ESCalate Themed funding: Teacher Educators for the 21st Century Grant Project Final Report

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Project Leader	Dr Pamela Cowan
Institution	Queen's University, Belfast
Partners	1. Dr Pamela Cowan, Lecturer, School of Education, Queen's University Belfast 2. Reverend Professor Peter Neil, Head of School of Education, University of the West of Scotland 3. Dr Eileen Winter, Adjunct Lecturer, School of Education, Queen's University Belfast
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Face-zine the Future: Moving from Face to Face to Online teaching

FINAL REPORT

Summary

This project examines the role of the teacher educator tutor and the strategies used to facilitate teaching and learning online. It reports on ways in which teacher educators utilise technology to support student learning and participation, and to develop effective communities of practice. The findings indicate that there has been limited transition to web 2.0 pedagogies, such as blogs, wikis, video-conferencing and the use of immersive virtual worlds. Limited use is being made of the interactive and collaborative features of VLEs. Assessment methods remain conventional written assignments and reflective journals with minimal use of online tests, e-portfolios and peer assessment. Some reasons for this lack of progress include: courses have been adapted from face-to-face to online with little evidence of familiarity with the additional pedagogical tools available; tutors have not been trained in use of the modern online pedagogies; the technology is constantly ahead of the pedagogy; and there is a lack of availability of professional development activities to model effective use of new technologies. Salmon's (2003) competence model for e-moderators was used as a basis for defining the role of the online tutor. Two additional qualities were uncovered – Preparedness and Reflection for CPD – which are instrumental in defining the role of an online tutor compared to an e-moderator. In addition the characteristics of Innovativeness and Assessment Awareness were evident for teacher educators in this study.

Project Overview

Background to project

In recent years, one of the most important influences in teacher education programmes has been the use of technology. We have witnessed a significant increase in the number of universities and colleges offering a wide selection of online courses. It has been estimated that by the year 2025 there will be between 30 and 80 million online students in the world (Hosie, Schibeci, & Backhaus, 2005). Web-based learning is regarded generally as an effective teaching and learning medium (Gerhing, 1994; Golberg, 1997; McCollum, 1997). Online programmes offer tremendous opportunities to students who might otherwise have limited or no access to high quality courses. With the widespread roll-out of government initiatives to promote online learning in the UK such as *Harnessing Technology* (DCFS, 2005) and *emPowering Schools* (DENI, 2003) in Northern Ireland, many teacher educators are moving from the traditional pedagogies of face-to-face (F2F) teaching to become online educators having had limited or no pedagogical training in this learning

environment. As the numbers of courses being offered online at universities and colleges increases, research has focused more on the online learner than on the tutors and the challenges they face in the transition from F2F to online delivery.

The courses offered online are at all levels drawing in participants both locally and internationally. In the past decade, we have also seen an increase in research that examines the effectiveness of online learning. Most of the studies report positively and the evidence suggests that well structured courses are as effective if not more so than the more traditional F2F offerings (Johnson 2000; Allan & Seamen, 2003). This proliferation of online courses brings with it a demand for tutors who understand online teaching, who are willing to embrace and explore its potential in their teaching. As the numbers of pre-service, in-service, and continuing professional development courses being offered online at universities and colleges increase, many experienced F2F tutors in teacher education will be expected to teach online. However, experienced F2F tutors do not become expert online tutors overnight. Levy (2003) suggests that tutors need to be willing to make the change to online teaching but need training and support to do this successfully. To date, much of the research aimed at preparing tutors to teach online has focused on the use of technology (Queiroz & Mustaro, 2007) and little is known about how best to prepare tutors to teach in an online environment (Taylor & McQuiggan, 2008).

Palloff and Pratt (2001, p.23) claim, "*faculty cannot be expected to know intuitively how to design and deliver an effective online course*". The role of the tutor is vital in developing and maintaining an effective online learning environment. Tutors must be skilled in preparing and presenting online courses that promote learning and must be able to develop an effective and dynamic community of learners. As Palloff and Pratt (2001, p.29) suggest, "*Without the support and participation of a learning community, there is no online course*".

Experts emphasize that a major determinant of the success of online education is faculty willingness to embrace the technology and incorporate new pedagogy to develop stimulative teaching experiences for their learners (Kim & Bonk, 2006; Ko & Rossen, 2004). The literature also suggests that preparing educators to use instructional technology effectively is essential to create successful online education (McKeachie & Svinicki; 2006). Therefore, this study aimed to explore the 'lived experiences' of online teacher educators and their multiple perspectives through the process of a hermeneutic phenomenological design.

The role of the teacher/tutor in online learning

Depending on how lecturers frame their delivery, online teaching is both the same as and different from F2F teaching, according to Oliver (2006). In a small scale study with lecturers starting to use online learning, Oliver reveals the aspects which are the same, related to monitoring progress, providing feedback and supporting students' learning. Different to F2F teaching was the way the online tutors are aware of levels of student engagement and checking contributions to the bulletin board. Oliver (2006) is of the view that the answer to whether online learning is a new pedagogy is both yes and no, depending on the perspective taken. He asserts that the focus of research needs to move away from establishing a new pedagogy for e-learning and instead to present a more complicated picture, looking at what the tutors do, why they do it and then to develop ways of

ensuring that the technology can be used to support these practices. Savin-Baden *et al.* (2010) note that little research has been done into the kinds of e-learning spaces which are currently in use within higher education teaching. They argue that much of the current literature on online learning is underdeveloped and not focused on the pedagogical underpinnings therefore they argue that there needs to be a stronger interest in online pedagogy. Sharpe *et al.* (2006) have highlighted various rationales for implementing e-learning within higher education such as: flexibility of provision, supporting diversity, enhancing the campus experience or operating in a global context and efficiency (p. 124). The role of the tutor is therefore vital as the leader of the e-pedagogy.

One of the more contemporary models for online learning is that developed by Salmon (2003) based on action research. It presents five stages of online learning, namely – access and motivation, online socialisation, information exchange, knowledge construction and, finally, development. The model assumes that learning about, and with ICT, are integrated so that the medium is the message. Stage 1 is very much about setting the scene, about preparation, and marks the beginning for students of the online course. In stage 2, online socialisation, students establish their online identities and begin interacting with the other learners. At stage 3 there is interaction among learners on the content of the course but real collaboration does not begin until stage 4 where they actively engage in learning with and from each other about the course. In the final stage, development, the learning is taken to a new level by the participants who are now able to integrate what they have learned in the online context to other contexts. Salmon's (2003) model of the competencies for e-moderators lists the qualities and characteristics required for effective online moderation. The table is presented overleaf for ease of reference. The model encompasses the skills and attributes which should be demonstrated by those moderating discussions online, including understanding the online process and technical skills, communication online, expertise in the content of the course and personal expertise.

Quality/ Characteristic	1. Confident	2. Constructive	3. Developmental	4. Facilitating	5. Knowledge Sharing	6. Creative
Understanding of the online process **A**	Personal experience as an online learner, flexibility in approaches to teaching and learning. Empathy with the challenges of becoming an online learner.	Able to build online trust and purpose for others. Understand the potential of online learning and groups.	Ability to develop and enable others, act as a catalyst, foster discussion, summarise, restate, challenge, monitor understanding and misunderstanding, take feedback.	Know when to control groups, when to let go, how to bring in non-participants, know how to pace discussions and use time online, understand the five-stage scaffolding process and how to use it.	Able to explore ideas, develop arguments, promote valuable threads, close off unproductive threads, choose when to archive.	Able to use a range of approaches from structured activities (e-tivities) to freewheeling discussions, and to evaluate and judge success of these.
Technical skills **B**	Operational understanding of software in use, reasonable keyboard skills, able to read fairly comfortably on screen, good, regular, mobile access to the Internet.	Able to appreciate the basic structures of online conferencing, and the Web and Internet's potential for learning.	Know how to use special features of software for e-moderators, eg. Controlling, weaving, archiving. Know how to 'scale up' without consuming inordinate amounts of personal time.	Able to use special features of software to explore learner's use eg. message history, summarizing, archiving by using the software productively	Able to create links between other features of learning programmes, introduce online resources without diverting participants from interaction.	Able to use software facilities to create and manipulate conferences and e-tivities and to generate an online learning environment; able to use alternative software and platforms.
Online communication skills **C**	Courteous and respectful in online (written) communication, able to pace and use time appropriately.	Able to write concise, energizing, personable online messages. Able to crate 'presence' and 'visibility' in virtual environments,	Able to engage with people online (not the machine or the software), respond to messages appropriately, be appropriately 'visible' online, elicit and manage students' expectations.	Able to interact through e-mail and conferencing, and achieve interaction between others, be a role model. Able to gradually increased the number of participants dealt with successfully online, without huge amounts of extra personal time.	Able to value diversity with cultural sensitivity; explore differences and meanings.	Able to communicate comfortably without visual cues, able to diagnose and solve problems and opportunities online, use humour online, use and work with emotion online, handle conflict constructively.
Content expertise **D**	Knowledge and experience to share, willingness to add own contributions.	Able to encourage sound contributions from others, know of useful online resources for their topic.	Able to trigger debates by posing intriguing questions. Know when to intervene, when to hold back.	Carry authority by awarding marks fairly to students for their participation, contributions and learning outcomes.	Know about valuable resources (eg. on the Web) and use them as sparks in e-tivities.	Able to enliven conferences through use of multimedia and electronic resources, able to give creative feedback and build on participants' ideas.
Personal characteristics **E**	Determination and motivation to become an e-moderator.	Able to establish an online identity as e-moderator.	Able to adapt to new teaching contexts, methods, audiences and roles.	Show sensitivity to online relationships and communication.	Show a positive attitude, commitment and enthusiasm for online learning.	Know how to create *and sustain* a useful, relevant online learning community.

Table I Salmon's (2003) E-moderator competencies

Moderation of students' discussions is only one aspect of an online tutor's role. Queiroz and Mustaro (2004) focus on the competence of tutors teaching online courses declaring it is important to realise that it is not simply a matter of adapting F2F materials for online use but that each medium is different with its own specific requirements, a view supported by Paulsen (1998). They argue for training and instruction of online tutors in order to equip them for the online environment to ensure that they can be more effective and creative in their online pedagogy. These researchers categorise the competencies which are required of online tutors as follows:

> *"to be able to use technology; to have skills to design and implement courses; to moderate, organize and archive asynchronous discussions; to establish ground rules, guide and animate synchronous discussions; to integrate different teaching and learning styles; to interact actively with students and to give them constant feedback; to make students aware of cultural differences among members of a group, of Internet ethics and netiquettes, among others"*. (p. 2)

From this list it is clear that online tutors should assume a key role in the design and creation of their online course as well as moderating its use by participants. Online learning has moved on considerably since Queiroz and Mustaro's study was published however the above key traits hold true for effective online discussions today. The recent shift in pedagogy has lead to the "*democratisation of access to education, the flexibility and personalisation of learning, the motivation to continued education and learning to learn"* (p. 2) – all considered advantages of online learning. The typical disadvantages of online learning which include feelings of isolation that some learners may experience, the lack of personal contact among participants and results of an evaluation done at a distance, do not seem to have featured in this study, where the tutors were very much concerned with the individual learner's experience and had adopted a number of strategies to prevent such isolation or alienation.

The pedagogical style underpinning the course design is vital to the learning as the tutor is the "*animator of the collective intelligence"* (Queiroz and Mustaro, 2004, citing Lévy, 1999). Online tutors must be critically reflective on a variety of aspects, including "*the context of learning, the methods used, the students, their own technical knowledge and other matters such as time management and concepts of what should be learned"* (p. 3) therefore the success of an online course depends upon tutors having a reflective and innovative attitude which prioritizes the learning process focused on the student (p. 5). Further reinforcement of these skills is noted by Larsen *et al.* (2008) who argue that online tutors form a 'community of learners' and that they have to develop four competences – knowledge about facilitation, ICT, coaching and collaboration with students.

Skills alone do not make a tutor effective in the online environment. In the past number of years there has been a shift of focus in relation to the role of the tutor from the all-knowing, all-powerful transmitter of knowledge to having a different role. McWilliam (2008, p. 263) expresses it as a move from being sage on the stage, through guides on the sides, to what she refers to as 'meddler-in-the-middle'. She summarises this changed role as the following: "*giving less time to instructions and being more of an ignorant co-worker in the thick of the action; spending more time on being an experimenter and risk taker; being a designer, editor and assembler and being a collaborative critic and evaluator, rather than a counsellor*" (p. 265). This shift is

mirrored in the online environment, particularly in the later stages of the online process. McWilliam (2008) contrasts professing with prod-*using* (emphasis in original) which involves standing outside the discipline and being prepared to be ignorant for a time and learn with the learners.

Connolly, Jones and Jones (2010) concur that e-learning has created new roles for tutors, who had previously been teaching F2F, such as e-authoring and e-moderating. They argue that e-learning is not simply taking F2F teaching and adapting it but that it "*invites critical pedagogical, technological, and organisational reflection and change"* (p.44). Their research focuses on teachers' experiences of working online for the first time and, as such, presents an interesting window into the needs of tutors as they emerge. The areas which were challenging to these tutors were the following: managing discussions and their general role in engaging students in discussions; time constraints and balancing virtual time with online commitments and the general time-consuming nature of the task. Some staff were apprehensive about writing in the discussion because of the permanence this gave their words. Other tutors were concerned about lack of student interaction with each other, stating that they saw their role as encouraging, facilitating, motivating and inspiring students to work. In relation to continued professional development (CPD), Connolly et al (2010) found that the tutors' needs remained unpredictable so that it was not possible to identify a one-size-fits-all CPD course covering common needs; courses should focus, rather, on encouraging staff to reflect, debate and learn about pedagogic practices (p. 52).

Those who have been teacher educators in the F2F context bring to online tutoring expertise which those in other disciplines may not be aware of. A knowledge of pedagogical principles, an understanding of how learners learn and a whole range of strategies to motivate and stimulate others to learn are just some of the armour they bring with them to the online environment. Saltmarsh and Sutherland-Smith (2010) state that for teacher educators, teaching represents more than course content but the act of teaching is seen as integral to their subjectivities both personally and professionally. Thus for this particular professional group, changes to modes of delivery pose particular challenges not only to the 'how' of teaching but also the 'who' (p. 15), in other words it challenges their professional identity.

Of course the focus of the tutor is on the learning of the student, so that the role of the tutor cannot be seen in isolation but has to take account of the processes and pedagogy required to ensure progression in student learning. Paulsen (1998) develops a model in which the learner is central (see model p 1). The role of the tutor is to facilitate learning. DeVries and Lim (2003) comment that tutor-student relationship can be much stronger in the online setting than F2F. Similarly the focus on the written word encourages deeper thinking and learning. They also comment favourably on the fact that the asynchronous nature of much of the discussion means that students can take longer to consider their postings and it can involve much greater participation from students since they are not competing for tutor attention. The role of the tutor is changed from being the powerful authority to being more accessible to the students. Indeed Paulsen (1998) notes that from the learner's perspective, education is a co-operative rather than an operative art, implying voluntary interaction among individuals during learning (citing Houle, 1984) and argues that learners should have some sense of collaboration in both planning and implementation. Taking both the role of the tutor and the

student, Turvey (2010) investigates the relationship between both groups with student teacher educators. Examining two case studies in detail, Turvey illustrates the complexity of the development of the student teachers' development of their professional knowledge and online practice. He argues for a more appropriate pedagogical research design to capture this complexity.

Aims of project

In the context of this study, which deals with experienced teacher educators, for those who have not been trained specifically in online pedagogy but who are learning 'on the job', it is possible to identify a training gap which identifies a priority for CPD for such tutors. This study therefore will be focusing specifically on the role of the teacher in the online context but this can only be interpreted in relation to the students they are teaching. It is difficult to disentangle these roles, although the main 'voice' in this particular study is that of the teacher educators as tutors.

The study has three aims:

1. To capture and analyse current teacher educators' experiences of moving from the traditional model of F2F classes to a model where students and tutors can participate fully and interactively online at any time during the course, and to highlight the potential enablers and barriers to this mode of teaching and learning;
2. To provide specific recommendations and priorities for professional development of tutors involved in all aspects of teacher education to support their transition to online teaching and in the development of communities of practice;
3. To develop an e-zine (electronic booklet) containing tried and tested strategies that can be used in the professional development of tutors as they move into the virtual world of online pedagogy.

The study encapsulates six main research questions and these will be addressed in the Findings section of the report.

Key Research Questions

1. What are the experiences of teacher educators moving from F2F to online teaching?
2. What strategies do teacher educators implement before, during, and after their online course to ensure 'quality learning' for students?
3. How do teacher educators measure 'quality learning' online?
4. What strategies do teacher educators employ that enable the development of a community of practice?
5. What are the main enablers and/or barriers to successful online teaching?
6. What priorities do teacher educators have for professional development in online teaching?

Theoretical framework

Laurillard (2008) considers the transition from instructionist (teacher-focused) learning through constructionist and social learning to collaborative learning (learner-centred). She summarises the combination of all four types of learning in her Conversational Framework indicating the importance of each at specific stages in the process of learning. There is a recognition that learners need to attend to the detail and theory associated with new learning, and often need one-to-one support from the tutor to construct and develop this understanding further. However it is also acknowledged that learners benefit from peer interactions and sharing of ideas in the social and collaborative context of group activities. Technology provides easy access to the media through which the features of "*attention, inquiry, discussion, practice, collaboration and production*" can be facilitated whether it is powerpoint presentations and podcasts, or discussion fora and wikis. Online courses can be designed to promote the most appropriate combinations of these learning experiences conveyed through the latest technological innovations available on the virtual learning environment (VLE). The technology also offers the affordance of a wider 'network of friends' for exchanging information, sharing and refining ideas and collaborating, in the same way as access to the internet offers connections to multiple websites or 'teachers' with expertise in the area of interest. If the Conversational Framework support teachers' roles in facilitating student learning, it begs the question can the Conversational Framework also be applied to teachers' learning in a novel context such as becoming an online tutor? This study will focus on current online tutors' experiences of the transition to online learning and will investigate the factors impacting on the successful development of online tutoring skills.

The approach adopted in this study is basically a phenomenological hermeneutic one whereby the stories of the participants are told and are interpreted through the lenses of the researcher and online tutor in dialogue.

Phenomenology is the study of the life-world, according to Swinton and Mowat (2006), that is to say the world before we reflect on it. They define it as: "*a philosophy of experience that attempts to understand the ways in which meaning is constructed in and through human experience"*. McLeod (2001, p. 56 cited in Swinton and Mowat, 2006, p. 106) states that phenomenology "*seeks to set aside any assumptions about the object of inquiry and build up a thorough and comprehensive description of the 'thing itself'"*. According to Van Manen, (1990, cited in Swinton and Mowat, ibid.), the question which phenomenology asks is 'What is this or that kind of experience like?' In doing so it differs from other modes of inquiry in not attempting to explain or interpret the phenomenon.

Hermeneutics is the process of interpretation but is, according to Swinton and Mowat, not something simply that people do. It is, rather, what people *are*, in the view of Gadamer (1981). That is to say that people always make sense of the world through interpretation. To this extent, therefore, hermeneutics is ontological and not simply epistemological (ibid.). Swinton and Mowat (2006, p. 108) state that human beings make sense of the world by using complex hermeneutical processes which occur "*implicitly and explicitly, reflectively and unreflectively*". In this sense description is also hermeneutical since the act of describing involves the act of interpreting.

Phenomenology and hermeneutics have some features in common, as outlined by Swinton and Mowat (2006, p. 108):

- They both assume construction of a social world and its meanings for reflexive human beings (citing McLeod, 2001, p. 57);
- They both rely on language as central to the process of investigation;
- They both are concerned with understanding.

Swinton and Mowat (2006) comment that phenomenology and hermeneutics present a challenge to positivism and they have emerged as research methods partly due to dissatisfaction with the scientific approach.

Methodology

The study combines both quantitative and qualitative approaches as recommended by Creswell (2007), giving equal priority to both. This design draws from the strengths, and minimises the weaknesses, of adopting a single approach thus providing rich data which can be interrogated on several levels. This design also gives the researchers richer, more valid, and more trustworthy findings and offers a fuller understanding of issues than evaluations based solely on either qualitative or quantitative methods (Creswell & Plano Clarke, 2007). Using both types of data collection provides more complete insights into the research problem and the research questions.

A mixed approach allows for triangulation, complementarity, and expansion (Greene & Caracelli, 1997). The triangulation enables researchers to test the consistency of the findings; complementarity allows for the clarification and illustration of the focus groups and survey results through interviews and case studies and has the potential to add in-depth information on the views of the participants. Expansion provides richness and detail that adds breadth to the study and more detailed data that address the research questions. A mixed method approach is also likely to increase the acceptance of findings and conclusions by the various stakeholders (Hammersley, 2000). Quantitative data are gathered from survey and qualitative data are collected through focus groups and individual interviews.

This project aims to capture the perspectives of online tutors as they move from F2F to online teaching. The School of Education, Queen's University Belfast granted Ethics Approval for the study and the use of an online survey, and focus group and individual interviews. An electronic survey was developed from the themes emerging from the literature review and the research team's own professional experience of online tutoring/teaching. The survey was piloted with a small number of non-participants and was evaluated by an external academic. Seventy tutors from Northern Ireland, Scotland and the Republic of Ireland were identified as working online in a variety of programmes and an email was sent requesting their participation in the project. This was followed by the link to the online survey. Respondents to the online survey were invited to volunteer for follow-up interviews. From the results of the online survey, the salient themes and any issues emerging were explored in depth using a mixture of individual and focus group interviews completed by the project team.

Participants

Purposive sampling was used to identify tutors from Northern Ireland, Scotland and the Republic of Ireland who were experienced online tutors. They were contacted initially about participation in the online survey on the basis that they were 'information rich' with respect to the research study (Patton, 2001). These tutors were deemed to have the knowledge and experience necessary to answer the research questions and to respond to the focus group interviews as necessary. Approximately 70 online tutors were identified and contacted, 46 of whom responded to the survey (66% response rate) and 23 of these volunteered for the focus group or individual interviews. A subgroup of 15 online tutors from a variety of backgrounds and with a range of experience online were identified and interviewed. The next section provides a detailed report on the outcomes of the survey and follow-up interviews.

Findings

RQ1: What are the experiences of teacher-educators moving from F2F to online teaching?

Higher education is making increasing use of online modes of delivery for a range of certificates, diplomas and degrees. In many cases 'blended learning' is used combining the advantages of both F2F and online teaching strategies, however, the small number of completely online modules is increasing especially to support the continued professional development (CPD) of teachers. But who are the teacher-educators moving from F2F to online teaching? A total of 70 tutors were invited to participate in the study, of whom made 46 responses to the survey (66% response rate) with 72% of the respondents being female and 28% male. As shown in Figure 1 the majority (41%) of the sample were aged 45-54 years while 35% were 55-64 years of age. No-one was under 25 years of age indicating the existence of a more mature population of online tutors. There was a higher proportion of the female group in the older category (55-64 years) than in the same category for males.

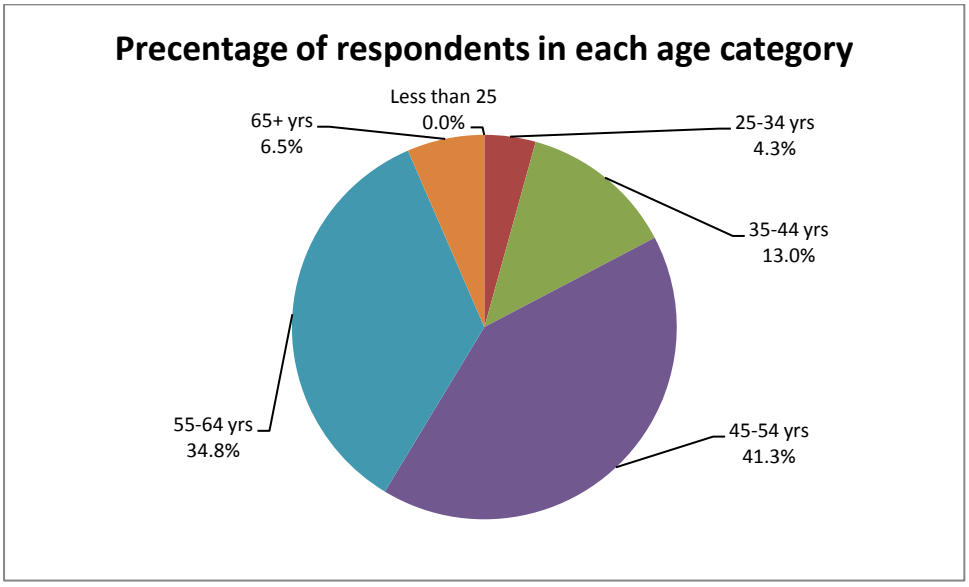

Figure 1: Age distribution of sample

Eighty percent of these tutors had a teaching qualification and therefore they had experience of teaching in the F2F context prior to becoming an online tutor. The years of teaching experience ranged from 2 to 41 years with a mean of 20.9 years and a median of 22 years teaching. The sample was bi-modal with modes of 20 and 25 years. Of the females, 84.4% had been teachers compared to 69.2% of the males, however, the males, on average, had 22.4 years of teaching experience compared to 20.3 years for the females. All of the tutors had taught online between 1 and 10 years however two respondents had been innovators and had 15 years of online teaching experience each. The modal number of years of online teaching was 4 years with a median of 5 years and a mean of 5.74 years. Again the males had more experience of being an online tutor (7.2 years) compared to females (5.1 years) but it is interesting to note that there was very little difference between the respondents who had a teaching qualification and those who did not when it came to the mean number of years teaching online. Those tutors with a teaching qualification had 5.8 years of online experience compared to 5.7 years for those with no teaching qualification. It could therefore be assumed that teaching experience has not been a requirement to be an online tutor for those people currently involved in online courses or alternatively, the age of the online tutors reflects the past history of teachers where a degree could be substituted for a teaching qualification. As the following analysis indicates, it is possible that the latter explanation holds true. It was the 45-54 age group who, on average, had the most experience of online teaching (6.4 years) but had only taught for 18.2 years in the F2F situation. The respondents aged 55-64 years had spent on average 27 years in the classroom teaching F2F and 6.0 years of online teaching, while the over-65s had been teaching in classrooms for 24.7 years and had entered into online teaching quite late with only 3.7 years experience of being an online tutor. The younger age groups: 25-34 years of age and 35-44 years of age had similar levels of experience of classroom teaching with 12 years and 14.2 years in the F2F context respectively and both groups had been online tutors for an average of 4.5 years. Clearly the quickest transition from F2F to online teaching was made by the 45-64 age groups (mainly post-primary school teachers, college and university lecturers).

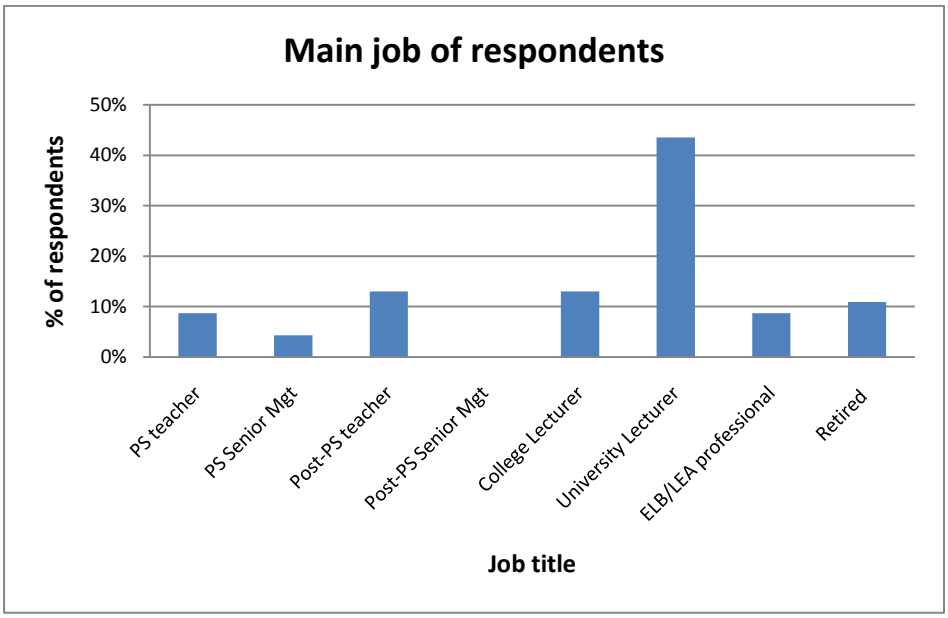

Figure 2: Respondents' main job

The respondents' main job is shown in Figure 2. The majority (42%) of the online tutors responding were university lecturers with 13% employed as College lecturers and 11% as post-primary school teachers, or retired. None of the sample was part of the Senior Management Team in post-primary schools. Over 45% of the males were university lecturers compared to 40.6% of females and 23.1% of the male cohort were post-primary school teachers. Only 6.3% of the female cohort were post-primary teachers with 12.5% employed as primary teachers. In terms of making the transition from F2F to online teaching Table II illustrates the average number of years each group spent teaching in each context. It is interesting to note that the university lecturers have the least experience of teaching F2F yet the most experience as online tutors. Conversely those tutors from Primary School Senior Management are most experienced in the classroom and least experienced online. The opportunities for the transition from F2F to online teaching appear to have occurred in three phases: at university, college and post-primary level initially, followed by a gap of approximately two years then at a support level from ELB/LEA or retired teachers, followed by teachers from primary schools.

Main job	F2F teaching (yrs)	Online teaching (yrs)
Primary school teacher	22.5	3.5
Primary School Senior Management	24.0	3.5
Post-primary school teacher	21.2	6.6
College lecturer	22.0	6.2
University lecturer	19.2	6.8
ELB/Local Authority professional	22.8	4.1
Retired	21.6	4.4

Table II Mean number of years teaching by main job

Figure 3 illustrates a high proportion (82.6%) of the online tutors are teaching on award-bearing courses such as Diploma, Masters or Chartered Teacher while only 45.7% deliver non-award bearing courses such as in-service courses or on-going professional development courses. Clearly some respondents are involved in both types of courses and there is an equal distribution of males and females in the non-award bearing courses.

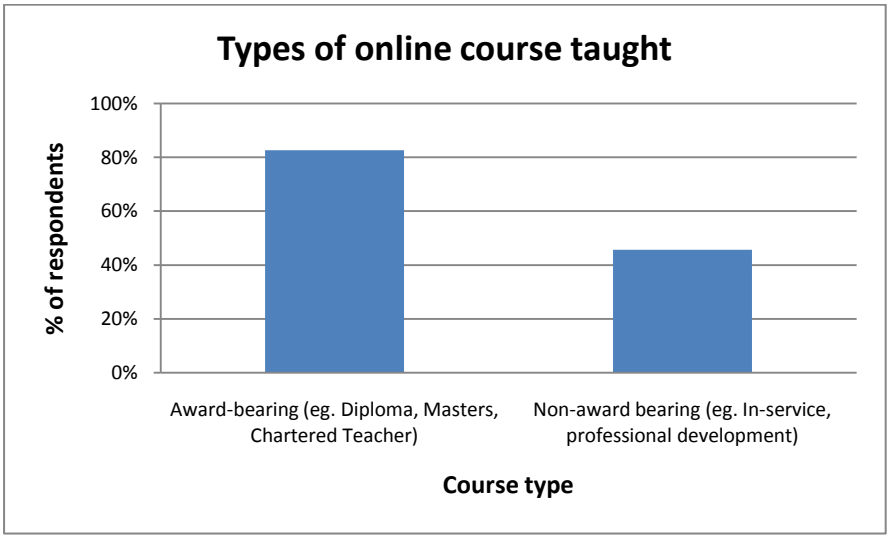

Figure 3: Course types

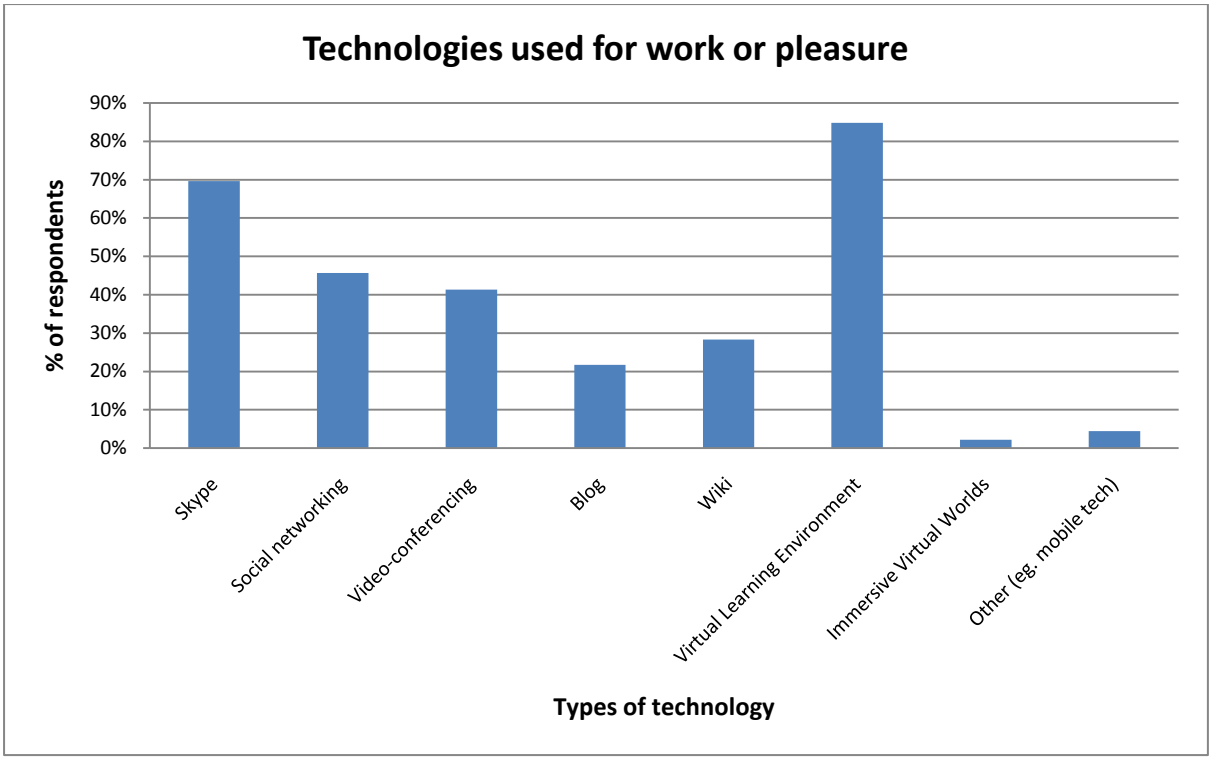

Figure 4: Technology used for work/pleasure

In terms of the respondents' level of familiarity with technology for both work and pleasure, Figure 4 shows the majority (84.8%) were familiar with VLEs such as Moodle, WebCT and BlackBoard. Almost 70% of them used Skype while 46% participated in social networking (Facebook, Twitter etc.) and 41% were users of video-conferencing. Collaborative facilities such as wikis and blogs were used by 28% and 22% of respondents respectively while only one person had experienced Immersive Virtual Worlds such as Second Life. One participant used none of the above while other technologies included mobile technology and GLOW. Figure 5 shows Moodle is the most popular VLE platform being used for teaching by these respondents with 71.7% of the sample having used it compared to 45.7% using Blackboard. As expected, the online tutors have experience of using more than one VLE for teaching with 26% familiar with TopClass, 24% users of WebCT, 17% engaging in the university's own VLE, with Others listed as LearningNI, StudyWiz, Fronter, FirstClass and GLOW.

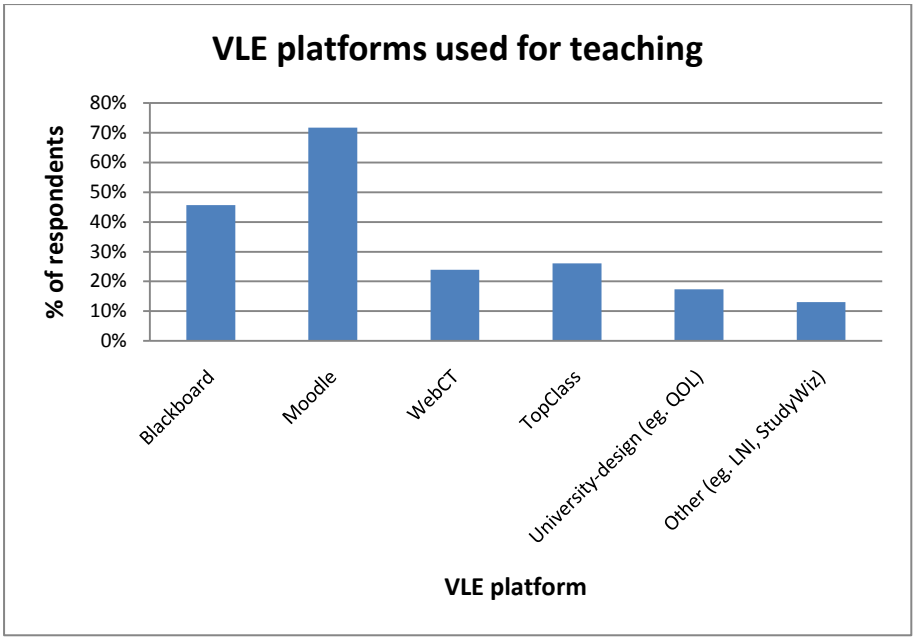

Figure 5: VLE platforms used for teaching

A gender-based comparison of the technologies used for work and pleasure revealed the top two areas for both groups were VLEs and Skype. However, in third place the males preferred the shorter, more informal messaging approach of social networking such as Facebook and Twitter compared to females who ranked the more formal interactions of video-conferencing in third place. From Table III it can also be seen that males appear to favour the written modes of collaboration in social networking - wiki and blogs - over the spoken medium of video-conferencing. This pattern does not exist in the females choices.

Tool of choice	Male	Female
Skype	=1	2
Social Networking	3	4
Video-conferencing	=5	3
Blog	=5	6
Wiki	4	5
VLE	=1	1
Immersive Virtual World	7	7

1 is most popular

7 is least popular

Table III Technologies used for work or pleasure

Just over half (52.2%) of the respondents had taken an online course themselves as a student with more females (75%) experiencing this than males (25%). The sample was generally positive about their ICT confidence and competence with over half of the group selecting *High* in both cases as shown in Figure 6, although the mean scores indicate the group are slightly more competent (mean = 1.44) than they are confident (mean=1.49). Males tended to be split 60:40 between *High* and *Medium* confidence and competence categories with the females more evenly split (50% choosing the *High* option for confidence and 53.1% declaring *High* competence levels).

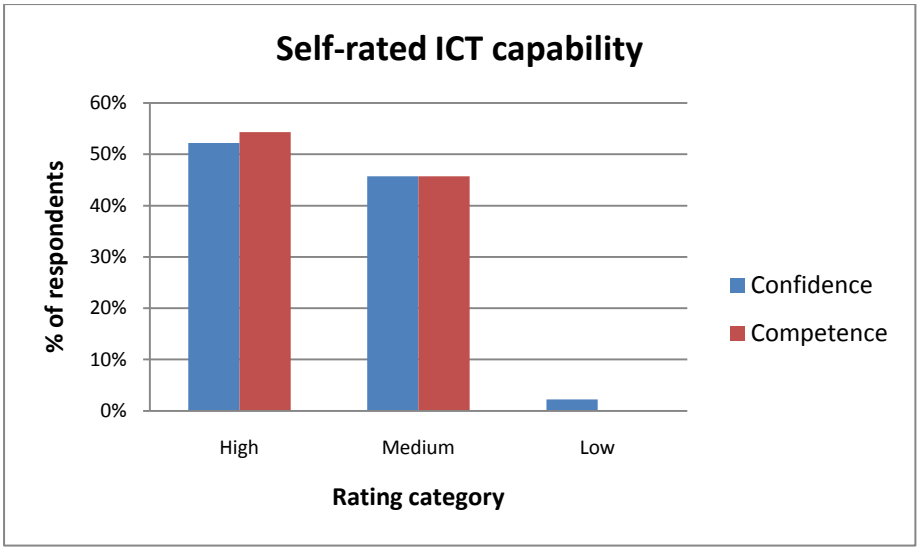

Figure 6: Self-rated ICT capability

Rationale for moving to online teaching

Over three quarters of the cohort (75.5%) revealed that they had moved to online teaching by personal choice compared to 53.3% who said it was an institutional requirement. It would therefore appear that the respondents made the choice *when* to move to online teaching providing them with the personal choice. Similarly a mixture of own-design and ready-made online courses were used as 60% of participants indicated they were currently using both types in their teaching. In some cases this was clarified as departmental or group collaboration in the content of the online course however the respondents were not always involved in the actual creation and uploading of the online materials. For this reason they deemed the course to be 'ready-made'. For others it was a shared course with a colleague indicating the use of co-teaching on online courses. Slightly more technical support (55.5%) compared to pedagogical support (46.6%) was provided for course design and similarly for training in online teaching. Technical skills training was available for 64.5% of respondents while pedagogical skills training was facilitated in 53.3% of cases. It is notable that pedagogical support for course design and also online teaching was less available to respondents than technical support or training. This issue arises again in relation to online tutors' requirements for CPD.

A four point Likert scale ranging from Strongly Disagree to Strongly Agree was used to determine the extent to which tutors agreed with statements such as:

"I moved to online teaching as an institutional requirement."

"I designed my own online course."

"I received technological support for course design."

"I received pedagogical support for course design."

"I received technical training in online teaching."

"I received pedagogical training in online teaching."

Exploratory factor analysis was applied to the items and a three factor model accounting for 73% of variance was produced. Factor one comprised the four items relating to technical and pedagogical support for course design and online teaching and had a reliability as measured by Cronbach's alpha of 0.909. This factor was labelled *Support for teaching online*.

The second factor related to *Course creation* and comprised the two items: *"I designed my own online course"* and "*I received a ready-made online course*". Despite the small number of items, Cronbach's alpha was 0.649. The third factor, *Reason for moving online*, also comprised two items namely, *"I moved to online teaching as an institutional requirement"* and "*I moved to online teaching by personal choice*". This factor had a reliability of 0.606. Since Cronbach's alpha exceeded 0.6, all the three factors were deemed to have reached acceptable levels of reliability (Robinson, Shaver and Wrightsman, 1991) and the 3 factor model was adopted.

Profile analysis was completed by gender as shown in Figure 7. There was no significant difference between males and females across the three factors. The respondents were then split into two groups – those who were university lecturers, and those who were not. In this case there was a statistically significant difference between the two groups, F(32,1) = 5.35; p=0.027, as illustrated in Figure 8.

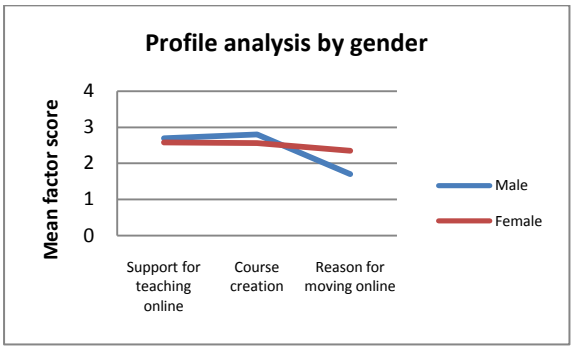

Figure 7: Profile analysis by gender

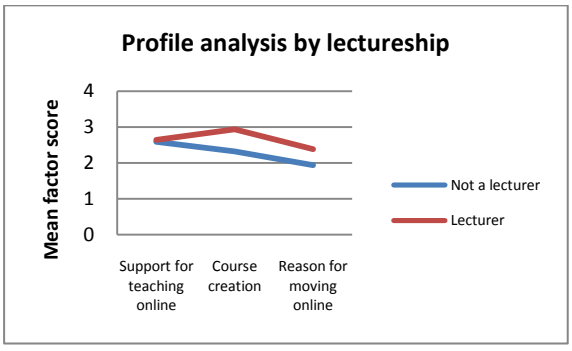

Figure 8: Profile analysis by main job (categorised)

The functionality of the online environment

Respondents were asked to rate the importance of various features of a VLE on a scale of *High, Medium, Low importance* or *Unknown* (if there were unsure of the feature listed). The items ranking most often in the *High* category were the more traditional uses of VLEs including Discussion Forums (90.7%), Asynchronous Communication (83.7%), Email (72.1%) and Blended Learning (46.5%). The feature most often in the *Medium* category was Live Classroom (27.9%) while the elements most frequently rated in the Low category were the real-time interactivity tools such as Synchronous Communication (48.8%), Video-conferencing (39.5%), Instant Messaging (37.2%), and Online voting/poll (44.2%). Non-interactive delivery of materials was also rated *Low* such as Powerpoint (with voice-over (44.2%) or without (46.5%)), a Non-interactive online course (58.1%), and the Calendar (44.2%). Wikis (44.2%) and Blogs (39.5%) both fell mainly into the *Unknown* category. It would therefore appear that the real-time interactivity and collaboration being afforded online does not rank highly with the current online tutors whose course design does not place importance on this type of communication.

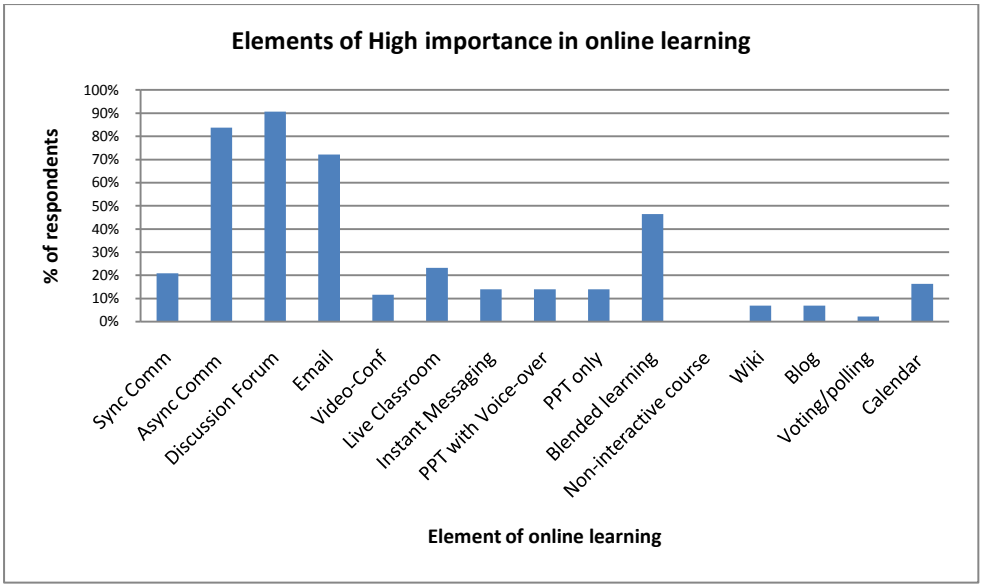

Figure 9: Elements of *High* importance in online learning

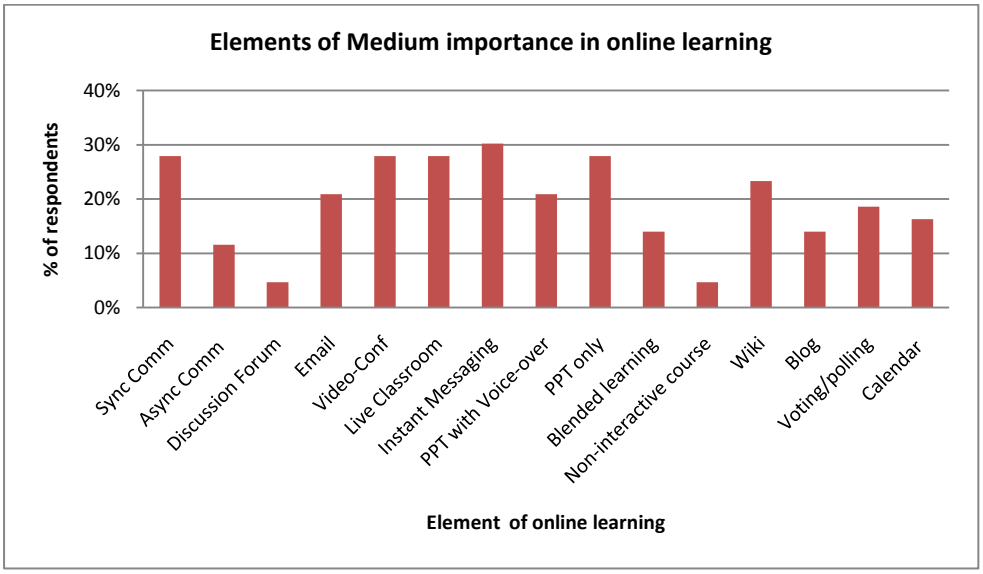

Figure 10: Elements of *Medium* importance in online learning

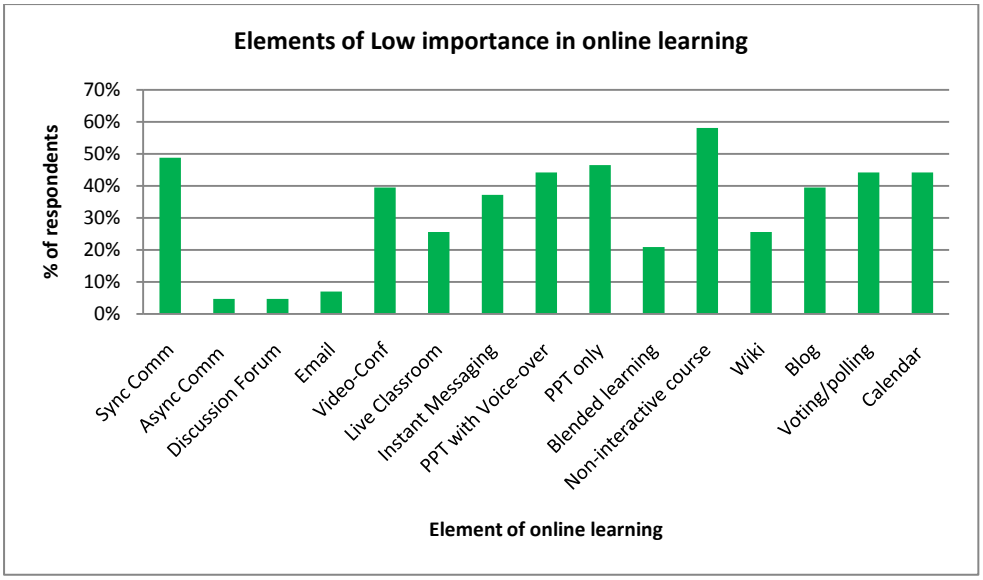

Figure 11: Elements of *Low* importance in online learning

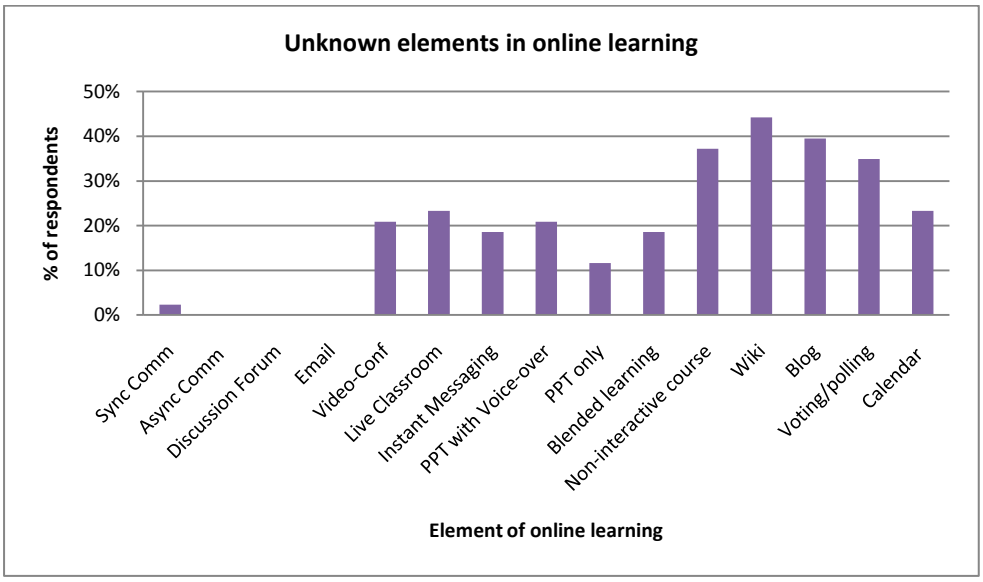

Figure 12: *Unknown* elements in online learning

The frequency of use of the various VLE features was also captured and a more striking picture emerged. Over 70% of respondents reported *High* frequency of use of Discussion Forums (88.4%), Asynchronous Communication (74.4%) and Email (69.8%). *Low* usage of Synchronous Communication by 51.2% of respondents was reported while no use was the dominant response for the remaining features as shown in Figure 13.

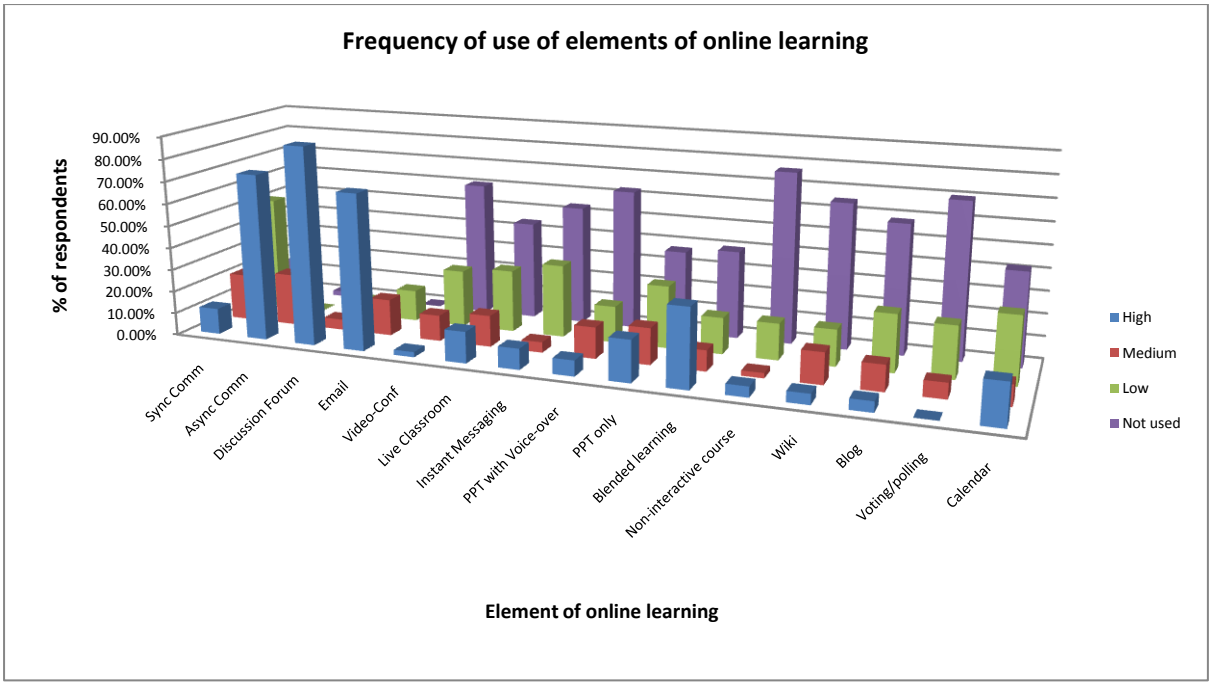

Figure 13: Frequency of use of VLE elements in online learning

Again the online student collaborative tools such as wikis, blogs, video-conferencing, instant messaging and online voting/polling were unused by over 50% of tutors. This finding may be a consequence of lack of familiarity with the features, how to use them effectively or restrictions in the course design which does not facilitate the use of the more recent web 2.0 tools.

When considering gender, the importance of the various tools for online learning reveals the top four asynchronous strategies as the same regardless of gender (see Table IV). The next three approaches – synchronous communication, live classrooms and instant messaging – indicate that both genders value real-time collaboration with others. The genders then split slightly with the females preferring learning content that has organisation and structure starting with the calendar, structured teaching materials in powerpoint and video-conferencing, then powerpoint resources accompanied by a voice-over and a non-interactive course. The final three pedagogical approaches chosen by the females are assigned to the group tools of voting, blogging and wikis. Conversely the males rank the collaborative tools of wiki and video-conferencing ahead of the interactive tools of powerpoint with voice-over, voting/polling and blog, and finally the organisational, sequential tools of the calendar and non-interactive course. Clearly although the top four pedagogical approaches for both genders are in harmony as the online course proceeds the gender of the online tutor may alter the path of learning for the participants.

Tools	Male	Female
Synchronous communication	6	5
Asynchronous communication	=1	2
Discussion forums	=1	1
Email	3	3
Video-conferencing	10	10
Live classroom	5	6
Instant messaging	7	7
Blended learning	4	4
Non-interactive course	15	12
Wiki	9	15
Blog	13	14
Voting/Poll	12	13
Calendar	14	8
Powerpoint with voice-over	11	11
Powerpoint only	8	9

Table IV The importance of online learning tools

A similar comparison was made of the rankings of the frequency of use of the online learning tools as shown in Table V. Again the top four tools were the same for both genders and matched the top four of importance to online tutors. As before the females used the sequential, organisational tools of Powerpoint only and the Calendar to add structure to the course. They then employed the real-time, interactional tools of Live Classrooms and Synchronous Communication, Powerpoint with voice-over and Instant Messaging. There is another return to content with the Non-interactive course, followed by the collaborative tools of Wiki, Video-conferencing, Blogs and Voting. The males opted to remain with the Synchronous Communication before turning their attention to the content with the Powerpoint only resources being used next. Blogging, Instant Messaging and the Calendar were used more often than the interactional Wikis, Powerpoint with voice-over, Video-conferencing and Voting. For them, the Non-interactive course was used least.

Tools	Male	Female
Synchronous communication	5	8
Asynchronous communication	2	2
Discussion forums	1	1
Email	3	3
Video-conferencing	13	13
Live classroom	10	7
Instant messaging	8	10
Blended learning	4	4
Non-interactive course	15	11
Wiki	11	12
Blog	7	14
Voting/Poll	14	15
Calendar	9	6
Powerpoint with voice-over	12	9
Powerpoint only	6	5

Table V The frequency of use of online learning tools

Assessment methods in online courses

Like the course design, the assessment methods used by online tutors appear confined to the conventional written assignments (89.5%), tutor assessment (76.3%) and on-going assessed tasks and/or reflective journals (55.3%) generated throughout the course. These choices may reflect the requirements of award-bearing courses. Online tests (26.3%), e-portfolios and peer assessment (31.6%) were the least used assessment techniques while around 40-50% of respondents used online quizzes, individual or collaborative group projects/presentations or self assessment as shown in Figure 14.

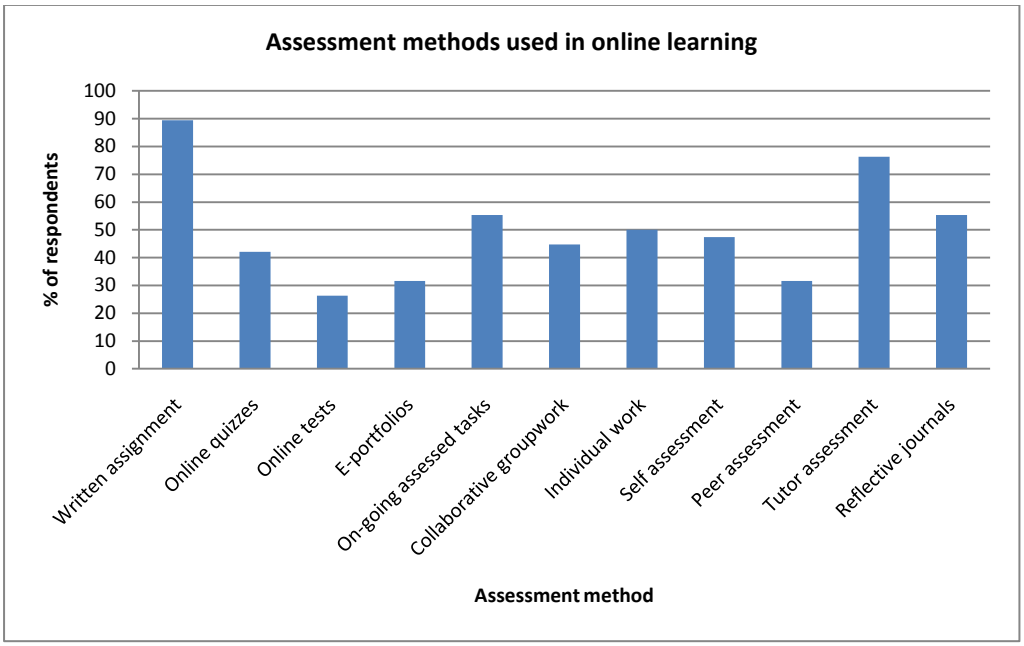

Figure 14: Assessment methods used in online learning

The frequency of use reflects the priorities above with written assignments being *High* frequency use for 71.1% of respondents, with tutor assessment being dominant for 57.9%. On-going assessed tasks were also categorised as *High* frequency use by 39.5% of online tutors. As Figure 15 illustrates, over 60% of respondents report their use of online tests, e-portfolios and peer assessment being non-applicable while 50-60% declare online quizzes and collaborative group projects/presentations as not being relevant. 40-50% of the sample were not using individual projects/presentations or self assessment, while 39.5% of the cohort reported not using reflective journals.

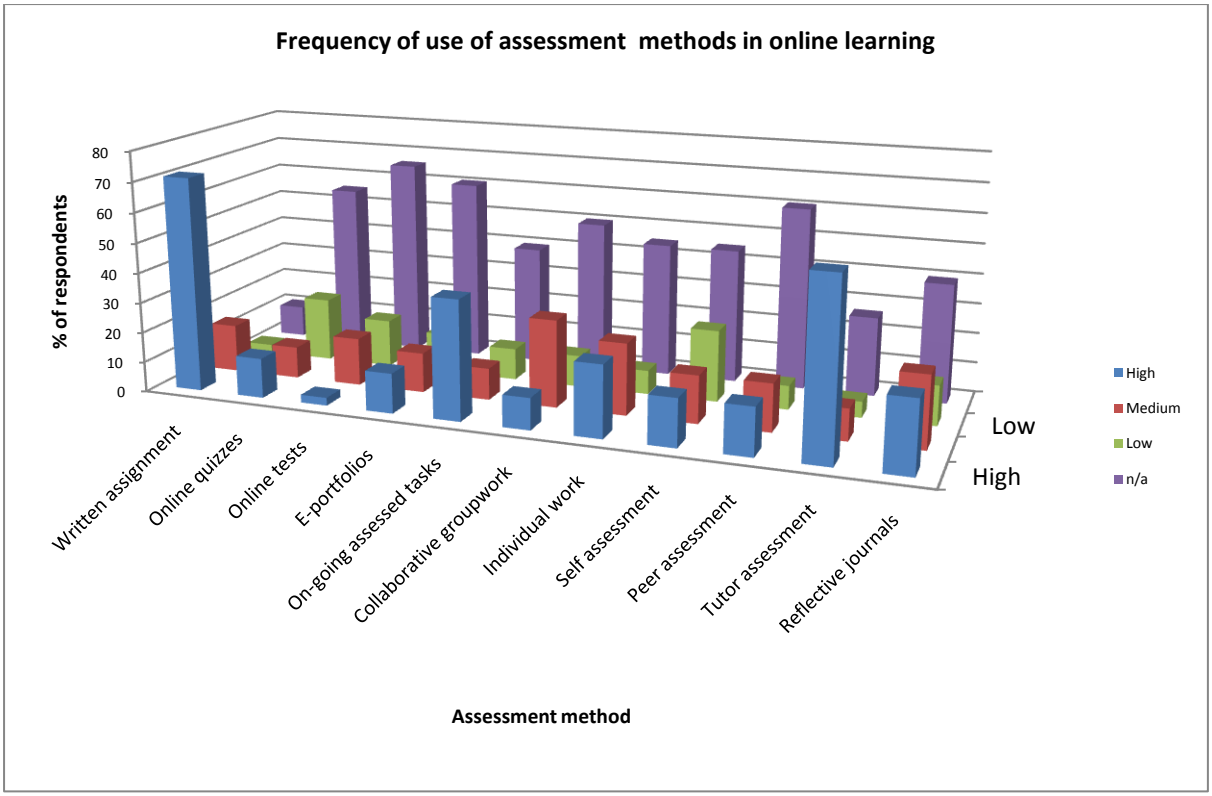

Figure 15: Frequency of use of assessment methods

Overall 77.1% of respondents report a positive experience when moving from F2F to online teaching while the attitude of 22.9% remains neutral.

RQ2: What strategies do teacher-educators implement before, during and after their online course to ensure quality learning for students?

Tutors were asked to focus on various aspects relating to the period prior to embarking on the online tutoring, to consider what steps they took to prepare for the online delivery of courses, deliver the course and finally to focus on the post-delivery phase. From the responses emerged two main categories: addressing the individual tutor's needs and also the student needs, with attention to the structure of the course and the relationship between student and tutor from both perspectives. The aspects discussed in this section have been summarised as the ***preparedness*** of the tutor for online course delivery. Preparedness was found to encompass qualities such as being aware of the differences between F2F teaching and online teaching, understanding the commitment needed to be an effective online tutor including the extent of their availability online, their technical, pedagogical and subject expertise in the area being taught, their ability to manage learners and facilitate discussion without the traditional visual cues typical of F2F environments, and the flexibility to adapt their teaching styles to enhance the learning process as necessary. 'Preparedness' to teach online therefore spans the duration of the online course and is not the same as course preparation.

Preparation before the online course

Tutor needs

Many tutors commented on continued professional development (CPD) courses which they had undertaken prior to becoming online tutors, specifically courses relating to specific Virtual Learning Environments (VLEs). These are particularly important when either the VLE is new to the tutor or the provider has changed VLE. For others the best preparation for teaching online was to be a learner on an online course. Several participants commented on this, stating that they understand the pitfalls and have tips to give the learners which are based on their own experiences as online learners.

How online materials are presented is vital – they need to be clearly and precisely written to avoid misunderstandings and it is recognised that these skills come with experience. Much more thought has to go into the preparation of structure, content, and choice of resources than in the F2F context as the course needs to 'flow' naturally itself. One way to develop course creation skills is to shadow a colleague and to 'ghost write' whereby the module developed by the novice online tutor is based on a template provided by a colleague with a high level of experience online. The practicalities of the preparation stage are also important, such as checking for copyright of materials, checking the online availability of resources and ensuring that there is coherence to the course and the resources available.

In relation to the technical aspects, opinions and experience between online tutors differ. Some feel it is beyond the requirements of online teaching: "*we are there to do a particular job, not to do everything; it is up to the technical team to sort any difficulties out for you"* while other tutors stated that both technical and online pedagogy are important saying: "*Being familiar with your system and the nature of online communication is important or rather the communicationology, I suppose"*. The term "communicationology" relates also to the way in which courses are written and constructed. According to one tutor, the writing has to be much more precise since it has to standalone and student misunderstandings need to be avoided.

Where courses are already created for online tutors, their main priorities before the course commences are: reviewing content, establishing administrative links and updates of technology. These online tutors also identified time as a key component of the process as they needed to familiarise themselves with the course content and sequence of learning, review the course materials and requirements for each task, and familiarise themselves with the rules and routines of the administrative aspects of course delivery: "*There is much more in depth preparation of content...it is not the same as lecturing from your notes."*

It was generally noted that these tutors experienced higher levels of anxiety than those who created their own online courses. One possible explanation of this is a reduced level of confidence due to the isolation they feel working from home rather than having the support mechanism of the university nearby to solve any problems. This is supported by their assertions that "*technical questions and issues should go directly to the technical team*".

Student needs

The changing nature of the population engaging in online teaching means that they come with differing levels of knowledge and experience of the technology. In Scotland, for example, with the greater emphasis throughout the Scottish education system, the national online environment, GLOW, far fewer teachers and trainee teachers are without any basic ICT knowledge. Therefore the focus in the preparation stage is on acquainting them with the VLE used in the Chartered Teacher course (in this case BlackBoard). In one specific course for practising teachers, it was recommended that in the preparation stage a one or two day F2F session at which learners could be introduced to online learning and acquainted with the initial questions posed by learners which would be beneficial.

During

Tutor needs

During the delivery of an online course, all of the staff interviewed reported that a focus on pedagogy is most important. Some feel that their reading is central to keeping up-to-date with developing techniques and that being engaged with both the subject-related professional and research literature supports the process of sharing with participants online. The most important aspect, however, is being prepared to a level where the tutors are confident both with the mode of delivery and, more significantly, the content of the module. One tutor commented that she visualises the learners in front of her as she reviews the material for the course.

Online tutors report working extremely hard to create an online learning community from the start of the course. Building the class community and promoting positive attitudes is much more difficult online: "*You have to work hard to build the class community and make people feel that they belong".* However tutor-student interactions dominate: "*You do a lot more personal contact and follow up with each individual student".* Promoting interaction and collaboration and using challenging questions to stimulate discussion make significant demands on tutors' time. Dealing with non-starters and those who 'hide' in the shadows, reading much but contributing little to the interactions also require time and attention. One tutor reported: "*I track 'attendance' through each student's online activity. I would not be doing that in such a formal way in a regular class."* The fact that the VLE offers easy tracking of student activity results in close monitoring and support of the learners during the course. The online tutors also favour logging on every day and 'talking' with the students quite frequently. They indicate that ensuring students receive feedback to their postings on a very regular basis contributes to the sense of community in the class. Responding to postings is a daily ritual for most tutors, however, more experienced tutors, who had been with the programme since it started, indicated that the frequency of tutor responses seemed better left to the individual tutor concerned and should not be determined by the course directors. The quality of written communication is key online and tutors acknowledge the time spent checking the tone, emphasis and clarity of their postings to avoid misinterpretation or concerns being raised online.

The analogy of a journey was used by one tutor to describe the process of working through an online course with the understanding that there is a need to plan ahead, have the final destination agreed while also

allowing for flexibility in the route: "*with F2F you can meander, with online learning you can't"*. From this perspective, online tutors need to have set goals for the start and finish points of the course but they also need to have various possible routes in mind, or in teaching terms, a variety of possible pedagogical approaches available to them online.

For some respondents there was a view that online tutors 'learn on the job' and that one has to reach a certain point of ***readiness*** to make the transition to the next step of CPD and the confidence to try innovative and original approaches to teaching. One person stated that she had developed her knowledge of online learning on a "*need to know basis"*.

In relation to the technology, one participant commented that it had not been designed with education and learning in mind, so that she had to adapt it. She thinks it is important to re-think how she does things and feels challenged to think differently. Quoting McWilliam (2008) she states that she sees herself no longer as the sage on the stage or guide on the side but, rather as a 'meddler in the middle' becoming involved in the learning process alongside the participants as a co-learner experiencing the course from their perspective. It was also noted that the technology was running ahead of the pedagogy and that new tools appeared on the VLE without warning so that training has to be either 'on the job' or *post hoc*.

Student needs

The example of the first week of the Chartered Teacher course is particularly good for illustrating how the provision of support within the system facilitates the students' growth online as learners. At first they are reluctant to contribute by posting their feelings online because they feel they will be recorded for posterity and fear that their contributions could be accessible to others and may appear to be critical of their own school. However, as familiarity with the online process grew and with the suitable use of tasks and activities by the online tutor, the students overcame their 'online shyness' and enjoyed the online collaborations.

In relation to expectations, all tutors felt that it is important to manage students' expectations of the support available. As one tutor commented, it may seem attractive to have a "*24/7, 365 days a year*" presence, but it is not feasible. In the early stages of the online course, therefore, some tutors draw up a learning contract entitled 'Expectations' with their students in order to set and agree the expectations in both directions (tutor and student).

After

Tutor needs

Reflection at the end of the course and future plans for course development and preparation were considered absolutely vital in view of the fact "*that technology is now running ahead of [tutors]"* and that new features appear which were not being exploited to their full potential in online teaching as yet. Student evaluations were important for the tutor with one revealing that "*I mine the comments and contributions of students for*

use with future groups. This is where online is a great resource since the contributions are cached and I can search them to get ideas."

In relation to the on-going teaching and self-reflection and evaluation by tutors and colleagues, online tutors have to develop strategies to ensure that they are working 'SMARTly', know how to pace themselves, can set aside time for tutoring, while also assessing and facilitating their own professional development.

Preparedness

In summary, preparedness related to different tutors' previous experience, their confidence and competence with online learning and their knowledge and experience of the students themselves. What emerged from all the interviews was the importance of thorough attention to detail and students' needs at all levels. Some tutors commented in the reflection and evaluation after the course that the front-loading nature of the preparation, when designed appropriately, resulted in the courses "*looking after themselves*" during the delivery.

Online behaviour, both in respect of how the students communicated with their peers but also in relation to study skills online, particularly those candidates returning to academic work who needed support with writing, reading and referencing skills, required dedicated time. In one case F2F sessions were offered by the tutor both prior to and during the course to provide support on these issues.

Above all it was necessary for the tutor to 'care' for the learners online as rapport is as important as creating an environment conducive to online learning. It is vital that the tutor trusts the students and vice-versa.

From the responses, tutor preparedness that the tutors did not impinge on the task of online tutoring either to make it easier, or indeed more difficult compared to F2F teaching. The tutors emphasised the need for confidence and competence but more importantly, the need to be adaptable, flexible and reactive.

The overall impression created was that the tutors felt the onus was on them for the design of the course, that they had to have ownership of both the materials and the pedagogy. It did not appear that they were simply taking material from the F2F context and adapting for online use. Rather they recognised the need to tailor the design of the online course for the students in each cohort.

RQ3: How do teacher-educators measure 'quality learning' online?

The tutors' understanding of quality online learning and their ability to foster and sustain it and, indeed, to identify it was established. Various definitions were suggested which capture a variety of interpretations of the term 'quality learning' online:

> *"Something that is of value at the end and that the produce they take away is developing students' professional work life; they need to be able to use it in the classroom after the online course to support pupil learning."*

"A course that is well-planned and designed, thoroughly thought through and where actual learning has taken place."

"The course has to be relevant and useful; the interaction and things that happen around the edges of the course, need to be considered."

"It is really the students who have to determine the quality. I hope that I have done it during the course but if I haven't made any difference to them I haven't done my job, regardless of what I think I have done."

"A good opportunity to promote deep learning rather than book learning from chapters. When the learner is engaged so that there is a community of practice."

The quality of online learning was therefore be categorised into five subsets: curriculum and learning; engagement; collaboration, benefits to the learner, and the technology. A second question embedded within this one was the distinctiveness of tutors who were teacher educators and how 'quality learning online' is construed by them.

Curriculum and learning

In relation to curriculum tutors were emphatic that quality learning online must meet minimum standards for effective learning whatever the medium and that the most crucial aspect was that the learning outcomes (LOs) are achieved. To measure success it was suggested that the extent to which the LOs have been achieved by learners is the sole criterion needed. Put simply one tutor said that it was measured by asking students what they can do at the end of the course which they could not at the beginning. If students had developed as a result of the course, the learning experience could be judged to be of high quality.

One aspect which some tutors find difficult to manage is the timing in order to take account of different circumstances and individual learning styles. In one course, for example, postings were put up on the Friday for discussion on the following Monday; some participants were reported to be wanting more time to think about the tasks and to have time to obtain a holistic view of the posts as a totality. The issue for the tutor however is one of fairness in that all participants need equal time to make individual posts and so summaries on a Friday was the only viable option.

Online materials have to be well polished and professional; they also need to be relevant to the students and should be designed to have a lasting impact on the learners' practice in the classroom. It is recommended that there should be a mixture of synchronous and asynchronous chat, although the former is more stressful and all the participants need to be there at the same time which can be restrictive and at odds with the ethos of online learning.

In order to encourage more independence, it is vital that the learning be scaffolded; the learners need to be encouraged towards increased independence as the course proceeds. The design of the tasks is also important to stimulate discussion. Contrasted with F2F and blended learning experiences, the completely online course requires learners to use the discussion forum. One tutor commented that she is not concerned

if students use other social media sites so long as they are focusing on the content of the course outside the confines of its structured elements.

The pedagogy of the online course has to be learner-centred rather than tutor-centred and the tutor needs to have knowledge of how others learn. It is advisable not to overload courses with powerpoint presentations.

Assessment is an aspect of online learning which, according to all tutors, is an indicator of quality. Tutors commented on the fact that they knew the students' work in far greater detail and over an extended period of time, which meant that they could provide detailed, structured and targeted feedback. They also felt they knew their students' strengths and development needs far more thoroughly than in the F2F situation. This assertion casts some doubt on the ubiquitous policy of anonymous marking. This is aptly summed up by one participant: "*One of the big benefits of online learning is that I critically read so much more of the students' work; it's assessment throughout. I don't know their handwriting but I know their online 'voice'.*" The formative nature of this type of activity is encouraging for all tutors and highlights the benefit of online teaching in offering a more individualised, personalised experience for the student.

Engagement

At a very basic level, student engagement can be assessed by the number of posts and the quality of the posts.

It is felt by all tutors that students have to engage with the course at least at the level of information exchange (Salmon, 2003), and that quality of the learning experience depends on them bringing something to the learning experience and taking something relevant away from it. As one online tutor put it: "*Engaging is better quality experience.*" The quality of learning experience depends on what it is that participants want to get out of the module and the extent to which they engage in the activities of knowledge construction (Salmon, 2003).

The level of participation is an important element of quality online learning in that it should be designed to move the students from dependent to independent learners, to the extent that they have control of the learning experience. It is one tutor's view that 'quality' could only be assessed following the online discussions. These helped establish if the learners sustained the discussion and the learning beyond the confines of the time-tabled discussion, indicating a requirement to reach Salmon's final stage of Development. For other tutors, engagement is measured by the questions a tutor receives outside of the forum. One tutor commented that students may be reluctant to ask questions on a particularly sensitive issue so he was pleased to receive such inquiries from the students via email.

The cross-sectoral aspect of collaboration is also vital on mixed courses, where the primary teachers can get insight from post-primary staff and teachers in specific subject disciplines can learn from colleagues in other subject disciplines. Another tutor commented that the online tutor must learn not to over-react to comments and not respond or seek to interfere: "*Learning to let things go is a really tricky little thing for a tutor to do*." The absence of visual feedback such as yawns and bored expressions, means that tutors have to develop other pedagogical strategies to ensure engagement with the learning, such as motivational and interactional activities which have clear instructions and well defined goals.

Collaboration

Collaboration is seen as one of several aims of online learning; although not essential, it is felt that those who collaborated with others benefited much more from the learning experience. If collaboration is the aim, then it is considered important to ensure that quality collaborative activities are taking place in the module. In relation to the learning outcomes those who engage with other learners and who interact with them are more likely to have an enhanced learning experience. It is important to point out that the converse is not considered the case, that is to say those who did NOT collaborate with others did not necessarily fail to achieve the learning outcomes. Indeed, knowledge construction can be achieved through reading others' postings and does not require the 'lurker' to post, however, this behaviour can have a negative impact on the group dynamics. Some tutors had designed assessment tasks to incorporate a collaborative element, so that the students were required to make reference to their collaborative activities and discussions in the assignments. They subsequently gain credit for online postings indicative of such collaborative learning.

One tutor characterised the different nature of online learning when compared with F2F from the learners' point of view. Whereas F2F is a private affair, online learning becomes open, so that participants' work can be seen by all. From the perspective of the UK and Republic of Ireland education systems, this openness with what is considered to be private material is counter-cultural. This is a major difference from F2F learning and has to be recognised and managed by the online tutor. In one sense the process of learning is as important as the outcomes from learning and the mode of delivery is also part of the learning experience for students.

Materials developed in collaboration with others should not be too polished, otherwise the students will not be prompted to continue working on such materials, as they will consider them too perfect. Wikis, for example, which are messy and untidy do encourage participation and collaboration because the students feel they have something worthwhile to contribute. It is also important to allow 'work in progress' where the quality of the discussion and the exchange of information can lead to the construction of knowledge which is as valuable as the product itself.

Benefits to learners

It is felt that quality online learning had a personal dimension to it, in that it is important to let the personalities of individuals come through, both in the discussions and in the writing tasks. The collaborative nature of online tasks benefits both the participants and the 'lurker' as the discussions are recorded for all learners to view and review as their knowledge of the content area develops. This more personalised approach to learning, the pace of which is controlled by the student is more amenable to a variety of learner abilities.

Technology

Not many tutors commented on the impact of technology on quality of learning online; it seemed to be a *sine qua non*. One tutor, however, commented that the quality of the experience for students was compromised

by the limits of technology in his particular educational context. He thought that technology was not only the medium but also the format of the message, declaring *"I would love to be able to show videos and interact more with students and to be able to present in a more varied format. What technology can offer is limitless; but in this context we are very limited*."

Tutors did refer to the developing social media as complementary aspects of the courses. They acknowledged that the social sites were useful for the students but they saw them as augmenting rather than replacing the current VLE facilities. The impression was created, however, that their reading and professional development was preparing them for online learning which was in advance of the technology and that much of what they would aspire to do was not yet possible in their current online context because of limitations either of hardware or infrastructure.

What is special about Teacher Educators as online tutors?

An important element of this research question relates to the distinctiveness of the tutors as teacher educators teaching on-line. The participants were asked to identify key features which distinguished them from tutors in other disciplines who teach online. Of course many of the answers were inextricably bound with their perceptions and experiences of all elements of online teaching.

All tutors agreed that online learning is not very different from F2F teaching and that the principles and practices of F2F pedagogies are equally important online. They felt that confidence and competence in pedagogy makes the transition to online learning easier and that the techniques that are applicable to F2F, such as designing learning environments which motivate students, are part of the tutors' repertoire and could be adapted for the online learning context. Teacher educators feel they are more flexible when it comes to making the tools which engage and promote effective interactions with students.

For those tutors who are teaching practising teachers, it was felt that they were able to engage with the learners more meaningfully in that they had a shared experience and a wide knowledge of how individuals learn. Empathy was a key feature for successful relationship building online. One tutor was not sure that she had any particular expertise as a tutor saying "*I'm not sure that I can do it better than someone who is not a teacher educator but I can assess [participants'] level of understanding of the task and realise whether they need support or not*." So the ability to 'pick up on' indicators of learning (or lack of learning) distinguishes this online teacher-educator from someone without teaching experience. In the absence of visual cues from the learners' demeanour, these telepathic abilities to 'read' the disposition from the postings are a valuable asset to online tutors.

The nature of the VLE is also thought to be important in that it is not simply a repository of resources but has been designed with pedagogy in mind in order to facilitate learning and progression using strategies adapted from the F2F experience. In many cases online tutors demonstrate pedagogical sensitivity in their exchanges with online students.

Knowledge of the nature of the learners and of different types of learners is thought to be an advantage enjoyed by teacher educators in that they have tried and tested ways of dealing with individual 'differences' . They think that knowledge of different personalities which comes through the postings, requires a specific response from the tutor. For example, a quiet individual may need to be encouraged in order to build confidence, whereas a dominant member of a group may need careful managing to ensure equity of opportunity for all learners. The importance of providing tailor-made feedback was emphasised.

One tutor considered it to be fortuitous that he had the skills and experiences which are required at this moment in time for the particular course on which he teaches: "*It's just that I have a set of experiences that right now people value. There will be a time when they don't*." This same tutor, however, felt that his experience as a teacher (he still continues to teach in the classroom as well as tutoring on the online course) enables him to have much more empathy with the students he teaches. He feels it gives him credibility with his students and also gives him much more awareness of the professional contexts of his learners: "*I am coming as a tutor and that carries extra weight. It validates some of the concerns they have in their own classrooms*." He was of the view that teachers made bad students and that they wanted the type of recent and relevant experience, or authenticity, which he felt he could offer: "*It's empathy rather than expertise*." This was echoed in other tutor responses: "*I am one of you, not purely a tutor; let's get through this together*." In short the dual role of teacher educator, educating those who educate others involves the intertwined roles of teacher and learner, for the mutual benefit of both groups.

Teacher educators, being more aware of whether learning is taking place, are in a position to evaluate success on an on-going basis and thus reflect-in-action as well as reflect-on-action online. This is contrasted with the F2F learning context: "*The beauty about online learning is that if learning isn't there you can see it immediately*." Teacher educators have more focus on pedagogy and knowledge of how people learn compared to academics in other disciplines. For teacher educators, pedagogy is at the heart of all that they do, "*Because I have a strong teaching background, doing an online course has to incorporate experiential learning*."

The features which set teacher educators apart from colleagues in other disciplines could be summarised under the two areas of 'knowledge and experience of pedagogy' and 'knowledge and experience of how people learn'. In addition a further advantage, for some of them, is that they have experience of learning online as students and therefore have an increased level of empathy with their current cohort of online students.

There is a sense, however, that the tutors seemed to regard good teaching as good teaching whether F2F or online. They have adapted to the specific idiosyncrasies of online teaching and are coping with situations as they arise, using their own classroom and online experiences to develop solutions to emerging problems. There is still the view that there has to be some alignment of tutor and students, by which it is meant that the tutor and student have to be progressing at similar rates so that "*everyone is on the same page"*, as one tutor put it.

RQ4: What strategies do teacher-educators employ that enable the development of a community of practice?

Introductions and the opportunity at the outset of the online course to give personal information in order to get to know the group are typical features of developing an online community of practice (COP). The inclusion of a comment about their personal life to get a sense of who they are and what their goals are is a useful mechanism for tutors to create a 'mental picture' of the participants. Where it works well there is a core of respondents who bond as they enjoy talking to each other and will continue the informal exchanges for the duration of the course. Other participants are more private and do not share personal thoughts or information about their work. This is also acceptable practice as "*not everything has to go on the public discussion board, allowances can be made*". It is also possible that some participants get more out of an online course than others due to their level of interaction and involvement.

Once the initial online socialisation (Salmon, 2003) has been completed the participants are encouraged to contribute regularly to the discussion forum posting short, insightful messages rather than mini-essays. This information exchange (Salmon, 2003) results in something new always being available to read and respond to which "*draws the students in*", encourages further visits to the forums and increases interaction as postings are responded to. Interaction with one another is stressed to avoid a teacher-led situation being created. When posting messages, the participants are asked to "*try to draw in other people's ideas too*". Quite often the online tutor models inclusive practices by referring to an earlier posting, saying: "*if someone has said something similar or contrary and point out where they are thinking alike or differently to try to encourage them to communicate with one another*". This iterative process supports knowledge construction (Salmon, 2003) and community-building. Another strategy found to be useful is "*to give feedback as quickly as possible*". In some cases where breakout rooms are advocated in the course design, the online tutor assigns a question to the whole group, tells them to go and think about it for about half an hour offline and meet back in the forum at a pre-defined time to discuss their responses. The rationale behind this strategy is to prevent a group wasting time off-track or reinforcing ignorance in the breakout rooms and this not being noticed in time to set them on-task again. Keeping them together as a group and sharing reflections ensures anyone who has misinterpreted the message can be brought in line again quickly.

There are times too when it is necessary for the online tutor to "*cajole participants to make sure they address the main issues*" or "*to chase up students professionally*" when they have disappeared from the discussion forum for too long. Reasons for online absence are varied – sometimes it is time/work commitments such as a busy period in school, while for others it is a personal issue or crisis. Email contact is most common for this type of activity due to the private nature of the communication. Tutors are clear that "*allowances can be made*" for personal circumstances and it is necessary to "*accept students are doing their best at that moment in time*" stressing the need to be "*flexible, understanding and present*" for the student concerned. It is acknowledged that tutors need to "*build the relationship with the student to allow this level of support to happen*".

By reading each other's postings, the online participants get to know each other too which makes them feel more like a community with a shared interest or goal. By establishing from the outset of the course that one of the final goals is to "*share their own examples of good practice and how these might be applied to other subjects*" the participants feel a collective bond with each other and commitment to "*swap ideas so that everyone comes away with lots of new ideas of what they could do*". In short, all communication is of mutual benefit.

Different ways of working are also evident from the practice of posting messages to the discussion forums. For some participants a methodical approach is preferred so they "*post first and get it over and done with or they like to be first and get the ball rolling in terms of the direction of the discussion – it's how they like to work*". Others prefer to "*mull over things and read postings*". They like to 'lurk' or sometimes it is a case of 'online shyness'. By having a minimum requirement of the number of postings per week, these lurkers soon overcome their reluctance to post. Some tutors "*work in parallel*" in the online course which allows them to "*scaffold the learners to have formative learning tasks before they embark on the summative tasks*".

What makes a good COP?

The tasks set in the online course play a key role in creating a good COP. By not setting a task where each response is the same or setting the same activity for each group, there is a reason for the participants to read and comment upon each other's work. At an individual level, "*there needs to be an opportunity where there is an individual response so that there is something for the others to comment on in relation to their own practice or context*". Regular use of such tasks sustains interest and engagement in communicating online and provides "*an interesting perspective on everyone else's experiences*" giving added value to the task even though this was not an essential learning outcome.

Another feature of a good COP is getting full participation through the choice of discussion topic, often referred to as a 'hook'. "*Some of the discussions fire up the students and everyone comes on board; everyone is participating and we're there as a group*". The topic is usually 'how to support the child' often when there is a clear injustice and the teachers become "*het up [agitated] about it having read the legislation*". The discussion revolves around how to react as teachers and their suggestions tend to converge so the teachers, regardless of school sector, are "*all singing from the same sheet and want to do something about it*". Since they are all on the side of the child who is being excluded "*they've got a common fight*" but this is not always the case. There are also instances where teachers can get fired up but not receive support from other group members due to the general lack of knowledge of the issue, for example, the lack of funding for music tuition. In such cases, the online tutor steps in to acknowledge the participant's distress and to encourage the person to elaborate in more detail on why they feel so strongly about the problem. Other topics that get the teachers fired up include working conditions, cuts in funding, how to deliver on their responsibilities to the standard they want with limited equipment or resources. In all cases the main concern is how these issues will impact on pupils' learning and not the teacher's own needs. In most cases the responses are from a personal

perspective as a teacher, a parent or at a professional level if they are in a position of authority or management within a school. In the latter case the participants often take "*an opposing view which can be quite refreshing*" and balance up the debate by presenting the alternative case.

"*Online communication works much better when geographically the learners are disparate*" as they are not worried about other participants' roles or status. Distance removes any hierarchy in the learners, levels the 'playing field' and opens the discussion so that all viewpoints are respected. Communicating online is also more serious as "*humour doesn't always come across whereas in F2F you can joke and set the mood, have some fun! Online it can so easily be misread*" so that kind of interaction tends to be avoided unless the tutor is convinced that there is no chance of it being misconstrued.

Evidence of sharing and growing as learners also indicates a good COP. Students who are interacting with one another and generating new ideas for themselves and sharing these with others for feedback all point to an effective COP. In addition to increased levels of independence, online tutors also aim to encourage students to 'see the big picture' by establishing a learning environment in which "*Students who have carried information from module to module with them, linking ideas back and forwards see the holistic picture*" as it applies to their own context or teaching situation and makes sense to them in terms of how it all fits together.

A tutor's own desire and enthusiasm to login and see how the discussion has evolved also acts as an indicator of a good COP. "*Looking forward to logging in*" and "*engaging in discussion with the students*" by drawing on the tutor's own experiences is regarded as an enjoyable element of online tutoring. Similarly when learning is being extended and going beyond the requirements of the course, tutors become excited about the challenging questions being posed, the level of interest and engagement with the reading materials and being able to help students as they are "*wondering out aloud*" trying to get their ideas into "*a sensible stream of thought*". These are the moments that stand out in the online tutor's memory as times when a good COP has been established.

By mimicking the exemplary practice of their tutors, students can also be "*quite intuitive about posting messages in an inclusive way such as referring to postees by name*". Also the content of the course can be important especially if it is an area on the periphery of the participants' teaching expertise. In this case the participants commented on "*how little thought they had given the subject until now*" and they were "*genuinely interested in it but it was not causing them great stress in their teaching life*" so it was referred to as a "*happy course*". Consequently there was "*a sense of excitement on discussion boards about how the ideas were going to slot in*" to their teaching and how the content might provide "*new ways of thinking in school life and teaching...which drove a feeling of learning and community*".

In a good COP the tutor also learns how to interact effectively with a range of people. Effective online tutors can use language to stimulate discussions and have the ability "*to play Devil's Advocate*" or "*to be provocative*" to invoke a reaction or response from the students. Often the tutor becomes a co-learner gaining an insight into the educational systems in other areas and the actual demands on teachers' lives and the realities of their working day. For some participants it is clear that other people in the wider school community, such as the senior management and parents, may play a part in influencing classroom practices and the online tutor needs

to be aware of these possible influences. Finally the tutor learns more about the practical pedagogies in primary and post-primary schools which invariably steer a path between traditionalism on one hand, and radical constructivism on the other.

It is often the students themselves who make or break the online community. Different personalities have different roles to play in the group. There are the 'Energisers' and 'Interconnectors' who are always commenting and posting at one end of the spectrum while at the opposite end are the 'Sleepers', always watching everything but saying nothing. Everyone else located between these poles: coming and going, playing their part when the moment arises and being part of the 'Crowd' moving forward in unison. A true community accepts the range of people, the flexibility of their contributions or presence and respects their 'voice' or opinions. An indicator of the extent of bonding and community spirit established within the group is the organisation of their own meetings (online or F2F) during or after the modules. Some communities sustain lasting connections while others are only functional and purposeful for the duration of the module or course.

In a few cases students develop "*a lovely tone online and can use humour well and it works in growing the online community*", however, these students are few in number and so most online tutors recommend avoiding the use of humour as it can be easily misinterpreted and perceived as hurtful affecting the online community as a whole.

The sustainability of the online COP is key. It could be the case that time management for online tutors is a different concept than for the online learners. As online tutors there is a risk of becoming "*hesitant about asking learners to do something – embark on a task – because we think they don't have the time*". In reality it is the tutors who don't have time to check everything the students are doing online but that doesn't mean that one shouldn't expect them to work independently preparing for a future session. It is important to remember that the students, having started the online course, probably feel they have time to commit to studying online: "*There are things they can do independently of us; they just need a bit of direction at times*".

The more long-term online tutors report a change in the types of postings being received from students. One online tutor recalled the ability to "*answer questions off the top of my head*" as students knew very little about the content and so the questions were low level. "*What has happened is that the profile [of the learning need] has been raised so much, now the questions are of a very high level*." The postings are therefore more challenging for the online tutor due to the increased level of 'basic' knowledge of the participants and also the queries are more sustained. It is therefore important for the online tutor to constantly remain "*on top of the game*". Also the quality of the interactions with the students is much better, "*not because the students are any smarter than previous cohorts, but because they have done more work*."

Barriers to a good COP?

Where a strong bond between participants exists, the online tutor can often feel isolated from the group. For example, "*coming in to a later module in a course is more difficult for the tutor as the group has already established a pattern of interaction*" which needs to be respected. On other occasions there is no bond and

the group are "*all just individuals*" posting messages and reflecting on their own progress and learning. When blended learning is used with students on campus, online discussions are "*seen as artificial because they see each other anyway*" around the campus. In this situation there needs to be "*a purpose for the interaction such as a shared resource at the end of the course*". Similarly online peer support organised by the tutor is sometimes ignored in favour of student-created spaces in FaceBook for the same purpose but without the inclusion of the tutor. This more private area shows the willingness of the students to create and sustain their own support network or COP outside of the university system and the potential importance of "*a feeling of ownership*" in COPs.

Where an online course was used for whole school staff development the online tutor reported it as an "*exceptionally difficult course to tutor partly because the teachers were reluctant to post as they could have exactly the same conversation in the staffroom so they were much more shy about posting*" than if they had been from a variety of schools. Personalities and the context of learning can therefore inhibit interactions as well as drive the learning process.

Lack of understanding of the context of the issue being discussed, especially if it is in a specialist field such as music, was also noted as a barrier, as was time management and not being 'free' to contribute fully to the debate due to other commitments on the students' time. Student feedback indicates how "*intensive, time-consuming and demanding*" online learning is and how this shocked them.

Some tutors noted that "*Sometimes you may feel that the participants didn't get very much out of the course because they didn't participate very much online*." Monitoring is equally important online as it is F2F as one can see the learners more clearly in the F2F context "*but online you still have to check who is finished and that monitoring of progress has to be done*".

The nature of online learning and its inherent dependence on collaboration and information exchange presents a challenge to the normal conventions of learning and students' prior experience of the education system: "*It is very difficult to establish a community of practice in a group of learners because there is still an underlying competitive notion...and so 'if I put up my ideas will somebody steal them and get the credit for them at my expense'?".* This cultural clash may be the reason behind the lack of sustainability of online COPs especially on award-bearing courses.

It should also be recognised that even as online tutors "*many of us are not experiencing COPs ourselves. Generosity is required in collaboration however not everybody collaborates at the moment*" and this results in a lack of trust of the peer group. As more people try to implement online COPs in their courses, doubts arise as to whether it is successful in online learning. Perhaps a "*COP of e-learners is better if they are not learners, they are workers*" who have a common and shared goal and are not measured as individuals. One of the flaws in the COP model is the fact that it "*does not take into account the competitive element and power relations that exist in education systems*".

Online identity

As already indicated, an online COP is very dependent on the people in the community and how they interact with one another. For this reason online identity was investigated in this section too.

In the main, the online tutors felt their online identity was the same as their classroom identity. They advocated the importance of being supportive, having a sound knowledge base, being encouraging especially to establish a participative and inclusive environment and to be enthusiastic. In addition some tutors felt the need to "*make an impression that you don't need to do in F2F teaching*". This may include providing some background information about themselves to "*almost justify being their tutor*". In other cases tutors became over-enthusiastic during online discussions and couldn't resist the urge to "*leap in with an opinion rather than encouraging the participants to reply*."

When the online course relates to course design and instruction a variety of teachers with a range of expertise in ICT may form the group. "*From day one you can identify the techie people and you need to tread this line delicately*" as the course focuses on the pedagogy of learning and teaching and not the 'bells and whistles' of the technology. Online tutors in this type of course aim to minimise the 'voice' of the more technically able participants by "*dumbing them down in discussions to prevent them from overwhelming others on the course who are not technical*."

Students can definitely come with set ideas which affect the way they communicate online. Their language is "*authoritative*" and they can come across as being "*quite aggressive*" when seeking clarification on the questions being posted by the tutor. As a result tutors can be cautious in their responses, checking that the posting is unambiguous and accurate and having the feeling that they are "*walking on eggshells all the time*" when dealing with these students. However it is acknowledged that "*there is the potential to read an identity and get it wrong by the language people use to communicate*." Tutors also report the existence of two or three strong personalities within each group who emerge as the leaders and are "*quite opinionated*" interacting with most of the group members all the time. This online persona tends to stay with them throughout the modules and they stand out in the group. For other participants, they "*engage with the ideas in the module and sometimes have a burst of reflection on their own actions when something grabs their attention*".

"*Online everyone can have their say*" so even the quiet participants in the F2F situation can be heard online: "*There is an equity or parity if you like*" and "*they are not having to get through the noise of the other learners"*. Sometimes these quiet and retiring souls even change once they go online becoming more dominant, out-going and often assuming a leadership role. But with this greater connection between the people on the course comes increased levels of exposure. It is also important to note that although you can "*bluff when you are in school, there's no hiding online unless you are an extremely shrewd person and it's all very calculated*". All participants are visible online and it is clear when someone is not participating in full or benefiting more from other people's ideas than they are contributing themselves to the discussion.

Perhaps as a result of prior research into online identity, most courses require students to "*upload a photograph so this reduces the likelihood of them pretending to be someone they are not.*" It is part of the

online tutor's role as a manager of the course to get to know each person's online identity. For some participants they will have experience of collaborating online via FaceBook and other social networking sites while other students may be novices in the online forums. For these reasons online tutors need to adopt a supportive role to assist the novices to develop quickly as online communicators.

RQ5: What are the main enablers and/or barriers to successful online teaching?

Enablers

Building on the 'lived experiences' of online tutors, part of the survey asked respondents to list the three enablers which they perceived to be responsible for successful online teaching. In general the answers were not ranked by respondents and therefore it is not possible to rate them hierarchically, although trends where several participants rated items are noted.

The enablers can be grouped around key themes, some of which relate to generic skills and knowledge, while others are specific to online teaching. The main categories listed are as follows: Motivation, Preparation, Teaching, Student Support, Resources, Course design, Technical aspects and support, and Practicalities of online teaching. Each of these groups is discussed below.

Motivation was mentioned by several respondents and this can be sub-divided into motivation of the students or the staff. Some respondents highlight their own enthusiasm for their subject and their general attitude to the mode of delivery as enablers. Others talk of their confidence in the VLE with which they are working. Motivation from students is also considered to be an enabler, particularly where students are receptive to new ideas.

Attitude The following were mentioned by at least one participant in relation to the attitudes required from tutors to make online teaching a success: Online tutors need to be flexible, encouraging, positive, reliable and their approach towards the student group needs to be open and welcoming.

Preparation was thought to be vital - ensuring that the tutors were familiar with the material, that they had excellent subject knowledge, and their organisational skills were of high quality. In relation to specific lessons, it was highlighted that planning was essential to anticipate what difficulties might arise from the material. One tutor noted that a considerable amount of time was spent in preparation prior to the course going live. In relation to providing feedback to students, it was noted that online tutors have much more detailed knowledge of their students' writing, so that the feedback can be much more directed and specific to the student - personalised. It is suggested that tutors develop additional pedagogical skills by being involved in writing course material for online delivery.

Resources were noted by several respondents, referring both to the resources required for teaching, the materials which form part of the course but also those resources which are available to students online such as e-books. It was considered essential that the tutors were familiar with available resources in order to be able to direct students in these matters.

Teaching was also stressed. A number of features were grouped under teaching, ranging from the need to have had teaching experience face-to-face prior to embarking on online teaching, to the need for high quality teaching in online delivery. Again good subject knowledge was thought to be essential for this and the ability to present the information clearly and concisely was deemed an aid to teaching. Good ICT skills were considered essential for online teaching, together with excellent online communication skills. Rapport was highlighted by several participants, noting that the tutor sets the scene for the learning, establishes the ethos of the learning environment and is the general facilitator throughout the course. The facilitator's role is to establish the 'atmosphere' right at the start of the course, first by welcoming the participants but also ensuring that they are inducted into the interactive parts of their course. Asynchronous discussion is mentioned by more than one participant as important since it allows the tutor time to reflect on issues and to respond, in light of these reflections. Furthermore, this is seen as enabling tutors to balance their workload. In facilitating the teaching, one respondent mentioned the importance of having 'fun' activities to supplement the more serious activities on the course. In relation to the online teaching materials, doing research is noted as one of the enablers although it is not quite clear whether this referred to research relating to subject matter or whether it referred to research relating to the pedagogy of online teaching or both. The need for F2F contact is mentioned by three participants, in one case reference was made to the need to have face-to-face contact at the initial stages of the course and at intervals during the course; one participant stated that the optimum approach is a blended approach of both face-to-face and online contact.

Student support issues were mentioned by most respondents although it is not possible to separate them from the other areas of motivation, attitude and teaching and involved aspects such as giving feedback. There was some disagreement as to whether the tutors should make themselves available all the time or whether designated time-slots should be made clear to all students. Sensitivity to students' needs was hinted at in some responses where the caveat was mentioned that tutors need to take more time over communicating information to students, so as not to pressurise them or upset them. Accurate and rapid responses to issues are mentioned in relation to responding to queries and to giving feedback.

Technology was highlighted in a variety of guises in most respondents' enablers. First it was essential that both the hardware and the software were robust and reliable. In cases where difficulties were encountered, technical support was seen as absolutely vital. Good connectivity is noted by several participants and the teachers needed to have confidence in both the infrastructure and in the VLE itself.

Time was noted in several answers: time for planning and preparation, time for giving student support and feedback, time to respond to e-mail queries and time to devote to general student support. It was also thought necessary for teachers to have the opportunity to engage in informal discussions with other colleagues; this ensured cross-fertilisation of ideas and freshness of content, and online modes of delivery. It could also act as a support network for the tutors, although it was not identified for that purpose.

The tutors' responses to this section on enablers can be summed up in one word which permeated many answers, namely commitment. Most tutors appeared to be totally committed to their subject, to the medium of delivery, to the ethos which underpinned online teaching and, most importantly, to their students. The

impression was gained that online learning is not simply a different way of interacting, equal amongst others, but that these tutors are totally dedicated to this model as a way of inspiring students to take ownership of their own learning.

Barriers

Following on from the enablers, respondents were asked to list their three barriers to successful online learning and teaching. In many ways the categories chosen mirrored those above in that the lack of the enabler resulted in a barrier. The items are categorised for ease of reference under the following umbrella terms: Preparedness; Technical issues; Attitude and motivation; Student participation; Teaching; Class size; Time; and Student support and feedback.

Preparedness refers both to the readiness of the tutor for the job and the student preparedness for the process of online learning and the course on which they have enrolled. It is noted that a lack of awareness in the tutor of what online learning entailed could be a barrier, as could the lack of clarity in students' understanding of what is involved in learning online. Poor expertise of the tutor and poor organisation are noted by more than one participant as barriers, as is poor recording of information and tracking of ideas.

Technical issues both for students and teachers are listed as possible barriers. The lack of technical support (in one case ***timely*** technical support) is seen as the most notable barrier, being listed by five respondents. Technical problems, including poor connectivity, and less than adequate hardware are seen as barriers, as are breakdowns and undefined logistical constraints. Lack of competence of the student and indeed the staff in general, are listed as barriers. One person noted frustration when the VLE did not do what was required for the task '*i.e. when MOODLE doesn't do what I want it to do (e.g. no live voice chat*)' which raised the issue of the limitations of the online platform. It is suggested that staff and students need to keep up to date with advances in technology and recent innovations, and that poor training of both can lead to less successful learning and teaching online.

Attitude and motivation are both highlighted as barriers, that is to say when learners have poor motivation or are reluctant either to engage with the learning or to participate online. One tutor stated that it is difficult to retain his/her motivation especially when the same advice has been given to a student five times and is still not acted upon.

Participation or rather the lack of it, accounted for another set of barriers. In general the comment that some groups do not 'gel' is seen as the most important barrier to reducing successful learning online. Some tutors mentioned the mixed ability nature of the online groups with which they were working can be problematic while other tutors suggested that the dominant learners who take over discussions are barriers to learning for the rest of the class. The variability of student participation is seen as a barrier, particularly when either 'freeriders' or students who do the bare minimum both in terms of content and participation are present.

Related to the comment above addressing staff motivation, the lack of willingness of students to act on advice is seen as a major demotivator and barrier to online tutors' involvement. Student lack of ability to deal at Masters level is also noted as a difficulty. Poor engagement or over engagement could summarise the responses grouped under the heading participation-related barrier.

Teaching was identified as a barrier, although many of the concerns noted can also be linked with other categories. The nature of the teaching has several limitations, notably the lack of visual cues, the absence of body language signals and thus feedback to the tutor to enable them to judge the reaction to individual tasks or to the teaching in general. These were all seen as factors which could militate against successful teaching with one tutor stating that not getting an instant reaction to a task makes it difficult to alter the task to suit the needs of the students. Group dynamics is noted both as a positive but also as a negative factor in relation to some students, in that the disposition of the group can inhibit certain learners and reduce their confidence and capacity to participate. The nature of the tasks is also highlighted as a possible barrier with inappropriate activity, poor content, bad course design, lack of variety of content, lack of subject knowledge (both by the online tutor and student) all causes of the task becoming a barrier to learning. One tutor highlighted the lack of support in online pedagogy contributing to the tutor's sense of diminished expertise in this area. The fact that some teachers regarded themselves as subject specialists as opposed to teachers in general was also listed as a barrier. The difficulty in sustaining a sense of learning community seems to summarise this section on teaching.

Class size was seen as a possible barrier, with too many students or too few students resulting in less than satisfactory teaching. One respondent stated that class sizes greater than 20 are problematic to manage and monitor as are those with fewer than six students due to the high volume of postings needed per participant to sustain an informative discussion.

Time was noted by various respondents with the lack of it resulting in less than successful online delivery. Lack of time was listed by three participants. As stated above one barrier to success is where tutors failed to realise the time implications of online learning and were, as a result, not prepared for the task. Poor time management and competing priorities, together with constant interruptions at work were barriers for some tutors and students alike.

Student support difficulties are seen as barriers. Moreover, these are barriers which cross categories. The tutors' lack of pedagogical sensitivity, technical ability or pastoral support were noted as barriers to online learning.

Interestingly, one participant stated that they were struggling to think of any barriers to online delivery, possibly an implication of the uniqueness of teacher educators as online tutors.

In summary, this section is in many ways the counter-side of the previous section on Enablers and therefore reinforces the consistency of the message coming from the 'lived experiences' of online tutors.

Moving from F2F to Online learning

Following the Enablers and Barriers discussion, participants were asked to highlight the tips they would give to other tutors who were moving from F2F teaching to online teaching. Some of the suggestions reveal training needs which will be dealt with in the next section. However, the hints fall into the following broad themes: technical, peer, students, pedagogy and planning.

Technical and practical

The importance of being able to type quickly and accurately is a key requirement of online tutors as is regular contact and responding regularly to students – sustaining high tutor visibility. The importance of checking the technology well in advance of the module is noted to ensure that there are no interruptions to the module itself. In fact, a good quality interface and familiarity with the technology was seen as a *sine qua non*. It is also acknowledged that the technology can be problematic so the advice given by experienced tutors is to embrace change and not focus on any technical hitches. New online tutors are encouraged to incorporate live classroom technology into their teaching and to be sufficiently flexible to adapt to new technology as it evolves.

Peer

Mentor/peer support is vital, including creating a support forum online with other tutors. Sharing the experiences of skilled online tutors is also useful for those teaching online for the first time. Sound advice such as "*push yourself more with every course"* was seen as encouragement to experiment with a different feature each time a course is being refreshed.

Students

It is vital to know the students well, to inspire them and to engage them in discussion. It is also important to share learning intentions with students as well as tasks and to promote coherence between the activities and assessment tasks. Student support is considered central to the process as is obtaining feedback on their experiences of the course. Ideally students should be allowed to lead at times giving them ownership of aspects of the course. From the outset, collectively agreeing the students' expectations of the tutor assists with the management of online tasks.

Pedagogy

It was noted that good teaching is just that, whether F2F or online, and that much of what is applicable to F2F teaching, can be implemented in and adapted for the online context. A variety of approach to topics is required. It is important to focus on the key tasks, to use time efficiently. Developing clear language for communication is emphasised since the language is the main medium of communication, with no facial

expression or body language to complement it online. Some techniques were given in relation to posing questions online and refining tutor conduct. Some tutors advocate not responding immediately to questions raised, since the time delay can allow students to reflect on the question and the tutor can research the answer. Other tutors note the importance of immediate feedback to students. It is therefore necessary to consider the context of the query and the students' needs when taking on board the above advice. Concerns about being chained to the forum '24/7' were mentioned and the suggestion that a strict timetable of commitment is a useful mechanism to set boundaries on student expectations. Tutors also noted that the same questions may be asked time and time again so online tutors require a lot of patience and resilience. How classes are conducted was highlighted by one participant who thought it better for there to be one-to-one responses to answers. Unlike F2F teaching, there should not be set class times as students enrol on online courses to take advantage of the flexibility of study times. Time management in general has to be approached differently by tutors and students. The role of the tutor is important online and they need to see themselves as facilitators of learning, being able to react quickly and to inject pace and momentum into sessions. They must also be able to redirect the discussion as appropriate.

Planning

It is important to involve the senior management team in the organisation from the outset to secure the level of support needed to successfully transfer to online teaching. While it is valuable to make sure the whole module is prepared in advance, it is also essential to be prepared to change tack as the course evolves or other elements change. It is necessary for tutors to be well prepared for all eventualities. As noted earlier, the value of participating as an online learner yourself prior to teaching cannot be overstated. In relation to teaching materials, the advice is to ensure that they are unambiguous, that the language is clear and that they are succinct. In terms of planning, new tutors should start in a small way, e.g. by working with MOODLE as a repository and then gradually building their confidence with the technology before being more adventurous in experimenting, embracing and seeking change. Reviewing the course is also recommended; the course design is very important so strip it back and plan for online delivery, not merely F2F content that has been digitalised. It is also important not to put too much content up at once, pacing the learning process by partial revelation of materials is considered more effective.

RQ6: What priorities do teacher-educators have for professional development in online teaching?

For online tutors there is no clear boundary between their personal development and their professional development as a tutor. Scholarship is key to these tutors who recognise the importance of "*finding new ways for students to interact with one another as well as the tutor*" and "*keeping up to date with developments*" in terms of refreshing their courses and upgrading the pedagogical approaches embedded in the online activities to include the new web 2.0 tools such as wikis, blogs, voting and live classrooms as they become available

within the virtual learning environments hosting the courses. In some cases this was conveyed by tutors as "*raising my game*" while for others it reflected the shift in society towards a more informal, collaborative partnership between learners where study and life blend seamlessly into one another. For one online tutor "*CPD [continued professional development] is a way of life and something I need to do*" indicating a personal desire and commitment to be engaged, try new ideas and "*give something back to the profession*".

Specific training needs were stated such as on-going training and up-skilling as and when there are developments in online pedagogy. Assessment online, and authentic assessment opportunities and giving feedback through effective questioning are other areas where tutors wanted more up-skilling. Specific skills development was mentioned in relation to moving from audio to video delivery.

The collaborative nature of online learning is also reflected in the tutors' revelation that you "*learn lots from students. ... It's great working with adults – the new information, new ideas of ways of working, ...*" For many tutors collaboration and co-operation is key to their approach to professional development as highlighted by the statement that "*Good training is vital for online learning and there is a need to have a team internally [in school] who can support each other on an as-needed basis*". One-to-one support or small group sessions on a regular basis were raised as was peer support and disseminating of good practice including "*more dialogue with peers around e-learning*" and getting inspiration from those in other school sectors. The importance of learning to work collaboratively with other tutors, possibly as co-tutors, is seen as a priority by a group of tutors, as is assessing student work online using authentic assessment opportunities. This holistic approach to CPD reinforces the continued commitment of online tutors to supporting, guiding and sharing ideas with each other. As one tutor stated "*the community of practice model is perfect for CPD for tutors!"*

Self-fulfilment is an important element of CPD. As one online tutor declared "*The experience is fulfilling; it gives me something I don't get elsewhere*." Another contrasts his online world with his day job saying "*I enjoy working with adults, it's very different from kids, they are nice. ... There's progression once you get older. It's very refreshing to be tutoring online, it helps me going off to school. ... I feel I am keeping in touch and how you feel is important and enjoyable. It comes from the heart*." Ways to keep up-to-date vary with some tutors relying on reading the research literature in books and journals, while others enjoy the online materials such as video in TED as a less formal mechanism for learning. Experiential learning was also advocated as a good gauge for determining the effectiveness of delivery of materials using emerging technologies, such as Facebook and Twitter, and also acting as a template or model for online courses to embed in their own course structures. National conferences were acknowledged to be beneficial to CPD. Hearing about others' experiences online, seeing ideas implemented in practice and sharing research findings were all part of the on-going professional development of the online tutor. However it was also recognised that "*you don't know what you want*" at times so opportunities to observe other colleagues teaching online could offer inspiration to fellow online tutors. In addition immersion in other online courses was often needed to uncover the gaps in tutors' own subject knowledge and expertise of course design.

The perception of what constitutes CPD was noted as a barrier for many people. The perceived notion of CPD being formal courses attended either F2F or online, where attendance is registered, evaluations completed

and often certification attached is now being challenged in light of the ubiquitous nature of online learning. This mismatch between traditional CPD and current modes of learning is resulting in a lack of recognition of the impact of informal learning as an acceptable and often valuable form of CPD. Social networking has re-shaped CPD as was previously conceived and a recognition of the role of online forums, twitter feeds, RSS feeds and sharing websites via social bookmarking are skills needed by employers. Often online learning is a barrier to itself with assumptions being made that online courses are easier. The cost of online training can be prohibitive as employers may prefer to fund F2F courses which are more easily monitored and have pre-defined release times.

For some, participation in online professional development such as webinars and live classrooms has to be self-funded resulting in a negative impact on uptake. For others professional development requires them to understand the role and context in which their learners are working so that empathy, advice and support can be provided in an honest and accepted manner. An awareness of "*not living their problem*" is felt as a disadvantage by the online tutor and so compensatory strategies are used to "*bridge the gap*".

Financial constraints are also altering modern modes of learning. It has become the norm for individuals to multi-task and so they are employed throughout the day often in a full-time capacity and then they study online at night. The increase in uptake of online learning appears to be a result of the costs incurred living and staying in the university area during full-time study so more students may be opting to work from home on a part-time programme.

It is clear that CPD is "*driven by the person*" and their desire to improve and extend the repertoire of online tasks being implemented in their courses. For these people, being able to discuss and share ideas with others is a key to broadening the range of experiences used to empower their learners. Capacity-building within and across institutions is therefore important. Modelling good practice and having the facility to open the course to others (as viewers) assists in the process of innovative course design.

Innovations in CPD

GLOW offers a level of flexibility for CPD to online tutors in Scotland. Whereas BlackBoard can be perceived as a delivery system with a teacher leading the lessons, GLOW allows tutors to hand over control to the learners and give them the power to own and direct their own learning within the constraints of the activities set by the tutor. In this student-driven environment, the learners can challenge each other and extend learning in a meaningful and engaging way with the tutor acting as a 'guide on the side'. However GLOW is "*a complex tool to put in the hands of the inexperienced*" and so scaffolding by the tutor is needed before independent study can be truly achieved.

One area of GLOW which has made a dramatic impact on CPD has been the desktop video-conferencing capabilities of the system: "*Teachers are raving about it*". GLOW Meets are held online as Show 'n Tell sessions for teachers to exchange and share resources, ideas and teaching strategies. In the classroom, GLOW

Meets are used to connect pupils to guest speakers who answer questions and offer insights into STEM careers or in the case of invited authors, engage with the pupils on issues arising from their novel.

Live classrooms are also noted as a potential area for development due to webcams being so cheap and often built-in to laptops. Also nearly everyone is connected via broadband nowadays so internet access is better and quicker, facilitating real-time chat. The benefit of webinars is the interactive and engaging atmosphere they invoke and the collective feeling of being in a shared space simultaneously with the other participants. The use of polls and voting add interest and feedback throughout the seminar due to the ability to probe and challenge the ideas being embedded into the session. The use of the shared whiteboard and also the chat facility creates a multimodal experience for the learners. However, some online tutors report the combination of visual and oral feedback almost overwhelming at times and declare it is easier to get distracted online than in the F2F scenario. Some tutors misread questions or miss posts resulting in the continuity of the seminar being affected. The role of moderators to manage the interactive elements in live classrooms is valued as it allows the tutor to focus on the content being delivered and then stop at junctures to respond to the questions which had been categorised and logged by the moderators. This paced delivery seems to be an effective mechanism in harnessing the powerful nature of the live classroom as a teaching tool. One concern, however, that has been expressed is the challenge of scheduling a live classroom. Online courses are often chosen because they offer flexible learning at a time that suits the learner, however, live classrooms remove this flexibility as the participants need to be online at the specified time. One alternative is to record the entire session and allow non-attendees to replay it in their own time. A second question raised about live classrooms was the 'value-added' compared to offline reading and reflection followed by online discussion. Does real-time communication enhance the learning or just increase the pleasure in the learning process?

In addition to scholarly activities, explicit drivers are also reported as initiating professional development. Examples include government policies such as the Donaldson Report (2010) and Chartered Teacher Status. Some tutors also referred to the need to have their expertise and skills online valued in a more formal way rather than their merely being 'known' as a good online tutor. Others discussed the "*opportunity to do something more formal...a qualification as I have been learning [to teach online] by trial and error until now*". Experiential learning is recognised as a key element of CPD for online tutors and this often goes unrecognised by the employing institutions.

Implementing changes to online courses can be restricted if the online tutor is not the owner of the course but instead is simply a facilitator of the online debates. In these cases the educational organisation needs to ensure that their mode of delivery is reviewed based on the feedback from learners. Learner expectations can often drive up the standards to ensure the online course is a modern and effective learning experience encompassing "*new ways of interacting with one another as well as the tutor*".

Technology/tools

Many of the currently used online collaborative tools are considered not to be developed for educational purposes. Instead they are deemed to be for "*community and socialising and research...VLEs are the exception and they are clunky*". So this raises the question for CPD: how does one focus on curriculum development to include technology? The key factors are "*tutor, learning, prior background of the learner, and technology itself*". This may be captured as Technological, Pedagogical And Content Knowledge or TPACK (based on PCK of Shulman, 1986). It is not the content that is important but the mechanism to facilitate the process of learning. As one online tutor declared "*The last thing kids need from me is information which used to be the first thing they needed*!" Instead the online course should encourage students to engage in "*critical thinking and [consider the] implications of decisions*". Looking at the teaching continuum from Sage-on-the-Stage (at one end with full control) to being a Facilitator or Guide-on-the-Side (with little input), it has become accepted that 21st century teaching processes need to be located somewhere near the centre of this continuum with the online tutor acting as a co-learner or 'Meddler-in-the-Middle' (McWilliam, 2008). But taking this stance requires from teachers "*the need to change; we should now learn to create something*" such as tutors creating their own online courses.

Online learning uses a wider range of learning theories compared to F2F teaching and so tutors need to be aware of the students' behaviour online compared to a traditional classroom. Interactive learning is essential online, even making the mistakes is part of the learning experience. There is also the expectation that online learning is perfect – that everyone learns and achieves the outcomes for the course. This is a misconception because, for the most part, "*it is just a dialogue*" between participants or between participants and the tutor online.

Indeed personal organisation and management of self and others online are considered more important as skills for an online tutor. "*Just because you are brilliant in the classroom does not mean you are brilliant online, for example a 'wow' teacher is not really effective online as there is no performance online. However the boring F2F teacher might be good online*." One tutor could relate to this exactly and illustrated that it is possible to change, given time. He declared himself to be "*a presenter, storyteller, entertainer but I can't do it here online. I miss it. It's a different world and I'm comfortable now that I have done it so long. I miss the interaction when the course is not running. It's kind of fun!*"

Finally informal learning was considered 'the elephant in the room'. Inquisitive people can search out and join online groups to further enhance their expertise. There is a considerable amount of informal online learning taking place daily without any recognition of its role in professional development. Informal learning is the key to determining how people learn online, explaining why some people have a desire to search out like-minded individuals, join their online discussion forum and become part of that community of practice. In fact, "*communities of practice are probably diametrically opposed to formal learning*" and FaceBook is possibly the obvious example of how an informal community of practice can be established and sustained without the context of formal learning.

Online CPD provision for teachers

Some tutors note a perceived reluctance amongst teachers to "*step forward and learn more than they have to*". In these cases it is important for the online tutor to remember that they "*can't make a change other than encourage people to come forward*". Other tutors remark favourably on the positive impact of the Chartered Teacher Status to encourage younger staff in schools to engage in further professional development. It was noted that initially most teachers applying for this qualification were aged in their 50s. However, more recently it has been teachers closer to 30 years of age, who have completed the statutory four to six years of teaching, who are applying for financial reasons. In addition it should be noted that teachers' CPD in Scotland counts towards Masters Level credits and so it is possible for young teachers to 'bank' their CPD credits towards a Masters degree from the first day of their teaching career. Looking at the bigger picture then, it is clear that the younger generation of teachers may have achieved a Masters degree and also Chartered Teacher status before they are 40 years of age so the question arises: what are these teachers going to do as CPD in their 40s and beyond? What can universities provide as incentives for these teachers to continue developing professionally until the end of their teaching career?

There was agreement among online tutors that further study, in the form of CPD for teachers, enabled them to critically engage in educational debates as they were more informed about issues, had research evidence to support their viewpoint and were not reliant on anecdotal classroom experiences. For many they felt more empowered to speak out and challenge decisions knowing that they had argued their case in online discussions and were familiar with the range of perspectives available.

Discussion and Conclusions

Overall online tutors tended to be university lecturers aged 45-54 years old who have on average six years of experience teaching online delivering award-bearing courses. They are most familiar with VLEs, email and Skype but are venturing into social networking for personal use but not professional use at the moment. They report *High* levels of competence and confidence in the use of ICT and moved to online teaching through personal choice. They received more technical support and training for creating and delivering online courses than pedagogical support in these areas, so they were mainly self-taught or experienced their own 'personal journey' in the transition from F2F to online teaching. Much of the online teaching is 'safe' and uses the conventional asynchronous communication channels in VLEs of discussion forums and email. There is limited reported use of the interactive, collaborative tools commonly referred to as web 2.0 technologies, however, live classrooms are generating interest possibly due to the facilitation of the 'lecture' mode of teaching as indicated by Oren *et al.* (2002) who declare that the most common mode of delivery online, despite the focus on online discussion, remains the lecturing mode. The differences in male and female preferences for online tools reveals the interesting scenario where the online course could be unintentionally designed with a gender-bias by promoting the more structured and orderly, sequential processes with a staged approach to the final outcome, revealed to be preferred by female online tutors, compared to the experimental, multi-

directional trial and error evolution of a 'big picture' favoured by male online tutors. However the same could be argued in F2F teaching contexts where teachers decide the pedagogical approach to be adopted in their classrooms. Assessment methods in online courses remain traditional tutor-assessed written assignments or reflective journals possibly due to constraints imposed by the institutional requirements of award-bearing courses. Over three-quarters of the respondents reported the experience of moving from F2F to online was positive despite the limited support available to them for course design and training.

Salmon's (2003) competence model for e-moderators captured the skills and attributes needed for learning in a predominantly text-based online course. This study considered the role of the online tutor – one aspect of which is moderation of online discussions. Consequently the broader skills of teachers and, in particular, online tutors were revealed in the 'lived experiences' of the participants in this study. The pastoral nature of the online tutor's role dominated much of the discussion surrounding being an effective online tutor, ensuring quality learning online, and enhancing student participant online. It is therefore recommended that additional levels are added to the existing model namely, Level 0 – Preparedness and Level 7 – Reflection for CPD, as shown in Appendix A. These additional elements will be discussed in the sections below.

Preparedness evolved as a key determinant not only in the advance preparation and planning of the online tutor but this feature extended into Salmon's (2003) five stages of e-moderation *during* the online course too. Preparedness captured the awareness and the commitment needed to be a successful online tutor as well as the qualities of willingness and availability to support learning online during the course, including managing group dynamics and pastoral issues. The availability of additional teaching resources to stretch and extend the learners as the discussion evolved also indicated preparedness to expand the learning opportunities on a group by group basis. This capability can only be achieved if a strong pedagogical content knowledge exists alongside the technical skills of being able to upload weblinks, YouTube videos or other 'nuggets' of learning using innovative online approaches. The final element of preparedness is being open-minded and insightful in terms of the types of assessment strategies embedded in learning process – these included both formative and summative assessment techniques. This additional quality of timely feedback offered by online tutors was a recurrent theme throughout the study and was discussed as an aspect of being an effective tutor as well as one of the enablers/barriers to learning online.

Preparedness also appears to be a prerequisite for quality learning online where the group collaboration is enhanced through tutor guidance and input, thus ensuring engagement is sustained in the course. The idea of 'meddler in the middle' (McWilliam, 2008) offers a mechanism for the online tutor to 'control' the learning process indirectly from 'within', without being viewed as the tutor/leader. The skills of teacher educators appear to transfer from the F2F context to online learning with the e-pedagogies used online being rooted in traditional classroom-based pedagogies of the past. The unique context of teacher educators being able to apply these 'craft' skills typical of F2F teaching to the online context further exemplifies the concept of tutor preparedness in the areas of personal characteristics and the ability to innovate and use a range of assessment

strategies effectively to address the goals of their teaching. The latter two characteristics: innovativeness and assessment awareness which are additional to Salmon's (2003) e-moderator competences, evolved from the investigation of the specific skill set teachers unwittingly bring to the online environment.

Teachers 'comfort' with trialling new ideas when presenting information or using alternative strategies to assist learners in the F2F context makes for an easy transition to a constantly evolving world online where new functionality in online environments offers the technologically-savvy teacher a new set of pedagogical tools to experiment with online. Their pedagogical sensitivities and familiarity with pedagogical practices allow these teachers to connect their existing expertise with the affordances of the VLE tools and increases the opportunities to develop and extend existing online practices to promote learning. Similarly the synergy between learning and assessment is core to a teacher's role and these skills also transfer to the online context where teacher educators know the role and purpose of formative and summative assessment in learning, are familiar with the benefits of self and peer assessment and know the value of setting tasks in suitably authentic contexts. The authors are not implying that online tutors from a non-teaching background are ineffective in these areas but that teacher educators are at the advantage of having highly developed pedagogical skills and expertise in dealing with a variety of learners which allows them to make the transition from F2F to online teaching more easily and to bring valuable qualities, not identified before, to the role of an online tutor.

The enablers and barriers to online teaching reinforced the applicability of Salmon's (2003) competence model for e-moderators where the focus of attention becomes the process of creating and sustaining an effective online community of practice in which all learners are actively engaged in purposeful online collaboration, promoting information exchange and knowledge construction. The high visibility of online tutors was reiterated in the categories of enablers and the need to be proactive and reactive to students' needs. Attributes of preparedness, innovativeness and assessment were not the focus of attention in this section, although these attributes co-existed in parallel with the community spirit. Online tutors recognised their inter-personal skills and pedagogical sensitivities (van Manen, 1990) promoted the student experience and were dominant enablers of online learning.

Continued professional development (CPD) ranged from up-skilling with the support of the peer group in the educational organisation to the pursuit of recognised academic qualifications. In the main the online tutors appreciate the need to reflect on and evaluate the current online experiences provided to students and to share ideas and experiences of using web 2.0 tools in their courses. The confidence to trial new online pedagogies and tools relies on the availability of technical support (for video-conferencing or live classrooms) and also the peer support network in the institutions. Attendance at conferences and research seminars, where innovative approaches are being demonstrated, was considered to be a valuable input for the online tutor as were 'Teacher Meets'. Self reflection and evaluation are inherent in modern CPD activities and it is important for the online tutor to determine the 'value-added' from the use of more collaborative tools online or new assessment strategies. As Paulsen (1998) noted, learners have a role to play in the construction and

planning of online courses. By re-examining and reviewing the purpose of the student course evaluation process, this highly skilled and often untapped educational resource could be used effectively by tutors to maintain a modern, innovative and engaging online course for future participants. Having also 'lived' the online experience the students' feedback should be valued by online tutors in terms of gaining an insight through the lens of the participant in the online learning experience. Consequently the process of CPD is captured in the final quality of online tutors, namely Reflection for CPD resulting from teachers' familiarity with F2F *reflection-in-action* and *reflection-on-action* (Schön, 1980) that can also be applied to the context of online courses. These amendments to Salmon's e-moderator competence model are shown in Appendix A.

Being a reflective practitioner is key to sustaining effective practice in the classroom and equally in the online environment. CPD plays an important role in supporting tutor development both academically and pedagogically, but how does this translate to online teaching? Laurillard (2008) challenges academics to consider the features of "*attention, inquiry, discussion, practice, collaboration and production*" as embodied in her Conversational Framework which draws on the instructivist, constructionist, social and collaborative learning models. As illustrated in the above 'lived experiences' of online tutors, these features are frequently utilised in successful online courses to support and engage learners online and to facilitate an enhanced learning experience for the duration of the course. The online tutors themselves report the need to be attentive to their online participants, responding quickly and unambiguously to queries or requests for clarification. They also recognise the need to post questions to direct the discussions online and open alternative channels of debate, often through the use of additional materials shared from the tutor's own bank of resources. Tutors are also adept at managing group activities requiring the students to apply the theory from the content elements of the course to the participants' own practices in school thereby requiring reflection and application of the content knowledge to the participants' personal context. The sharing of experiences online promotes information exchange through collaboration and evaluation within the group driving forward the process of knowledge construction for all. For many online courses, the discussion forums can be viewed as the hub of the learning where formative feedback is provided during the course however the assessment process remains fixed as a written assignment marked by the tutor. This outcome reinforces the 'production' element of the Conversational Framework where a final product is used to demonstrate mastery of the content domain. As this study focused on the role of the online tutor who is a teacher educator, the 'students' or 'participants' in these online courses are, in fact, teachers. It is therefore evident from this study that Laurillard's Conversational Framework provides a good model to summarise the process of teacher professional development through formal, often accredited, online training courses. Considering the reported absence of pedagogical support and training by approximately half of the tutors surveyed, when they were making the move from F2F to online teaching, the Conversational Framework offers an initial and easily accessible gateway into the world of online teaching firstly as an e-learner before developing into an online tutor. The more recent developments of mapping tools such as Learning Activities Management Systems offer a more prescriptive 'template' to map the learning intentions for a course to the available online pedagogies

and may be the solution to existing online tutors' requests for up-skilling and ideas for developing their course design and structure in light of ever-changing online technologies.

In conclusion, it should be noted that the additional attributes for online tutors (shown in Appendix A) are being proposed based on the feedback from the study and therefore further research is required to test their applicability in the wider context of online learning. The survey revealed the online tutors' willingness to continue to innovate and develop their online skills as tutor through appropriate CPD. It also revealed the limited use of assessment methods in current online courses and so the inclusion of Assessment Awareness, as a characteristic of online tutors, is an attempt to redress the imbalance between teachers' knowledge and use of assessment in the F2F situation compared to online. Finally Laurillard's (2008) Conversational Framework is recommended as a model to assist aspiring online tutors in developing their own online courses and making the transition from F2F to online learning.

Outcomes and Impact

An additional outcome of the project is an e-zine (online toolkit) highlighting recommendations for the professional development of teacher education tutors making the change to online teaching. The contents include both updates on theoretical models and exemplifications of good practice in implementing these models. Conference presentations are planned for BERA and ECER in September 2011 after which journal articles will be submitted. Dissemination seminars launching the e-zine are planned for late September in the new Ayr campus of the University of West Scotland and as part of the autumn seminar series in School of Education, Queen's University Belfast.

Regarding the impact of the study, it is anticipated that the findings from this research will contribute to an informed debate about what should be expected from effective teacher educators in the 21st century. Findings could be incorporated into current staff development and CPD for school or college tutors and lecturers in Initial Teacher Education, Masters in Education courses and in programmes such as the Postgraduate Certificate in Higher Education Teaching (PGCHET) offered by Universities throughout the UK and similar programmes further afield. A consequence of this staff development opportunity may be the improved use of online pedagogies by tutors resulting in an improved experience of online teaching and learning for all.

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Appendix A:

Competency model for online tutors

(*adapted from Salmon's (2003) E-moderator competencies model*)

Quality/Characteristic	0. Preparedness	1. Confident	2. Constructive	3. Developmental	4. Facilitating	5. Knowledge Sharing	6. Creative	7. Reflection for CPD
Understanding of the online process **A**	Awareness of level of commitment needed in online teaching.	Personal experience as an online learner, flexibility in approaches to teaching and learning. Empathy with the challenges of becoming an online learner.	Able to build online trust and purpose for others. Understand the potential of online learning and groups.	Ability to develop and enable others, act as a catalyst, foster discussion, summarise, restate, challenge, monitor understanding and misunderstanding, take feedback.	Know when to control groups, when to let go, how to bring in non-participants, know how to pace discussions and use time online, understand the five-stage scaffolding process and how to use it.	Able to explore ideas, develop arguments, promote valuable threads, close off unproductive threads, choose when to archive.	Able to use a range of approaches from structured activities (e-tivities) to freewheeling discussions, and to evaluate and judge success of these.	Tutors share ideas and success stories of online teaching. Up-skilling achieved via peer to peer support.
Technical skills **B**	Availability and capability to solve online technical problems for self and/or students; independence in the use of a range of ICT tools.	Operational understanding of software in use, reasonable keyboard skills, able to read fairly comfortably on screen, good, regular, mobile access to the Internet.	Able to appreciate the basic structures of online conferencing, and the Web and Internet's potential for learning.	Know how to use special features of software for e-moderators, eg. Controlling, weaving, archiving. Know how to 'scale up' without consuming inordinate amounts of personal time.	Able to use special features of software to explore learner's use eg. message history, summarizing, archiving by using the software productively	Able to create links between other features of learning programmes, introduce online resources without diverting participants from interaction.	Able to use software facilities to create and manipulate conferences and e-tivities and to generate an online learning environment; able to use alternative software and platforms.	Use of technology to support upskilling – discussion forums for Q&A or Teacher Meets for online dissemination of ideas and latest online tools.
Online communication skills **C**	Availability 24/7 if needed and demonstrates pedagogical sensitivity to students.	Courteous and respectful in online (written) communication, able to pace and use time appropriately.	Able to write concise, energizing, personable online messages. Able to crate 'presence' and 'visibility' in virtual environments,	Able to engage with people online (not the machine or the software), respond to messages appropriately, be appropriately 'visible' online, elicit and manage students' expectations.	Able to interact through e-mail and conferencing, and achieve interaction between others, be a role model. Able to gradually increased the number of participants dealt with successfully online, without huge amounts of extra personal time.	Able to value diversity with cultural sensitivity; explore differences and meanings.	Able to communicate comfortably without visual cues, able to diagnose and solve problems and opportunities online, use humour online, use and work with emotion online, handle conflict constructively.	Evaluate the 'fitness for purpose' of online tools from a technical and pedagogical perspective.
Content expertise **D**	Strong subject knowledge and pedagogical content knowledge – TPACK – for online learning.	Knowledge and experience to share, willingness to add own contributions.	Able to encourage sound contributions from others, know of useful online resources for their topic.	Able to trigger debates by posing intriguing questions. Know when to intervene, when to hold back.	Carry authority by awarding marks fairly to students for their participation, contributions and learning outcomes.	Know about valuable resources (eg. on the Web) and use them as sparks in e-tivities.	Able to enliven conferences through use of multimedia and electronic resources, able to give creative feedback and build on participants' ideas.	Reflect on course design and pedagogical processes. Consider alternative strategies to achieve the intended learning outcomes or use technology to enhance or extend the goals.
Personal characteristics **E**	Aware of the pastoral role of the online tutor. Able to manage group dynamics effectively.	Determination and motivation to become an e-moderator.	Able to establish an online identity as e-moderator.	Able to adapt to new teaching contexts, methods, audiences and roles.	Show sensitivity to online relationships and communication.	Show a positive attitude, commitment and enthusiasm for online learning.	Know how to create *and sustain* a useful, relevant online learning community.	Self reflect and evaluate own progress as an online tutor. Address CPD needs and embed new learning into online courses.
Innovativeness **F**	Aware of new ideas and latest developments in online practices, Interested in piloting new online strategies.	Willing to try new ideas online with a group of students. Able to identify a suitable cohort for pilot study.	Skills and technical 'know-how' to design and build an innovate e-tivity.	Able to embed new e-tivity into a course. Able to adapt innovative ideas seamlessly into own course designs.	Can adapt innovative ideas to match learner needs based on leaner feedback from a variety of sources.	Measure 'value-added' from innovation in terms of learning (student perspective) and teaching (tutor perspective)	Evaluate innovations on a regular basis, and sustain pace of innovation online.	Exemplify innovations to other online tutors and develop mechanisms for disseminating ideas.
Assessment Awareness **G**	Familiarity with alternative methods of assessing students online. Ability to provide regular, constructive formative feedback.	Use of formative and summative assessment strategies to promote learning and to encourage self-monitoring of progress.	Use of e-portfolio templates to record progression over time. Use of online quizzes and other self-assessment strategies to promote student reflection and evaluation of learning.	Encourage the sharing of e-portfolios with peer group and tutor to facilitate collaboration and co-construction of learning.	Broaden students' range of assets included in e-portfolio to demonstrate their competence in learning area.	Develop students' peer assessment skills by offering peer feedback on shared e-portfolios and facilitate the co-construction of learning.	Show exemplars of e-portfolio formats and styles to encourage students to take ownership of design, layout and content of e-portfolio.	Promote student self-reflection in e-portfolio. Facilitate the presentation of e-portfolios to wider audiences for feedback and further development (CPD).