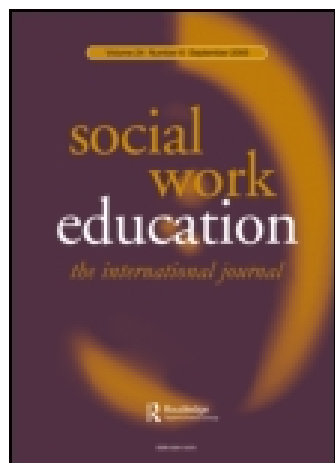


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Social Workers Can e-Learn: Evaluation of a Pilot Post-Qualifying e-Learning Course in Research Methods and Critical Appraisal Skills for Social Workers

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Social Workers Can e-Learn: Evaluation of a Pilot Post-Qualifying e-Learning Course in Research Methods and Critical Appraisal Skills for Social Workers

Martin Webber, Laura Currin, Nicola Groves, David Hay & Nicholas Fernando

Social workers are increasingly encouraged to become research minded and integrate research findings into their practice. However, there is a paucity of high-quality accessible training for social workers in research methods and critical appraisal skills. We developed an e-learning version of an MSc degree module to widen access to this kind of training and this paper presents the findings of an evaluation of a pilot of this e-learning course. To test the effectiveness of the e-learning environment in delivering research methods and critical appraisal skills training to social workers in comparison with a classroom group, we adopted a mixed methods approach which comprised concept mapping exercises, semi-structured interviews and evaluation questionnaires administered to the e-learners (n = 3) and a classroom comparison group (n = 12). Our analysis of the students' concept maps revealed no conspicuous differences in the quality of student knowledge changes that were a consequence of the mode of teaching delivery. The e-learners met the learning outcomes of the module to the same extent as the classroom group and were highly satisfied with the mode of delivery. Although this was a small pilot, it provided tentative evidence that social workers can use e-learning to develop evidence-based practice skills.

Keywords: Research Methods; Evidence-Based Practice; Critical Appraisal Skills; e-Learning; Post-Qualifying Education

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Introduction

Social workers are increasingly encouraged to become research minded and integrate research findings in their practice (Thyer, 2002). In the UK, evidence-based practice is embedded within the national occupational standards for social work and mental health (TOPPS UK Partnership, 2002; National Institute for Mental Health in England, 2003) and in the post-qualifying framework for social work (General Social Care Council, 2005).

There is a particularly strong case for social workers in multi-disciplinary teams, such as in mental health settings, to be research minded. Social workers make a unique contribution to these teams and are particularly respected for their specialist knowledge and application of mental health law (Gilbert, 2003). However, their contribution to the mental health knowledge base is meagre in contrast to the prolific research activity of psychiatrists and allied health professionals (Huxley, 2001; McCrae *et al.*, 2003).

As evidence-based mental health policy (Department of Health, 1999; Thornicroft, 2000) increasingly influences social work practice, it is crucially important for social workers to have the skills and confidence to engage with the research evidence on which it is based. For example, many social workers work in assertive outreach teams, but the UK evidence for its efficacy is not convincing (Burns *et al.*, 1999; Byford *et al.*, 2000). Also, evidence suggests that crisis intervention teams do not prevent compulsory psychiatric admissions (Johnson *et al.*, 2005a, 2005b) in contrast to joint crisis plans which appear to have this effect (Henderson *et al.*, 2004).

The paradigm of evidence-based practice originated in medicine (Sheldon and Chilvers, 2000) and does not translate easily to social work practice. Webb (2001) argued that the rationality implied in the notion inferred that social workers were limited to practising in a circumscribed fashion using only a limited number of interventions with proven effectiveness. He implied that it limits professional judgement, as decisions are made by the best available research evidence rather than professional experience. However, research evidence is only one element of a social worker's decision-making process. Practitioners consider the values and preferences of service users and carers, work within relevant policies and exercise sound professional judgement in the conduct of their everyday work. Considering the result of research is just one, albeit important, component of the complex social work task.

Evidence from studies conducted in the UK and US in the last 10 years suggested that social workers supported the idea of evidence-based practice but were not aware of the available research evidence (Sheldon and Macdonald, 1999; Sheldon and Chilvers, 2000; Booth *et al.*, 2003; Mullen and Bacon, 2004). In general these studies found that understanding of research terminology was low, practitioners felt that keeping up to date with research was important but there were organisational barriers to this and training courses contained few references to research. Practitioners rarely consulted research when making practice decisions and were unaware of evidence-based guidelines. More recent research suggests that little has changed (McCrae *et al.*, 2005; Cooke *et al.*, 2008).

It appears that social work qualifying programmes have limited capacity to develop evidence-based practitioners (Caldwell *et al.*, 2007). Consequently, the social work profession has suffered from endemic research illiteracy and the provision of additional training in evidence-based practice to social workers has been recommended (Marsh and Fisher, 2005).

Advanced post-qualifying awards in social work have the potential to provide specific training in research methods and critical appraisal, though this training is frequently only available to a small minority of senior practitioners. Advanced training in evidence-based practice for social workers can help practitioners to integrate research findings into their decision making process to improve the outcomes for the people they are working with. It will also prompt the social work profession to develop its evidence base and the confidence to assert its contribution to mental health services, as well as to gain influence on mental health policy and its own professional future (McCrae *et al.*, 2004).

At our university we teach research methods and critical appraisal skills on our post-qualifying advanced level mental health social work programme. In contrast to other similar programmes in the UK, it places emphasis upon the quantitative methods that inform mental health policy and underpin much of social work practice, in addition to the qualitative methods which social workers are more likely to be familiar with.

This module is only available to the relatively small number of practitioners who enrol for the masters programme. Although the programme has been running in various forms for almost 30 years, it has only recently expanded its intake from eight to 16 practitioners each year. Using e-learning technology there is great potential to expand access to it to promote evidence-based practice across the profession.

Distance learning in social work education is not new. Evaluations of distance learning in qualifying social work programmes are generally favourable, both in terms of student satisfaction and results when compared to classroom equivalents (e.g. Harrington, 1999; Petracchi, 2000; Petracchi and Patchner, 2001; Crowell and McCarragher, 2007). Distance learning pedagogy can be particularly appropriate for the flexible delivery of post-qualifying education in social work to accommodate the very busy work and family lives of experienced practitioners (Bourn and Bootle, 2005).

As a form of distance learning in higher education, e-learning is becoming increasingly popular and there is good evidence of its effectiveness. For example, a meta-analysis of studies of e-learning in comparison with classroom teaching found that it was more effective in teaching 'declarative' knowledge (facts, principles and relationships between knowledge elements) than traditional classroom teaching (Sitzmann *et al.*, 2006). e-Learning approaches in social work education have developed apace since the 1990s (Waldman and Rafferty, 2008). Students on qualifying programmes have found e-learning a positive and enabling experience (Madoc-Jones and Parrott, 2005). Also, for example, blended learning using virtual learning environments appears to successfully support classroom teaching (Greig and Skehill, 2008).

Delivering social work education using virtual learning environments is not without its limitations. Brabazon (2002), in a strident critique of e-learning, argued that it has poisoned teaching in higher education by, for example, diminishing critical thinking and depriving students of valuable educational experiences through its lack of face-to-face contact. In their evaluation of a technology-enhanced module of a social work programme, Zeman and Swanke (2008) found that the lack of group interaction in e-learning diminished its capabilities for transmitting professional values. e-Learning is an isolating experience for some students (Madoc-Jones and Parrott, 2005) and its effectiveness can be limited by a number of factors including students' lack of access to appropriate technology, technical problems and absence of technical help (Maidment, 2005).

Notwithstanding these limitations, e-learning does have the potential to widen access to advanced post-qualifying awards in social work. However, e-learning opportunities at this level have been slow to develop and there is a lack of evaluative research about their effectiveness. The pilot e-learning course evaluated in this paper was developed on the premise that the majority of social workers feel that they have the required skills to engage in e-learning programmes (Ipsos MORI, 2006), although their employers appear more sceptical. The course aims to provide practitioners with the knowledge, skills and confidence to critically appraise the evidence base for social work practice from an independent perspective and provides 30 credits at the advanced level in the post-qualifying framework for social work (General Social Care Council, 2005) and at masters level.

e-Learning Course

This e-learning course was designed to be equivalent to the classroom based module on the programme from which it was derived. To facilitate this, we updated the classroom module and transformed it into e-learning web-based course materials based in the WebCT platform, a widely-used online virtual learning environment. We provided a combination of learning materials, including audio presentations of lectures supplemented by bullet-point slides; learning modules containing the lecture text and hyperlinks to relevant resources; asynchronous discussion fora; synchronous virtual seminar rooms; self-test formative quizzes; and online submission of a summative assignment.

The e-learning materials were supplemented by two face-to-face group meetings to relieve the isolation that e-learners sometimes experience (Madoc-Jones and Parrott, 2005). The first was at the beginning (week 0) to provide an induction to the course and WebCT. This session helped to facilitate the group e-learning process in the virtual classroom. The second meeting in the middle of the course (week 8) provided an opportunity for revision, clarifying any uncertainties with the course materials, preparing for the critical appraisal exercises and the course assignment. This also contributed to the group bonding process to facilitate the forthcoming real-time virtual seminars.

We appointed a dedicated e-learning tutor to provide telephone and email tutorial support to the students. She also maintained weekly email contact with the group,

stimulated discussions in the asynchronous discussion fora and led the synchronous virtual seminars. This was an important aspect as social processes in the construction of knowledge cannot effectively be replaced by technology but can be facilitated through technology (Bates and Poole, 2003), as we were able to achieve via the various technological mechanisms put in place for the module.

The curriculum featured six weeks of intensive course materials after an introductory week of orientation to the e-learning environment. Each of these weeks featured a lecture and learning module on a different research method and statistical method. These course materials were peer-reviewed by another social work academic prior to 'going live', a process just as important in e-learning as in other areas of academic endeavour (Ruiz *et al.*, 2007). Minor amendments were made as a result of this process. The content of the lectures and learning modules was also published as a course text to support practitioners' learning (Webber, 2008).

The students were set a multiple-choice self-test each week and had to achieve a 60% pass mark to unlock the following week's course materials. This helped to ensure that the students had read and understood the materials before moving on to the next week's work and a logical progression through the materials. Student progression was monitored by the e-learning tutor who contacted those who appeared to be having difficulties but were not making contact with her.

In the final four weeks of the taught curriculum the students were provided with papers to read and appraise. Each week, one student uploaded their appraisal of a paper in the discussion forum 24 hours prior to a real-time seminar. The group entered the virtual seminar room (a chat room in WebCT) at a pre-arranged time the following evening to discuss the paper and the student's appraisal of it. The discussion was led by the tutor who started with the student's comments on the strengths and weaknesses of the paper and then clarified any queries about the technical aspects of it. The implications of the paper for social work practice were also discussed.

Following the 12-week taught course the students had a further four weeks to complete the summative assignment. The students were asked to choose a set of three empirical papers from a list and undertake a critical appraisal of each of them. The assignment required students to identify the strengths and weaknesses of the research reported in the papers, reflect on their relative merits and relate their findings to social work practice and policy. The students were asked to demonstrate their leadership capabilities by summarising the implications for social work practice, policy and research in a letter to a director of social services or a mental health trust which made firm recommendations arising from the results of the papers. The assignment was 5,000 words in length and submitted online via the assignments tool in WebCT.

Aims

The aim of the evaluation was to test the effectiveness of the e-learning environment in delivering research methods and critical appraisal skills training to social workers in comparison with a classroom group. Specifically, we aimed to

assess whether the quality of learning via e-learning varied from a classroom-based comparison group; the e-learners were able to meet the learning outcomes to the same extent as the classroom group; the e-learners' levels of satisfaction with the course was at least comparable with the classroom group; and whether the e-learning technology worked and was accessible to practitioners with varying levels of computer literacy.

Method

Volunteers were recruited in summer 2007 to pilot the e-learning course from September 2007 to January 2008. Advertisements were distributed to social work practitioners and managers through a variety of networks to recruit suitable volunteers. To secure their attendance on, and completion of, the course volunteers were asked to provide a £50 fee and a £50 deposit returnable on submission of the final assignment.

The 2007–2009 cohort of social workers studying the post-qualifying masters programme were the comparison classroom group. They were taught the same course in 12, one and half hour sessions during the autumn term of 2007 alongside other modules of the programme. The teaching methods were primarily lectures and small group seminars, but the classroom group were also provided with handouts of the same course materials available to the e-learning group and equivalent access to WebCT.

We adopted a mixed methods approach for the evaluation of the e-learning pilot. Firstly, we used concept mapping, a method which visualises the quality of student learning at university [see Kinchin and Hay (2007) for a review]. This is useful for evaluating courses because it allows the teaching impact on student understanding to be measured empirically (Kinchin and Hay, 2007). We conducted a comparative analysis of the classroom and e-learning group to evaluate whether the latter were disadvantaged in their learning in any way.

The students in both groups took part in three concept mapping exercises during the course of learning. The first exercise took place prior to the first lesson for face-to-face students and at the induction session for e-learning students in order to capture their prior-knowledge structures. A second exercise took place at the mid-point for both sets of students where they were given 23 pre-selected concept labels and asked to produce a concept map using the labels as the core framework. The final exercise involved creating a concept map of the students' knowledge structure as a result of participating on the module.

Secondly, we conducted semi-structured group interviews with the e-learning volunteers during the mid-point meeting and an evaluation meeting at the end of the course. These interviews focused on the strengths and weaknesses of the e-learning approach to post-qualifying education in social work, technical aspects of using WebCT, satisfaction with the course and application to social work practice. Detailed notes of these interviews were made and analysed thematically.

Thirdly, the interviews were supplemented with post-course evaluation self-complete questionnaires. These asked the volunteers to rate their confidence with each of the learning outcomes, the teaching methods and course materials, and provide additional feedback on their learning experiences. The classroom group completed equivalent questionnaires to permit direct comparison.

Ethical approval was provided by the King's College London Joint Schools Research Ethics Sub-Committee for Humanities, Law and Social Science and Public Policy (RESC 07/08-02).

Results

Eleven social workers expressed an interest in undertaking the pilot, but only five volunteered to complete it and paid the fees. All five received the course induction, but two realised soon after this that they would not have enough time to undertake the course and dropped out. They explained that their work and home lives were too busy to volunteer to pilot an e-learning course. At this stage it was too late to recruit any new volunteers, so we progressed with a group of three. There were 12 students in the classroom comparison evaluation group.

Quality of Learning

Analysis of the students' concept maps revealed no conspicuous differences in the quality of student knowledge changes that were a consequence of the mode of teaching delivery. Hay's (2007) framework for scoring meaningful learning was used to compare all students' before and after maps and showed an incidence that was equitable among face-to-face students and e-learners.

The prior-knowledge maps were divided into two broad categories. One described research as abstract methodology and procedure, and began with descriptions of tests or procedures which were without context. The others were personal maps which started with general statements about social work and research informed decision making. There was very little shift in these stances during the course and the quality of student learning was deeply affected by these different starting positions. Students with an abstract view commonly struggled to understand the targets of the curriculum (i.e. had difficulty with the mid-point exercise) and found the end of course maps difficult to construct. Students with a personal view, however, made more sense of the teaching. These issues are highlighted in the case study analyses below.

Case Study 1: Dan

Dan made a very simple map before learning (Figure 1) comprising 10 labels. None of the links were explained. His view of research was essentially procedural and his map was more like a flow chart than a genuine concept map.

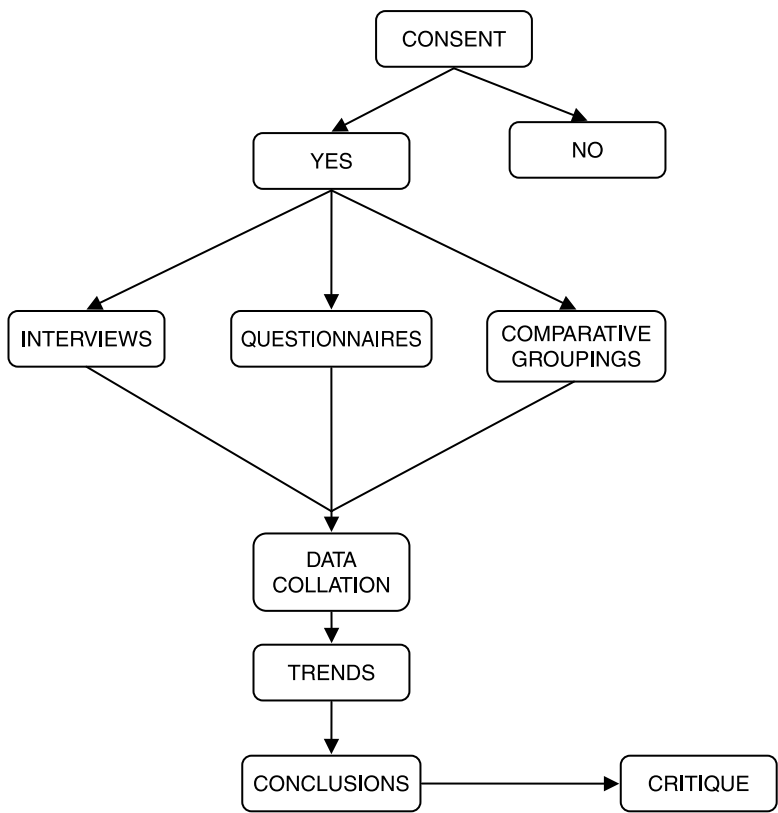


Figure 1 Dan's Prior-Knowledge Structure before the Course.

In his mid-point map, Dan's structure was more complex (Figure 2), but again the links were unlabelled (suggesting a lack of personal understanding) and the various components of his knowledge structure were highly compartmentalised. Ideas related to an 'understanding of research methods', for example, were not linked to any of the different measurement approaches or statistics.

Dan's final map (Figure 3) was almost the same as his first and suggests that he had not learnt from the course. Dan completed the course but did not complete the assignment because of other pressures on his time. Visualising his learning in the concept mapping record shows that Dan did not learn because his prior knowledge structure could not accommodate new material and he had not transformed his thinking through change.

Case Study 2: Sophie

Sophie began with a view of research methods that was essentially personal (Figure 4). Thus, for example, she tried to describe data collection and analysis in a broader professional context.



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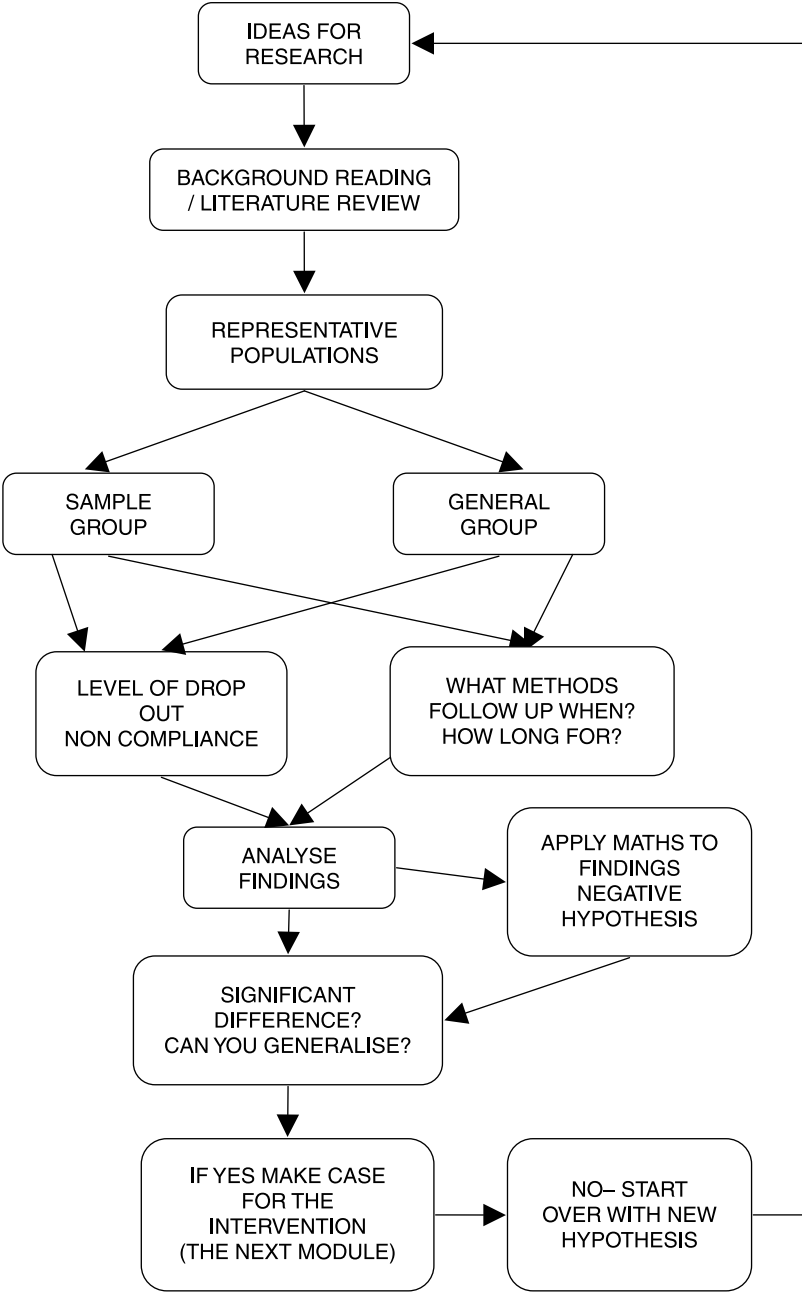


Figure 3 Dan's Knowledge Structure at the End of the Course.

The results are presented in Table 1. Although they show the e-learning volunteers with more confidence than the classroom group, these results have no statistical significance due to the small samples and selection bias cannot be ruled out. They suggest, however, that e-learning is not ineffective at delivering this form of education.

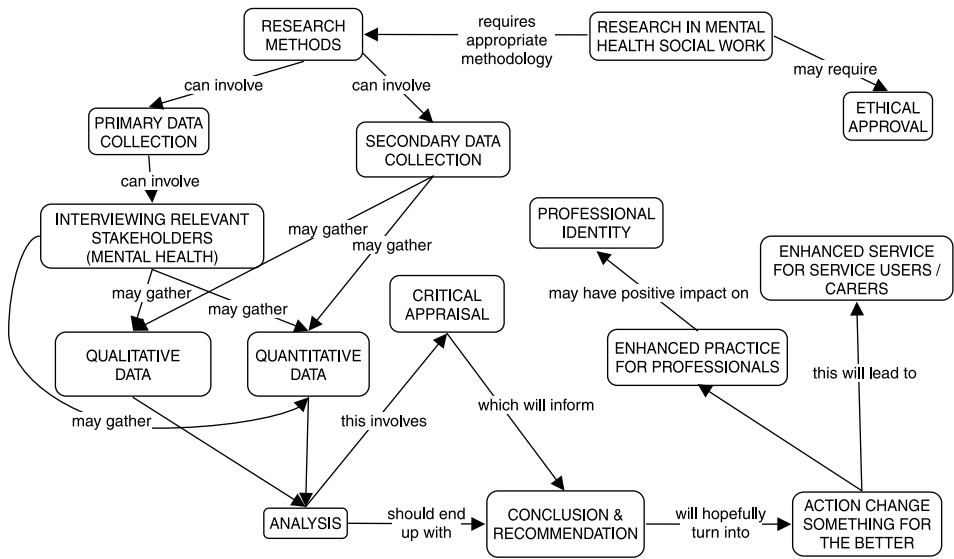


Figure 4 Sophie's Prior-Knowledge Structure before the Course.

Course Satisfaction

The e-learning volunteers appeared very satisfied with the course. For example:

The course has been excellent at introducing the concepts and the online seminars were of particular use in developing understanding. I just need more.

The course has enabled me to gain greater confidence in understanding and appraising research.

Met expectations over and above.

I feel the course delivered what it promised over an appropriate time frame.

In particular the participants commented that the course gave them skills to evaluate research, which led to greater confidence in data interpretation and in interactions with other health professionals.

Being geared up to evaluate evidence based research gives me confidence.

With time, I definitely feel I will be able to critique research more confidently.

At the end of the course we asked the e-learning volunteers to rate the helpfulness of each of the teaching methods. They found the online lectures, learning modules, seminars and the e-learning tutor assistance the most helpful pedagogical methods

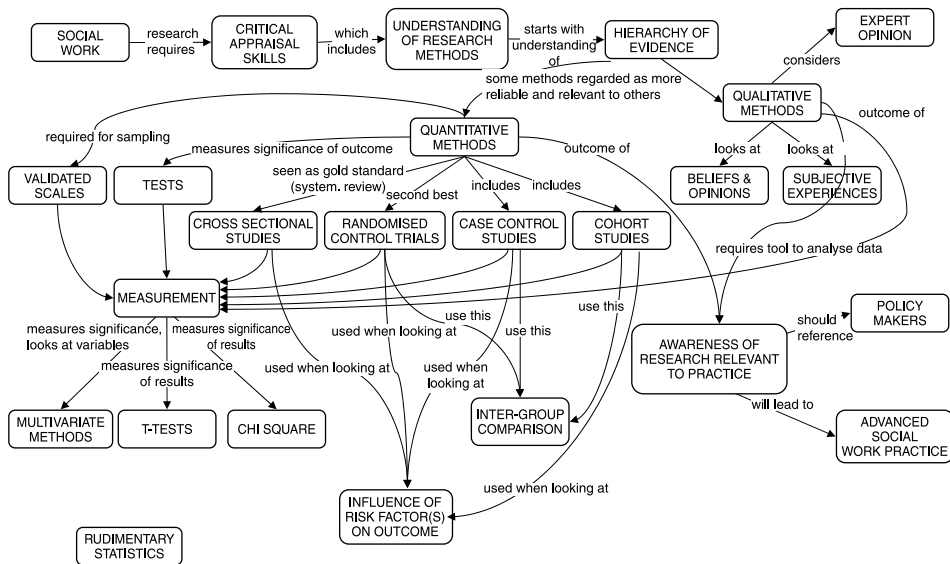


Figure 5 Sophie’s Mid-point Map using the 23 Pre-selected Concept Labels to Frame her Understanding.

(Table 2). The mid-course face-to-face meeting was least helpful. The response from the classroom group was very similar. They found the traditional didactic methods more helpful than the self-study options.

The volunteers did not seem to need many individual tutorials with the e-learning tutor. The majority of personal contact was in relation to IT difficulties, either at the

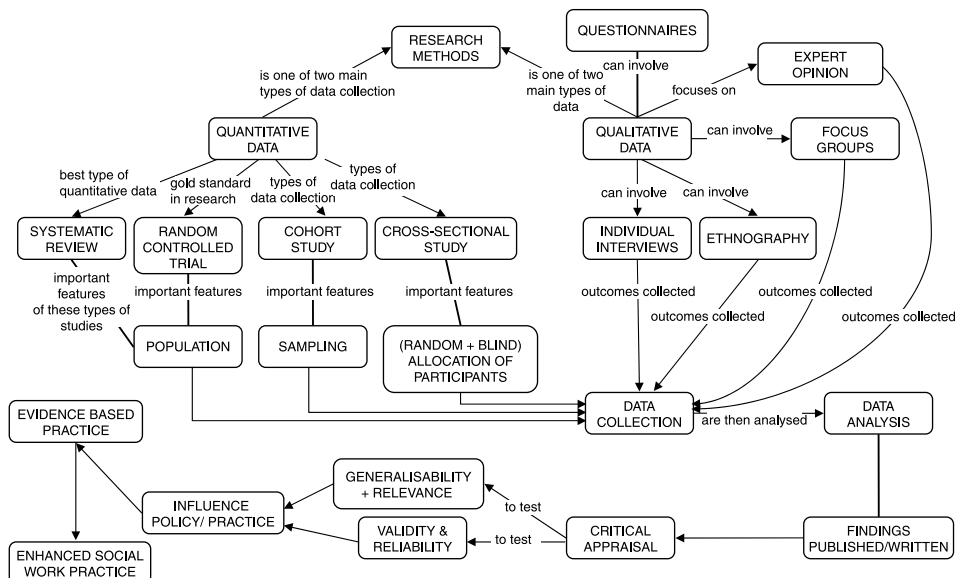


Figure 6 Sophie's Knowledge Structure at the End of the Course.

Table 1 Post-Course Confidence Ratings with Learning Outcomes

Learning outcome	Classroom group mean confidence rating (<i>n</i> = 12)	e-Learning group mean confidence rating (<i>n</i> = 3)
Understanding quantitative research methodologies used in empirical studies of relevance to social workers	5.0	7.0
Understanding statistics in empirical studies of relevance to social workers	3.9	6.3
Appraising quantitative research of relevance to social workers	4.6	6.7
Understanding qualitative research methodologies used in empirical studies of relevance to social workers	5.4	6.7
Appraising qualitative research of relevance to social workers	5.1	6.7
Making recommendations for social work practice or research from the results of empirical studies	5.2	6.3

start of the course or as they arose. However, the e-learning tutor maintained weekly email contact with the participants. This was an important point of contact and students felt it reduced the potential for isolation. Further facilitation was required during the online seminars where the e-learning tutor directed the discussion to salient points of the critical appraisal and answered factual questions. Overall the participants described the available support as adequate, but commented that future participants may need more group interaction as there is a ‘potential for isolation’ and at times ‘it is difficult to know “who else it out there”’. It is possible that the small group size contributed to this lack of interaction as it limited the number and frequency of peer postings, especially in the asynchronous discussion.

All the e-learning volunteers agreed (ticked either ‘agree’ or ‘strongly agree’ on the final evaluation form) with the following statements about the course materials, indicating that the WebCT materials are fit for purpose:

- The course materials in WebCT were easy to navigate.
- The learning modules and lecture presentations were well structured and easy to follow.
- The guidance was clear on what I needed to do each week.
- The course materials in WebCT were well designed and laid out.

Specific comments from the e-learners about the course materials generated in the semi-structured interviews included:

I very much benefitted from the week-by-week structure and felt the lectures length and content was just right for me.

Table 2 Helpfulness of Teaching Methods to e-Learners and Classroom Group

e-learners		Classroom group	
Position	Teaching method(s)	Position	Teaching method(s)
1	e-Learning tutor assistance	1	Lecturer assistance
= 2	Online lectures	2	Lectures/classroom sessions
	Learning modules	3	Book chapters/reading materials
	Real-time seminars	4	Classroom critical appraisal sessions
	Induction session	5	Access to e-learning course materials
= 6	Reading materials/online links	6	Self-tests
	Asynchronous discussion forum		
	Self-tests		
9	Mid-course meeting		

I enjoyed the online seminars which felt very informative with the tutors asking pertinent questions and/or inviting us to comment on issues.

The content of the course materials were well explained and did not require assistance to understand them. The pace of the presentations was excellent and one could also download each one.

The course was excellent in its presentation of new learning. The materials were interesting and the quiz at the end gave the opportunity to self-assess—I found that most useful to measure whether I was taking in the relevant information.

Having access to the course materials is an excellent resource. I know I can always go back and look at the materials again, which gives me confidence for approaching research papers in the future.

The e-learning volunteers encountered difficulties with finding enough time to study the course. One had negotiated time off, but this did not materialise. However, this was not unique to them as many of the classroom group also struggled to keep up with the competing demands of other modules, as well as their full work and home lives. The e-learning volunteers commented that while there is flexibility in the opportunity to engage with the curriculum, making it more accessible, it still requires a very real commitment of time and dedication. It seems that it is important to raise awareness in managers and senior staff that while e-learning is an excellent channel of delivery for continuing professional development, their staff do still need to be provided with study time each week.

Studying Online

The e-learning volunteers identified a few technical difficulties with using WebCT. These included the lack of a sound card on a computer to make the lectures audible;

difficulties accessing e-journals remotely; problems with an Internet service provider; and unlocking course materials by completing the self-tests. These difficulties were described as a frustration, and were capable of de-motivating participants if they couldn't access materials at the time they had set aside to study. Others have commented on the impact of student access to materials on motivation, and highlighted the key role that course moderators play in reducing these barriers (Salmon, 2004). Therefore, wherever we could, we helped to resolve these problems swiftly. Also, we made changes to the induction session to ensure that future students will not encounter these difficulties.

The e-learning volunteers identified some key benefits of studying online. These included:

I was less distracted, was able to rewind and repeat things as and when I wanted. I was also able to choose when and for how long I studied.

(I) overcame (the) fear of using discussion boards and chatrooms.

The best thing about e-learning was that one could do it at a time to suit.

At the beginning of the pilot, none of the volunteers had studied an online course before. By the end all of them said that they would consider studying one again and one went on to pilot our second e-learning module. The classroom group preferred the traditional teaching methods and valued the inter-personal support of the weekly classroom sessions. However, those who accessed the e-learning materials found them a useful supplement and aide memoire to the classroom course materials.

Discussion

This evaluation provides tentative evidence that e-learning appears to be as effective as classroom based teaching as a pedagogical method for training experienced social workers in research methods and critical appraisal skills. Ausubel's (1963) theory of assimilative learning provides a parsimonious explanation for the findings of our concept mapping exercises. Prior-knowledge acts as an advanced organiser for subsequent learning and students do better or worse as a consequence of how they view the topic to begin with. It seems that the mode of delivery of the training makes little difference to this.

e-Learning appears to be an acceptable method of learning and the volunteers appeared highly satisfied with the quality of education they received. Although the numbers involved in the pilot were too small to draw definitive conclusions, our results indicate that the e-learners met the learning outcomes to the same extent as those studying the course in the classroom. Additionally, the e-learning volunteers found the flexibility and autonomy of this method beneficial. Most reported being able to fit it in around their other commitments.

The varying levels of computer literacy amongst the volunteers did not appear to affect their engagement with the course and technical issues were swiftly resolved. WebCT appeared to work effectively and there were very high levels of satisfaction with the course materials. However, we were surprised that the e-learners rated the face-to-face mid-course meeting as least helpful (Table 2), particularly as they suggested to us that future e-learners may require more group contact. On the one hand, this could be explained by their relative higher satisfaction with the online learning materials and that the regular contact with the e-learning tutor, discussion boards and online seminars were effective in relieving isolation. On the other hand, it is possible that the practitioners had expected more didactic input from the course tutors during the meeting instead of its focus on consolidating learning and group bonding.

The most significant difficulty we encountered in this pilot was the time that the students needed to study the course. We highlighted in the pre-pilot publicity that the practitioners would need to set aside about five to 10 hours for studying each week, but they all found it difficult to find this time. Although the classroom and e-learning modalities might be expected to require similar amounts of time, the lack of dedicated study time in a virtual learning environment might mean it is difficult to protect from the onslaught of other commitments. The volunteers recommended that managers allowed their staff who may take this course in the future to have a few hours study time each week. Without this protected time, the practitioners struggled to keep up with all the work.

Two volunteers (40%) dropped out at the very beginning of the pilot course stating that they had taken on more than they could manage and would be unable to commit to the full length of the course. They completed their inductions but did not start to look at the course materials. This dropout rate is within the 25–40% rate found in other evaluations of e-learning courses (Carter, 1996; Parker, 2003; Xenos, 2004). It can possibly be attributed to the volunteers' low financial outlay and the lack of guarantee of academic credits on completion of the course, as it was only a pilot version. One student in the classroom group deferred to the following year as he changed jobs prior to starting the module, but there were no non-completers in that group.

There are a number of limitations with the results presented here. Firstly, the number of e-learning volunteers is too small to make any definitive conclusions about the efficacy of e-learning and no statistical significance can be inferred from the quantitative results. They can merely be taken as indicative of how an e-learning group may perform.

Secondly, no baseline measurements of the students' confidence with the various learning outcomes were taken so we are unable to deduce the extent to which the different teaching modalities affected the results. For example, it is possible that the e-learners had more prior confidence in research methods and critical appraisal skills than the classroom group. However, anecdotally, this did not appear to be the case.

Thirdly, as there was no random assignment to e-learning or classroom tuition, selection bias cannot be ruled out. Our quantitative findings could be explained by

pre-existing greater motivation and confidence amongst the e-learning volunteers (as they may have been motivated to undertake the pilot out of altruism rather than educative gain) than the classroom group.

The findings in this pilot evaluation are tentative, but they suggest that e-learning is just as effective as face-to-face classroom teaching in the education of experienced social workers in research methods and critical appraisal skills. One of the barriers to e-learning may be anxiety about studying in a new way. This has been found in other studies (e.g. Katz and Yablon, 2002) and was echoed in comments the students made during their induction session. However, by the end of the course they had confidence in the method and would readily recommend it to colleagues. For example, one of the e-learners left some advice for future students:

Go for it but make time each week to read.

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