger on several occasions for example *‘oh sod it I’m going home if you can’t get what you want’* and *‘oh this is rubbish’*. Int3 expressed her frustration as *‘aaaaaagggghhh, what a waste of time...’*. Int4 also expressed frustration in relation to time pressures and wanting *‘to get on’* as well as in relation to the less able students in the classroom *‘a lot of time was spent with problems on the MLE and it was very frustrating’*.

3d: Diminished self worth

Int4, the most computer able of the five, described feeling like *‘a plonker’* when she couldn’t use the class discussion facility. Int1 described feeling *‘stupid, really stupid’*. Int3 said *‘my overall feeling is that my brain is totally dead and I’m stupid’*. Int5 said she felt *‘pretty stupid at times’*. The words the interviewees used to describe their feelings suggested a loss of confidence as well as lowered self esteem. Coupled with the other feelings de-

scribed it is not difficult to see how the use of the MLE, for some people at least, could impact adversely on the whole learning experience.

Theme 4: Coping strategies: the coping strategies described or alluded to by students in relation to their use of MLEs

A variety of strategies were employed to cope with the use of the MLE. Some interviewees avoided it altogether although this sometimes provoked anxiety about missing things and about failing the course. Others articulated quite a strong sense of blame either against themselves or against others, but in neither case actually taking responsibility for or control of the situation i.e. another form of avoidance. The only participant who took control of the situation used a strategy which preserved her personal aims and objectives with minimal outside help.

4a: Avoidance

Int2 talked about not being bothered to fight her way through to getting to the bits she needed whilst both Int3 and Int 5 described how a former student of the course accessed materials for them and others because they couldn't get them off the MLE, thereby circumventing the problem altogether.

4b: Seeking help of others

As described in Theme 1 the interviewees sought the help of others on numerous occasions (see 4a).

4c: Blaming

Int1 talked about self-blame, saying '*well it's partly my fault for not being up-to-date*' and '*I know I was my own worse enemy*'. Int3 blamed her workplace for sending her despite being ill-prepared to use the technology.

4d: Self preservation

Int4 talked about '*needing to get on with it*' (the course) and about her tendency to be very focused because of her limited time; she made a similar comment on the survey '*whilst working and running a family home time is at a premium...*' She made little mention of seeking support beyond the help sheets and on-line tutorials. Her responses suggested she had a good idea of what she wanted and focused her energy on doing what she had to do with minimal help from external sources. She was the only participant who used a strategy which preserved her personal aims and objectives with little outside help or distraction.

Discussion

Overall, the first time users of the MLE described themselves as less confident than their more experienced counterparts and more likely to be anxious or threatened by the need to use ICT in their learning. Some described the negative impact of using MLEs on their learning experience, illustrating through their stories their struggle to use the technology, the unwelcome diversion from core module content and the use of a variety of coping strategies such as avoidance and blame to get through the experience.

Common to each of the stories was the perceived lack of organisational support. Poor academic performance, attrition and absence have all been cited as possible consequences of this (Robinson, 1995). Many participants also described feelings of anxiety, fear and self doubt all of which are barriers to academic progress. Stone (1999) suggest women who are occupied with family and domestic commitments and who are new to studying, as typified by the post-qualified nurses in this study, are particularly prone to these feelings.

Peer support networks were developed on an ad-hoc basis and may have been of limited value as few students seemed equipped to offer practical help. The infrequent attendance in class and the geographical distance between students' work-places and homes appears to have hindered the development of useful support networks. Whilst MLEs can promote peer support through facilities such as 'class discussion', this is of limited use if the users are inexperienced with computers as many of the first time MLE users were. The provision of person to person support can be particularly important in these circumstance as frequent contact both in and out of class is thought to be a key factor in maintaining student motivation and in helping students through difficult times (Chickering and Gamson, 1987).

Some interviewees reflected on their lack of pre-course preparation in relation to using an MLE but most nurse employers (who fund post-qualifying courses) are reluctant to invest in ICT skills related courses preferring instead to focus on clinical knowledge and skills. This can leave teaching staff struggling to deliver in-classroom ICT support in addition to prescribed module content. Good teaching practice demands that respect is given to the diverse needs of students (Chickering and Gamson, 1987) but dealing with different levels of student need and differing learning styles in the classroom can be problematic (Lawrence, 1993; Sims, 1995). The difficulty of dealing with varying levels of ICT skill in a large class group and the consequential impact on core content was evident in the findings.

Limitations

Participants were mainly female and therefore the sample did not address gender differences

Respondents did not necessarily see MLEs as a type of information technology, a word-

ing ambiguity which may have affected the survey findings.

Time limitations made it impossible to achieve qualitative data saturation by re-interviewing and confirmation of interview findings after transcription.

Time and accessibility also limited the total number of interviews conducted.

Key messages and recommendations for practice

The key message from this piece of work is that MLEs may have a negative impact on the learning experience if:

- a) students are not prepared for or sufficiently skilled to use them.
- b) they do not receive ongoing support to cope with any difficulties encountered.

The following recommendations for practice arise from this message. Specific recommendations have been limited to those which are achievable by changes to practice with relatively little resource impact.

General recommendations

Strategies to support students should be available to both first-time and experienced users as both groups in the study expressed feelings of anxiety regarding MLE use. In addition learning resources within the MLE should be fully embedded in the course curriculum to ensure alignment with learning outcomes and assessment tasks (Biggs, 2003). This sends a clear message from the outset that the MLE is an integral part of the learning process and should focus students on the need to engage with it rather than avoid it.

The provision of ICT training is beyond the remit of most lecturing staff and requires further discussion as to what the resource implications are and as to where the responsibility for training lies. Discussions with key stakeholders (such as funding employers) would be an appropriate starting point.

Specific recommendations

Recommendation 1: Preparation: ensure students are prepared to use the MLE

For example:

- *Include information about the MLE in the pre-course pack and induction*
- *Demonstrate the MLE in class-room to familiarise students with layout and content*
- *Screen students on commencement to identify ICT skills levels and target available ICT skills support accordingly*