E-learning induction design for an undergraduate entrepreneurship degree

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Abstract

This paper presents a case study profiling an induction programme for an e-learning entrepreneurship course. E-learning students require additional support to that of the traditional student, and online learning offers the mechanism to provide educational training and skills development to entrepreneurs with limited prior exposure to higher education. However, providing an on-line programme for practicing and nascent entrepreneurs presented several challenges. Firstly, e-learning students require a high level of information communication technology competence, motivation and self-discipline. Secondly, students need to be informed regarding the nature of the experience. Thirdly, university admissions systems must include an assessment of the candidate's ICT competence, motivation and consequent suitability for undertaking an on-line course. Finally, induction programmes must meet student needs in terms of academic level, flexibility and content. This final factor is prevalent in entrepreneurship education students who are disenfranchised from pursuing courses of study due to pressures of running a small business. Key induction competencies are categorised as skills, knowledge, socialisation and resources. The necessity for face-to-face induction sessions, to enable skills and knowledge development, are recognised. This study will be of value to entrepreneurship education and general e-learning providers, and policy makers, in identifying best practice for an enrolment and induction process.

Keywords: entrepreneurship; education; induction; e-learning; competencies

Introduction

Despite being a significant presence in higher education (HE) curricula for over a decade e-learning is still described within the literature as a new way to teach and learn (Alonso *et al*., 2005). Benson (2002) defined the concept of e-learning as using the Internet and other web based technologies to provide learning experiences. E-learning programmes are proliferating at a phenomenal rate within academia and the private sector (Jones *et al*., 2004). Such a trend is likely to continue given the current governments pledge to ensure that 50% of young people should enter HE (Christie *et al*., 2004). E-learning technology offers the potential of meeting the specific learning needs of previously under-represented populations in HE programmes such as the physically handicapped or individuals with occupational constraints (Stewart, 2004). The proliferation of e-learning programmes raises questions for educational providers in terms of identification and preparation of students for the learning experience. Initial evidence suggests that e-learning students require additional support to that of the traditional face-to-face student. This case study focuses on the preparation of students for an entrepreneurship education degree through an induction programme. These students faced additional pressures in that they could be classified as non-traditional learners, being over the age of 30 and typically self- employed.

The induction process

Induction is the first significant contact students have with their centre of learning and is a critical process in

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forming impressions of an educational establishment (Edward, 2003). Furthermore, Edward (2003) noted that 40% of all student who withdrew from an engineering school cited an inadequate induction process as the prime cause of withdrawal, although there has been minimal literature regarding this critical process. This situation is exacerbated within the field of e-learning due to several influences. Most significantly, e-learning deployment is a relatively new phenomenon, which is constantly evolving due to technological improvement, and increased uptake within the academic and private sector. However, the requirements of an effective induction can be informed by consideration of several sources, namely the traditional educational and e-learning literature. The educational literature informs us of the design of induction for traditional face-to-face academic delivery. In addition, the e-learning literature allows us to consider a variety of key factors including withdrawal and retention issues and cases of effective deployment of e-learning which should all inform the design of the induction. The following sections consider the influence of each of these factors.

The growth of e-learning and the threat of student withdrawal

Student retention remains an ongoing issue within UK universities. In the UK, student retention literature is dominated by the work of Yorke (1998, 1999, 2000) and in the USA by Tinto (1975, 1993, 1997). Yorke suggested that student withdrawal is dependent on the institutional environment of the institution, and factors such as student experience, programme selection and engagement with social environment all impacted on retention. Yorke (1999) and Christie *et al*. (2004) identified the economic cost to the taxpayer of student withdrawal as in excess of £100 million annually. With the growth of e-learning courses within HE and widening student participation, universities face the threat of increased student withdrawal as dropout rates for on-line courses have been identified as higher than those for traditional classes (Diaz, 2002). Accurate data reporting e-learning student retention remains limited and McVay-Lynch (2002) identified drop out rates ranging from 30% to 75% on courses in the USA whilst Jones *et al*. (2004) reported withdrawal rates of in excess of 50% on an initial cohort of the E-College Wales Entrepreneurship programme.

McVay-Lynch, (2002) identified a number of factors that contributed to withdrawal including technology, a lack of motivation, the student experience, lack of tutor feedback and on-line miscommunication. Similarly, Muse (2003) posited that students withdraw from courses due to the demands of mastering a virtual learning environment (VLE) and related tools, especially if they believe they are falling behind in their studies. Tresman (2002) provided several potential reasons including domestic factors such as balancing work and family obligations, illness, death, divorce and job loss. Jones *et al*. (2004) classified key factors contributing to student withdrawal on an on-line entrepreneurship programme as educational, dispositional and situational. The educational factors are course related factors that include the effectiveness of the VLE, course materials and assessment strategy. The situational category considers the students life experiences, employment and personal factors. The dispositional factors included levels of educational preparation, attitude, motivational and persistence attributes. When these factors are applied to the induction process for the course of study, the most significant impact will relate to the dispositional factors. Thus the induction must positively influence the dispositional factors of each individual to ensure the students are fully prepared for their course.

The effectiveness of the induction will directly impact on the students' levels of educational preparation, attitude and motivations towards the course of study. Yorke (1999) reported that the factors responsible for early student withdrawal included dissatisfaction with induction. Therefore, the evidence indicates that an effective induction and admissions procedure is a key mechanism to improving retention (Jones *et al*., 2004). Whilst Dringus (2000) noted that an effective orientation of students for an e-learning programme is critical to student retention. This argument is supported by Osborn's (2000) study investigating key characteristics of successful on-line students. Dringus (2000) identified three broad constructs underpinning the successful student namely entry characteristics, social and academic integration. These constructs should all be effectively addressed within the e-learning induction, with particular reference to the discipline being studied.

In summary, the limited literature identifies the importance of induction as a positive mechanism to improve student retention. The next section examines the nature of the subject discipline, namely entrepreneurship education, and its effect on induction design.

The emergence of entrepreneurship education

Entrepreneurship education emerged in the 1980s within the further and HE sectors (Peterman & Kennedy, 2003). The rationale for entrepreneurship education is to encourage entrepreneurial growth through the development of business skills and knowledge (Garavan & O'Cinneide, 1994). Garavan and O'Cinneide (1994) noted a positive relationship between entrepreneurship education and business start-ups. Coulson-Thomas (1999) suggested entrepreneurships benefit from positive steps to encourage and build entrepreneurial qualities. However, Galloway and Brown's (2002) study indicated that any visible impact in HE entrepreneurial education is likely to be long term rather than immediate. The participants within

entrepreneurship education have increased to include owner managers, students, pupils, graduates, women, the unemployed and other disadvantaged groups (Caird, 1990). A key focus of this provision is to enable graduate start-ups which, given the knowledge and capabilities of the owner-managers, are more likely to survive and be successful (Galloway & Brown, 2002).

Research indicates that skills deficiencies exist in small and medium sized enterprises (SMEs) in areas such as strategy, planning, marketing and sales (Welsh, 1996) and Greig (1997) identified a lack of formal vocational training culture within such enterprises. Whilst, Binks (1996) identified insufficient provision for entrepreneurship education with many graduates poorly prepared for employment post-HE. Anderson *et al*. (2001) described the dominant form of learning as experiential with a reliance on informal unplanned education through social and business networks. This includes learning from customers and suppliers, also from problem solving and opportunity taking and learning by error. Westhead (1997) posited that few SMEs employed graduates whilst Fletcher (1999) noted that fewer UK graduates started their own business than their counterparts in the USA and Japan. Carter and Collinson (1999) noted there is a latent population of graduates interested in starting their own enterprises who require training to encourage and inform the process of business start up. They suggested that such training programmes should focus on younger graduates and concentrate on reducing barriers such as ideas generation, finance and expertise. Further barriers are recognised by Galloway and Brown (2002) as graduates suffering from debt (see also Small Business Service, 2002), lack of funds and time (Department of Trade and Industry, 2001), limited experience, regulation, taxation alternative personal priorities and fear of failure (Michaelis *et al*., 2001). Furthermore, continuing negative attitudes towards entrepreneurship as a viable career option post graduation form a significant barrier to business start-up (Robertson *et al*., 2003).

By contrast, Robertson *et al*. (2003) reported that typical entrepreneurs are white males in their mid 30s, which implies that female entrepreneurs and ethnic groups are disenfranchised from business start-up. Ball and Shank (1995) identified three prerequisites for small business education to occur: (a) potential participants must recognise a need for entrepreneurship education, (b) they must know of the programmes existence, and (c) that these courses match potential users needs. Reviewing the entrepreneurship education literature informs this study on several fronts. It is apparent there is a need for entrepreneurship education to encourage business start-up and growth. However, whilst there is a body of literature to encourage recent graduates to consider an entrepreneurial career there appears to be a lack of consideration of non-traditional learners as potential entrepreneurs in recent literature despite their suitability for the role (Robertson *et al*., 2003). Therefore, it is important that course providers identify the appropriate training to develop skills and knowledge to ensure initial and ongoing educational attainment for these nascent entrepreneurs. The next section considers the skills and knowledge that should be developed from an induction programme.

Prevalent skills and knowledge for educational attainment

The literature on traditional courses suggests an effective induction experience comprises several facets. Gagné's (1974) theory of instructional events is informative in terms of induction design. He suggested the following events are required for effective adult learning: gain the learner's attention, identify the learner objectives, stimulate recall of prior learning, present the content, provide learner guidance, elicit performance, provide feedback, assess performance, and enhance retention and transfer. Jolliffe *et al*. (2001) and Zepke and Leach (2005) suggested the provision of accurate, comprehensive and understandable pre-enrolment advice and academic counselling as a critical success factor for improving student attainment. Significantly, Yorke (1999) reported that making incorrect choices about courses of study or choice of institution are key factors in student withdrawal. Phillips *et al*. (2004) suggested that learner support begins with the information and guidance that assists students to make an informed decision about their course of study. A key issue with the induction process remains the threat of inflicting cognitive overload on the students. This occurs when students suffer an overload of information as a consequence of becoming overwhelmed by multiple sources of information, including unfamiliar terms, language, skills, concepts and practices (Sweller *et al*., 1998). Such a scenario is potentially applicable within e-learning programmes where multiple learning tasks are prevalent (Tyler-Smith, 2006). Zepke and Leach (2005) noted that orientation and induction programmes assist academic integration and therefore improve student attainment. They documented previous research (Braxton *et al*., 1995; Yorke, 1999) where induction programmes provided initial socialisation, enabling students to anticipate the values, norms and behaviours encountered on their course of study. This should encompass how to study, including developing knowledge on goal setting and time management (Jolliffe *et al*., 2001). This would also include information about assessment strategy and how to study. Hargreaves *et al*. (1996) stressed the importance of three factors within the induction process: the anxiety about the transition, the process of adjustment to the new context, and the continuity between the previous and new curricula. Edward (2003) stated induction must be designed to address the issues which impact on student withdrawals thus preparing them for the demands of the course.

Based on this literature, a conceptualisation of the induction process for a traditionally delivered educational programme is illustrated in Figure 1. Upon acceptance on the course of study, the students typically

undertake a face-to-face induction. The purpose of the induction is to prepare the student for the course of study through information provision and a series of activities to develop knowledge, skills and socialisation. Figures 1 and 2 identify that the key focus of an induction is to provide relevant information regarding the course of study and to socialise the students thus preparing them for the forthcoming experience. Figure 2 provides an in-depth breakdown of the socialisation and knowledge factors, and enabling events. Typically, assumptions are made regarding the suitability and capability of students for traditional courses of study. Edward (2003, p. 227) stated that:

> Individuals enter university with varying patterns of personal, social and prior academic characteristics and these interact with the individual's skills, educational achievement and experience.
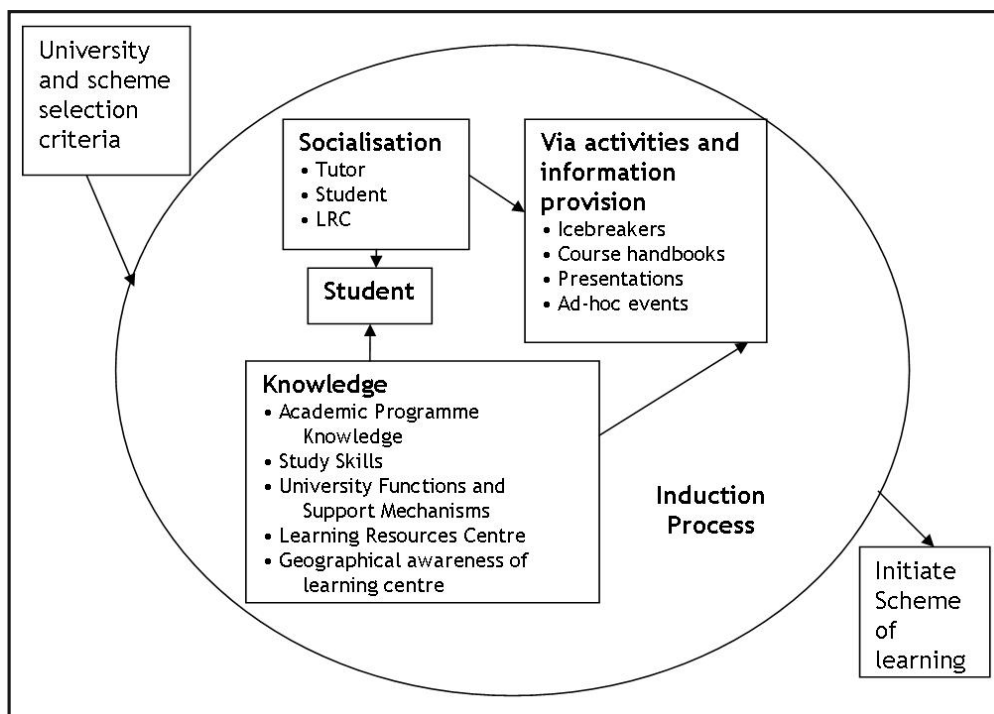

Figure 1: Facets of an effective induction experience – E-learning literature

Students with minimal previous HE attainment in full time employment with a family are classified as non-traditional learners, who often lack basic computer skills (Gladieux & Swail, 1999; Tomei, 1999). Conrad and Donaldson (2004) listed some of the challenges faced by such students as including births, deaths, weddings, illnesses, career and pressures of work. Palloff and Pratt (2001) note that non-traditional learners require greater flexibility in the design and delivery of their courses. Such students are accepted onto the programme of study on the basis of previous educational attainment or more typically from meeting the entry requirements of the university (e.g., age and previous experience). The growth of e-learning offers the opportunity of educational attainment to new potential student groups previously disenfranchised from undertaking a course of learning due to their life circumstances. Therefore, it is critical that e-learning induction for an entrepreneurship education programme provides such students with their specific needs in terms of skills development and knowledge provision, with the required flexibility to ensure successful attainment. The prime purpose of induction for traditional courses of study is to prepare students through knowledge provision and socialisation, as opposed to skills development. This case study illustrates the design and evolution of an induction for an entrepreneurship education e-learning programme and highlights the key practices employed.

The e-learning experience

When one considers the design of an induction programme for an e-learning programme, the experience of induction within traditional courses must be absorbed. However, it is equally important that the nature of the student, the discipline being studied and the different nature of the e-learning experience be considered when designing the on-line induction. Dublin (2004) identified that learners typically do not know what to expect from the experience of e-learning. Conrad and Donaldson (2004) noted the importance of engaging the learner in developing an effective e-learning experience: how the learning experience will be delivered, how the learner's needs will be met and what communication media will be utilised. These factors will be informed by pedagogy (e.g. blended or pure e-learning), VLE design and the nature of the student group (e.g., non-traditional learner) in terms of skills and knowledge. To achieve success on an e-learning programme, the specific learning needs of the student group must be supported by the nature of the

experience and the pedagogical model. In terms of the entrepreneurship students, the course materials were developed around learning outcomes which were encompassed within a set of topics. Topics identified key entrepreneurial information to enhance relevant knowledge and skills. The blended pedagogical model was identified to support the nature of the student group. Students requested a number of face-to-face sessions to supplement the on-line support. A key component of this pedagogical delivery was an effective admissions and induction procedure.

Socialisation	
Event	**Enabled via**
1. Tutor socialisation	• Course Team Introductions • Course team presentation • Ice Breakers activity
1.Student socialisation	• Ice Breakers activity • In class discussions • General ad-hoc socialisation • Social Events ad-hoc
1.LRC staff socialisation	• LRC presentation • Ad-hoc socialisation

Knowledge	
1. Academic Programme Knowledge: • Assessment strategy • Programme structure and module content • Course Resources • Timetable • Academic support structures	• Course team presentation and course handbook • Course team presentation and course handbook • Course team presentation and course handbook • Course handbook • Course team presentation and course handbook
2. Study Skills • Time Management • Goal Setting • IT skills	• Student meets educational entry specifics for programme via UCAS credits and/or University entry requirements. Students informed via course presentation and course handbook of required study skills.
3. University Functions and Support Mechanisms: • Student Services • Student Union • Knowledge of physical campus and facilities • Specific Needs assessments and resources	• Student services presentation, financial assessment undertaken • Course team presentation, completion of membership form • Tour of site by course team • Undertaken via student request, needs assessment undertaken
4. Learning Resources Centre: • Library • Electronic Resources	• LRC presentation and handout • LRC presentation, demonstration and handout
5. Geographical Awareness	• Tour of University

Figure 2: Competencies developed from a traditional induction programme

Several factors have been identified as key components of an effective e-learning experience. Little (2001) and Pritchard (2004) posited the concept of "just in time learning" relating to providing skills training, especially in information technology applications, at a time when it is actually needed. This can be contrasted against other skills and knowledge which might not be immediately applied or used and probably forgotten in the meantime. Laurillard (1996) noted that student's should be allowed to reflect as they interact with the e-learning materials. Jolliffe *et al.* (2001) and Song *et al.* (2004) noted the need for awareness of the technical requirements including hardware and software specifications and access mechanisms. McVay-Lynch (2002) identified five factors that are indicative of student success in distance education: intention to complete the course, early submission of work, previous completion of distance education courses, degree of interaction in the course, and relevance of course to student's real world experiences. Mason (2000) and Song *et al.* reported the issue of technical problems caused by students lacking competence and confidence, requiring a telephone help service and on-line support. Stokes (2000) and Song *et al.* noted that it is advantageous for students to undertake on-line courses possessing the necessary skills to access and utilise effectively the course materials and interact with fellow students and staff.

Watson and Rossett (1999) noted that e-learning courses necessitate new skills requiring different levels of instruction. Stokes (2000) identified the problem of catering for different levels of ability: students with limited expertise being unable to take full advantage of the opportunity whilst others with high levels of ICT competence progressing with greater rapidity in terms of problem solving and critical thinking. Previous assessments of student readiness for e-learning courses revealed that half of students accepted onto the programme were considered novice or inexperienced whilst the other half were competent and experienced ICT users (Tomei, 1999). Phillips *et al.* (2004) reported on the experience of induction within the Open University, which offers the opportunity to introduce and clarify teaching methods and operations, to welcome students, and to help prepare them for their e-learning experiences through a variety of options including face-to-face meetings and the use of paper based documents to supplement knowledge.

The experience of induction

The process of e-learning induction is not widely reported within the academic literature, especially within an entrepreneurship education context. Professional publications note several examples of e-learning deployment to assist development and training activities (Dodds & Verest, 2002; Comacchio & Scapolan, 2004). The reported cases are informative in terms of good practice. Hassanien and Barber (2007) acknowledged that induction assists academic integration and enhances student outcomes. Lieblein (2001) noted the effects of a web-based as opposed to a face-to-face induction in Nova Southeastern University (NSU). The key advantage was identified as reduced cost of travel to the education centre hosting the induction. Disadvantages included the reduced face-to-face socialisation with academic and support staff, and lack of identity with the education provider. Furthermore, Lieblein noted that an on-line induction did not provide sufficient training in the use of the VLE and resulted in an increase in student withdrawals. Subsequently, NSU offered the option of either on-campus or on-line induction supplemented by a mailed CD-ROM providing comprehensive multi media training and documentation. Thereafter, half the students attended face-to-face inductions and the dropout rate declined. Bluemink and Järvelä (2004) stressed the importance of face-to-face contact to support web based learning. They suggested that the experience of collaboration, notably the creation of shared beliefs and values is difficult to replicate through e-learning, requiring intensive face-to-face support. Bluemink and Järvelä provided evidence that face-to-face encounters provide invaluable contextual support as the enabling mechanism for enabling rich interaction and collaboration between students and tutors.

Song *et al.* (2004) noted that tutors can help reduce the stress of students by letting them know at the beginning of the course the type of problems that will occur, identifying coping strategies and help systems. Salmon (2002) noted the importance of demonstrating the use of the VLE to the student group though a series of on-line activities and advised against the use of face-to-face sessions to instruct new participants as they are costly and students develop overdependence on the instructors. Salmon posited the use of an on-line induction with instructions mailed to the students prior to the initiation of the course. She also identified the need for student support systems to solve technical and password problems, the importance of an individual and friendly greeting from the tutor, the need for simple instructions, an area for socialisation, and the need to track and monitor participation. Govindasamy (2002) noted that tracking student participation enables performance to be appraised and this information utilised to support and motivate. Alonso *et al.* (2005) suggested the design of an e-learning induction to include a face-to-face session where students have the opportunity to socialise with peers and tutors. They further noted the necessity of appraising group knowledge and skills, discussing the course learning objectives, assessment strategy and describing the on-line interactions through the VLE communication media.

E-College Wales

E-College Wales (ECW) is a project initiated by the University of Glamorgan aimed at promoting and developing entrepreneurial capability within Objective One areas of Wales through the provision of on-line undergraduate entrepreneurship education. A key component in this provision was the undergraduate entrepreneurship programme, initiated in 2001, offering both a full and part-time degree. Students study the programme through a VLE utilising Blackboard. The VLE platform comprises two main components namely the Blackboard environment, and an ECW designed and maintained content management system (CMS) containing course materials, learning resources and the module assessment. The Blackboard environment acts as the host area and the main tool for communication via virtual classrooms, chat rooms and discussion boards. The CMS enables access to course materials via individual modules. Each module is structured into a series of topic areas containing text, case studies and interactive exercises to enable and encourage student activity. In addition to the course material associated with the learning materials area are tasks and module assessment. The tasks are designed to provoke discussion and interaction between the student and peers. This process enables the on-line tutors to build and share knowledge and experiences. In addition, within the CMS, students have access to electronic database journals and library catalogues within the Blackboard environment and learning area. Both the Blackboard environment and CMS are fully interlinked through hyperlinks to enable seamless navigation between both systems.

Evolution of the ECW induction

The ECW induction process evolved from the inception of the programme in 2001. The initial concept for the programme was for a pure e-learning experience as informed by a leading educational consultant and the relevant academic literature. Post enrolment students were expected to progress seamlessly into the learning process with limited face-to-face contact with the course team. A pack was given to each student providing instructions in how to access the learning materials and begin the learning process. Initially, ECW offered part and full-time options for a BA Enterprise. The Objective One funds entailed a particular offer including no course fees, free Internet service provider (ISP) account, laptop loan and library books held on a permanent loan. It was envisaged that the course would attract 21 to 30-year-old graduates looking to develop entrepreneurial knowledge and skills.

However, actual applications revealed a mature student group with an average age of 35, with minimal previous HE attainment, typically in full-time employment, with a family. All students lived in the locality of the University. It was apparent from the tutor experience within the first cohort, as reported within Packham *et al.* (2006), that the typical student on this programme presented several challenges namely a low level of ICT skills, limited study skills and questionable motivation given the attractive course offer. As a result, the entrepreneurship course suffered from a significant withdrawal problem with a dropout rate in excess of 50% on initial cohorts (Jones *et al.*, 2004). Student withdrawal was particularly prevalent during and just after the induction process. As a consequence the course team recognised the need to reconsider the design of the induction process.

As identified above, minimal consideration was given to the initial design of the induction for the programme when it was first launched. This was mainly due to the mistaken belief that the applicants would possess fluent ICT skills and would rapidly progress to become competent e-learning students. Within the initial programme design students were expected to attend a half day-induction during which the following processes were completed:

- enrolment administration
- explain the nature of the programme
- receive course resources
- demonstrate the use of the VLE

Thereafter, it became apparent that this limited student induction experience was not meeting student needs and this was reflected in the high withdrawal rate.

Design of the ECW induction

As identified in the previous section, the retention issues on the programme initiated a radical rethink in the design of the interview and induction process. Forty four withdrawn students from a cohort were contacted and surveyed to ascertain their reasons for leaving the course. The interviews utilised semi-structured qualitative questions and respondents were encouraged to speak freely without prompting (Jones *et al.*, 2004). The issues that emerged from the qualitative interviews with withdrawn students were analysed in depth to identify the emergent themes (Smith, 1991). The process was informed by Miles and Huberman (1994) who proposed a procedure of data reduction, data display, conclusion drawing and the verification in the analysis of qualitative data. Thereafter these findings were discussed by the course tutors and several key factors identified:

- the need to evaluate the student suitability for an e-learning programme - in terms of entrepreneurship education identifying skills profile and whether the student is capable and motivated to undertake a course of study
- evaluate the level of ICT skills prior to course start and provide pre course training if required
- provide in depth training in all aspects of the VLE to students understand the course pedagogy
- provide follow up training in the use of the VLE post induction
- initiate course assessment into induction programme to increase participant motivation
- ensure induction process is imbedded within the first module of study
- create flexibility within induction design for entrepreneurship education students
- the amount of coursework and module assessment reconsidered in line with the needs of the student group

These findings revealed that students felt under prepared for an e-learning programme and were further disadvantaged by limited ICT skills, which was undoubtedly connected to the mature student group recruited (Jones *et al.*, 2004). Furthermore, tutors on the course recalled many students contacting them post-induction requesting additional support and training (Jones *et al.*, 2004). Therefore, it was recognised that there was a need to revise the interview and enrolment procedure to fully prepare the students for the programme. The following provides a detailed analysis of the revised ECW Entrepreneurship induction along

with a rationale for its construction.

Pre-induction interview and IT skills assessment

Having evaluated the performance and experiences of initial student groups (Packham *et al.*, 2006), it was apparent that the vast majority of applicants were unaware of the concept and demands of e-learning and the processes therein. Therefore, there was a need to inform them of the nature of the student experience and assess their suitability for such a course prior to enrolment. Suitability would depend on whether they were motivated and capable of making the time commitment to the programme according to the demands of their life circumstances. In addition, it would also depend on the initial ICT skills of the applicant. Therefore, it was decided by the course team to introduce an intensive individual interview prior to the commencement of the course to assess the suitability of the candidate in terms of their level of commitment and ICT skills. This process was undertaken in a 2 hour timeframe, including 1 hour to appraise the students' ICT skills through an IT skills assessment. On receipt of the candidates application form, the students were contacted and invited to interview. All applicants were informed about the requirements of the interview and sent a confirmation letter with examples of the required ICT skills. Moreover the confirmation letter reassured the students that ICT skills training would be provided if required. During the interview, interviewers utilised a prepared script developed to ensure consistency of applicant experience and information provision.

During the interview, the interviewers highlighted the time required to study successfully on the course and investigated the life circumstances of the student. The aim here was to examine whether the applicant had sufficient time to study for such a course, with the potential threat of family and work circumstances impacting on their capability to study. Where a potential student was identified as an entrepreneur, the nature of the course was explained to ensure that the students understood its structure and whether it met their needs and expectations. Students were asked to prepare a word processed curriculum vitae, a cash flow and PowerPoint presentation. The rationale of these exercises was to enable the student to demonstrate their IT competency in the most commonly used software types. If students were unable to complete the IT skills assessment during the interview to a sufficient standard they were invited to attend the IT skills training session prior to the commencement of the course. The prospective student was only allowed to progress to the induction stage on successful completion of the IT skills exercise. Those students who underwent IT skills training were asked to retake the skills assessment and successful completion meant that they progressed to the induction. In addition, this process enabled the prospective student to demonstrate their commitment to the course by attendance at a number of pre-programme events. If the applicant were deemed suitable for the course and completed the IT skills to a sufficient standard then they were invited to attend the induction. Figure 3 provides a flow chart illustrating the process. Another advantage of the initial interview is to ask the candidate to make a commitment to the course by attending and preparing for the interview.
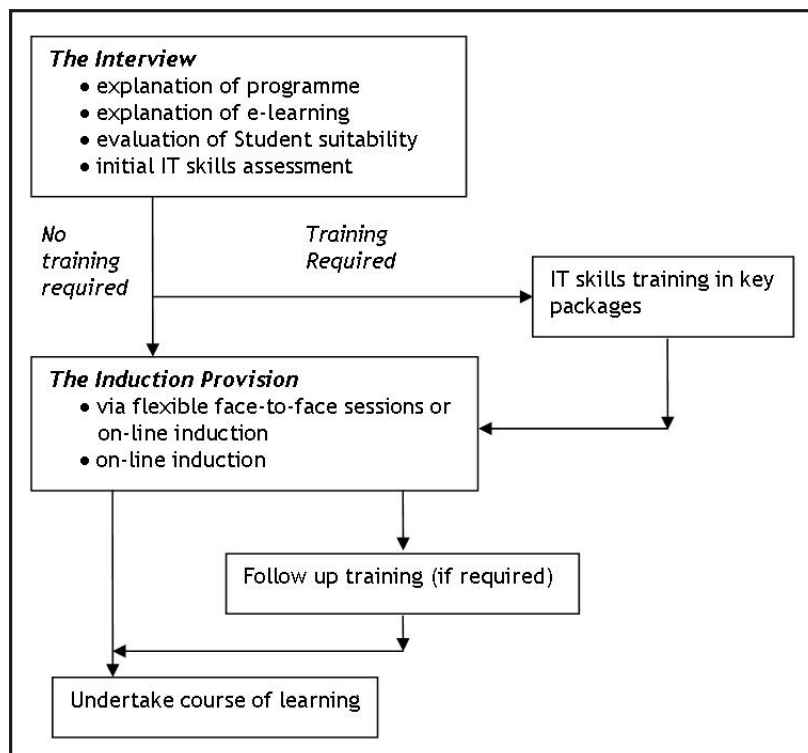

Figure 3: The pre-interview and induction process

When the new induction process was introduced there was an apparent impact on student behaviour. Of the 123 students (see Table 1) invited to attend an interview within cohorts three and four of the Enterprise degree, six (5%) failed to attend the initial interview. These students were contacted and invited to rearrange an interview but all declined citing reasons such as "change of mind", "pressure of work" and "family illness". Of the 117 students that were interviewed, nine (7%) did not progress to the induction phase. Of these, seven did not pass the IT test on the first attempt and did not attend the further training. When contacted they cited that the course "was not for them" or that "they could not meet the time commitment" that the course required. Two students did not turn up for the induction phase despite passing their IT skills. "Family commitments" and "pressure of work" were again cited as the significant reasons for non-attendance at the event. Thus in total 108 (88%) of the 123 applicants for the programme progressed to the induction phase with 12% of applicants having withdrawn due the reasons cited above. This process enabled the scheme to remove individuals who lacked commitment to the award (Table 1). Given that the course was European funded with no fee, the revised induction programme represented the first opportunity for the students to demonstrate their commitment for the course. Applicants who lacked the necessary levels of commitment and motivation to study for the degree were thereby removed from the process by this stage of the pre-induction. In contrast, successful applicants were able to start the programme with the necessary ICT skills to succeed.

Cohort	Interviewed students	Enrolled students	Withdrawn without achieving credits	Achieved credits towards award	Male completers	Female completers	Average age
Initial cohort	N/A	72	44 (61%)	28 (38%)	34 (47%)	38 (53%)	37
Cohorts following revised induction	123	108	11 (10%)	97 (90%)	53 (49%)	55 (51%)	36

Table 1: Statistical impact of the induction programme: Pre and post-impact

Course handbook

In addition to the information provided in the VLE, students receive a detailed course handbook during the face-to-face induction. The handbook provides the following information:

- a timetable for the induction programme
- tutor contact information
- award details including year schedule
- module information including assignment submission dates
- information regarding submission procedures and student progression
- copies of all induction presentations
- useful document layouts

The induction process

The induction was designed to combine a series of face-to-face and on-line activities utilising the VLE extensively over a three-day or four-evening period. The students were offered three alternative study strategies (day sessions, evening sessions or distance learning) for the induction to provide the maximum flexibility and fit the course around their life and work circumstances, especially for busy entrepreneurs. The distance induction package was enabled via access to a CD-ROM and an on-line module, although this was only offered where the student was not able to attend the face-to-face induction. By the time students attended induction they were enrolled on their course of study and each had an active account for the VLE. This allowed them to participate fully in interactive sessions throughout the induction. Figure 4 identifies the split between the physical and virtual world in terms of activities undertaken.

The induction began with a traditional ice breaker to socialise the student group with peers. The VLE was introduced via a guided tour and the student on-line accounts were activated. Thereafter, the students experienced a range of physical and on-line activities via a range of presentations, tasks and discussions. The on-line activities were designed to be part of the first module of study on the course thus familiarising students with the navigation of the VLE, course materials, the pedagogy and communications mechanisms (e-mail, discussion boards and virtual classrooms). Students were accredited for completing activities during the induction programme. The rationale for this was to give purpose to the sessions and motivate students to attend and participate. On completion of the induction, follow up face-to-face sessions were offered to reinforce the learning experience.
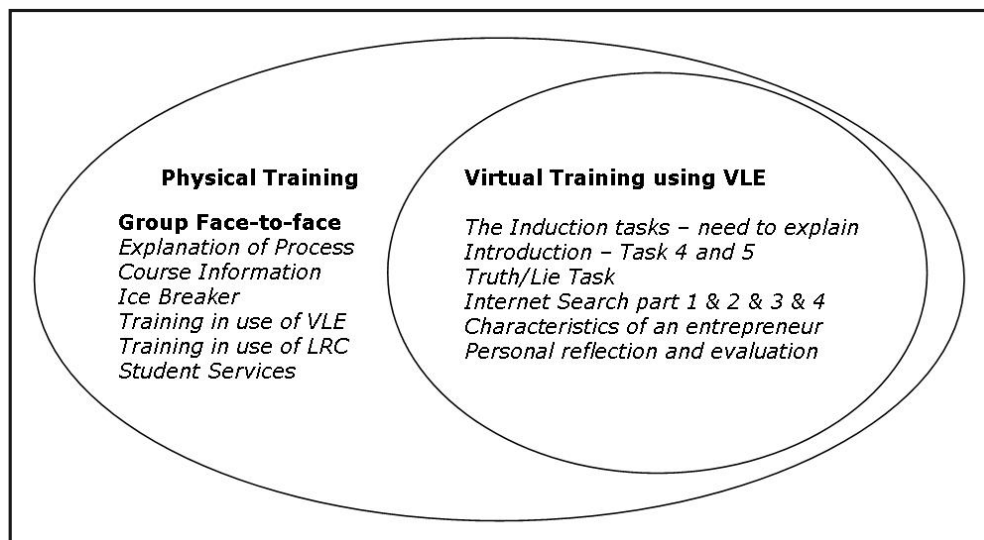
Figure 4: On-line induction content – physical and virtual training

On-line activities

The purpose of the on-line tasks was to familiarise students with the on-line environment, provide socialisation experiences, engage with the learning materials at an early stage and develop student study skills in a linear style (Figure 5). These tasks contribute towards the first module of study (Entrepreneurial Competencies) and provide evidence towards the module assessment.

INFORMATION TECHNOLOGY TASK 1, 2 and 3

INTRODUCTIONS – TASK 4 and 5

TRUTH / LIE TASK 6

Use this forum to post two truths and one lie about yourself.

INTERNET SEARCH PART 1 – TASK 7

INTERNET SEARCH PART 2 – TASK 8

INTERNET SEARCH PART 3 – TASK 9

Check your Microsoft Outlook account. In your account you will find an e-mail named "Finding Information". Open this e-mail and complete the requested task.

INTERNET SEARCH 4 – TASK 10

Famous Entrepreneurs - there are two parts to this task.

CHARACTERISTICS OF AN ENTREPRENEUR – TASK 11

PERSONAL REFLECTIONS - TASK 12

Reflect on your personal experiences on the course so far,

PERSONAL REFLECTIONS PART 2 (Group summary)- TASK 13

Consider the points raised in the previous task. Summarise the viewpoints of five of your fellow students

PROCESS OF LEARNING TASK 14

LEARNING STYLES TASK 15

LEARNING BLOCKS TASK – 16

MAJOR CHALLENGES TASK 17

MANAGING AND DEVELOPING SELF TASK 18

TAKING ACTION TASK 19

INDUCTION EVALUATION - TASK 20

Figure 5: The on-line activities

The initial tasks relate to the IT skills undertaken during the interview process although students are given the opportunity to improve them at a later date. The initial tasks (Tasks 4 to 5) enabled the students to explore the VLE and interact with tutors and peers within the on-line environment, allowing them to create their on-line personality thus initiating the development of the on-line community. Task 6 enables further

interaction within the student group. Tasks 7 and 8 ask the students to utilise the Internet in conjunction with the VLE and CMS and provide initial insights into the subject discipline of entrepreneurship. This trend continues in Task 9 where students access their email account and are asked to research the answer via the Internet and then respond to the tutor via email. The tasks become increasingly more complex requiring the students to access multiple data sources including the course materials, the Internet and the course text book. In Task 10, students are asked to research a famous entrepreneur and post a summary of this person's achievements to the discussion board. Thereafter, fellow students are asked to guess the identity of the entrepreneur, thus enabling further interaction, and also asked to consider the characteristics of the entrepreneur by evaluating other student's postings. The remaining tasks (12-20) require students to reflect on their e-learning experiences, and evaluate and improve their learning styles by recognising the barriers to learning and how they can be overcome. These tasks are critical in creating the necessary linkage and interaction between the student, tutor and course materials. They are designed to encourage student interaction between these bodies and enable effective use of the VLE. In addition, as part of the face-to-face induction process, students were briefed, advised and given relevant study packs to develop their study skills in facets such as information searching, assignment writing and effective learning strategies.

In summary, within the case study the revised induction enables the students to become familiar with the learning environment, the nature of the learning journey, the pedagogy, experience the course materials and achieve initial course accreditation. The induction provides the opportunity for socialisation, development of an on-line community and competence in the use of the VLE.

The revised induction was introduced in 2003 and subsequent student withdrawal rates and credit achievement improved. Student feedback identified through an ongoing independent quality assessment exercise experience was extremely positive. In practice, it was apparent that all students attended some or all of the face-to-face induction sessions and benefited from attendance in terms of their skills development and socialisation with peers. Following the introduction of the revised induction process on the programme more students successfully progressed through induction and achieved credits towards their awards. This contrasts favourably with the prohibitive withdrawal rate that was previously identified. Furthermore, the induction process provided a process to gauge prospective student motivation and suitability for the programme at an early stage. Unsuitable candidates were removed from the process which obviously had a beneficial impact on student retention levels and the culture within the group.

Methodology

Utilising a single case study methodology, a framework for best practice of an on-line induction programme is proposed as are key competencies that needed to be imbedded within a typical e-learning student. This framework and competencies will have relevance for an entrepreneurship education course particularly those delivered through the medium of e-learning. This study encompasses a single case study approach that appraises the induction practices of an on-line entrepreneurship programme within ECW. The data collection process involved undertaking qualitative interviews with both tutors and students on the programme. Thirty-five tutors and 35 students involved in the course were interviewed to capture their views on the e-learning programme including the effectiveness of the induction process. The full results of this study were previously reported within Packham *et al*. (2006). Moreover, 44 withdrawn students from the programme were interviewed to assess their reasons for leaving the course. The full results of this study were reported previously in Packham *et al*. (2004). Evidence related to student and staff perceptions of induction was collected from both studies to form the evidence base for this case study.

The case study method enables a historical profile of the development of the induction procedures on the course, based on interviews with key individuals including tutors and students that either successfully completed the revised induction or withdrew from the course whilst experiencing the initial induction programme. Yin (1994) and Eisenhardt (1989) supported the use of a single case study methodology strategy positing that it constitutes a comprehensive, rigorous and coherent approach, which can add to the body of knowledge. The authors accept the limitations of using a single case study to understand the complex and multi-faceted variables involved in the design and construction of an e-learning induction. There is a need for additional research in this area contrasting e-learning induction practices across a range of different programmes.

Key findings

This case study presents the induction programme for the online Entrepreneurship programme as a template for best practice. The literature has identified that an ineffective induction process is a contributory factor towards student withdrawal (Yorke, 1999). Entrepreneurship education has emerged since the 1990s with the aim of encouraging business growth. However, evidence suggests a lack of provision of entrepreneurship education for non-traditional learners who fulfil the typical demographic for small business owners. Non-traditional learners have been identified as lacking essential student skills and are unfamiliar with the challenges provided by HE (Gladieux & Swail, 1999). Therefore it is essential that the design of the induction

programme meets the needs of this student group and fully prepares them for the forthcoming experience as noted by Dringus (2000).

As a result, the ECW team developed a rigorous process firstly to evaluate the student suitability for the course through a pre-induction interview, including the assessment of IT skills, and thereafter a face-to-face induction. The face-to-face induction enabled training in the use of the VLE, socialisation with peers and tutors, acquisition of key course knowledge and the receipt of any course resources. The VLE training enables the students to familiarise themselves with the e-learning platform, as recognised by Muse (2003). In addition, students receive key information in the form of a student handbook which provides key contact information as well as course procedures and assessment submission information. Figure 6 provides a conceptualisation of the ECW induction process for an online induction. It is apparent that the success of an online student is underpinned by key determinants. These include student motivation and commitment to the course of study, their ability to attend the initial induction and access the VLE. The student's suitability for the course is evaluated through the pre-induction interview to assess initial training needs and query commitment and motivation for an entrepreneurship education qualification. Thereafter, the induction process provides the skills, socialisation and knowledge to prepare the student to undertake a successful course of study as recognised by Gagné (1974), and Zepke and Leech (2005). The assessment of these determinants was recognised in the redesign of the ECW induction programme.
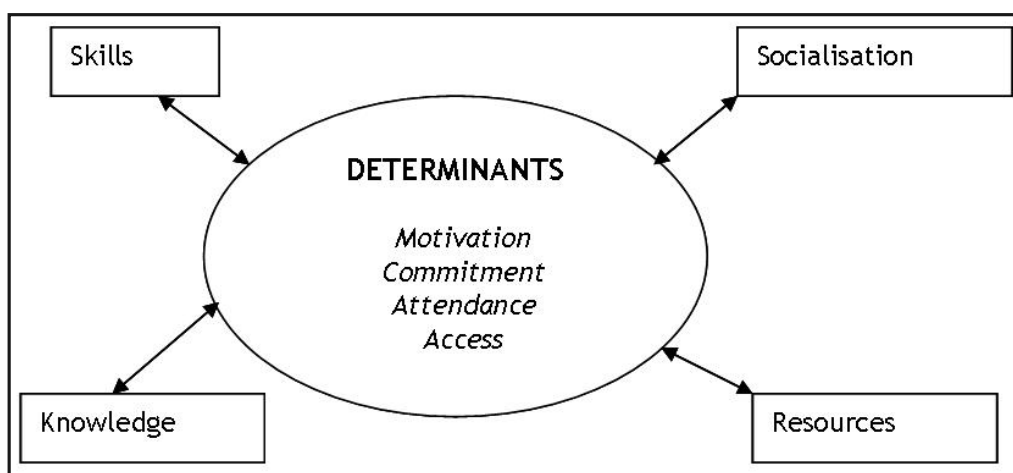

Figure 6: The determinants, competencies and resources for the ECW online induction

In terms of entrepreneurship education provision, it is important to consider the skills set of the potential student group typically classified as non-traditional learners and to provide sufficient training in whatever form is required (e.g. face-to-face sessions to provide IT and VLE training). The use of the pre-induction interview as a determinant of student motivation for undertaking a HE course and commitment was recognised by the course team as a critical process in identifying candidate suitability. The importance of introducing the concepts of entrepreneurship within the induction programme, and of achieving early student accreditation to ensure the students were engaged and motivated in the process, were significant. In addition, it is important that students recognise and are shown the inherent entrepreneurial knowledge than can be mined from utilising the Internet. Such knowledge can illustrate best practice, identify sources of help and financial assistance.

Skills	Knowledge	Socialisation	Resources
• navigation of VLE • competent IT skills and use of IT equipment • self-discipline • time management	• awareness of pedagogy – how learning experience works • awareness of university and programme support systems e.g. student services • awareness of security protocols and access methods • awareness of course rules and regulations including course structure and assessment requirements	• with fellow learners especially student group • with Course tutors • with individuals within key support groups • networking	• text books • IT Equipment and access resources • online materials • online and traditional LRC facilities

Table 2: Key induction competencies and resources

Table 2 provides a conceptualisation of the competencies and resources required to be developed from the induction programme. The key skills include competence in VLE navigation and use of IT equipment, self discipline and time management. Key knowledge includes student awareness of course pedagogy, familiarity with university systems and VLE access methods, and security protocols. Socialisation is enabled between

fellow students and course tutors including the opportunity for networking to encourage entrepreneurial activity. Finally, the induction process must enable access to any relevant course resources such as text books, IT equipment and any online materials. When the induction process for the traditionally delivered course is contrasted with the online induction process proposed above there are significant differences identified. Traditional induction programmes focus on socialisation and knowledge provision (see Figure 2). In comparison, the ECW online induction requires skills development and access to any courses resources that enable the process of accessing the course materials or course resources. If these competencies are not enabled within the induction process the likelihood is of student dissatisfaction with the learning programme and increased risk of withdrawal.

Conclusions

This case study has identified a number of key practices regarding the construction and design of an effective online induction. The revised induction and enrolment process resulted in an improved retention process with more students successfully completing the process. It was recognised by the course team that the key students competencies required from the online induction were identified as skills, knowledge and socialisation activities which encompassed:

- the ICT skills to effectively access and use the VLE
- key course knowledge regarding modules and processes and
- socialisation with fellow students and tutors
- the provision of appropriate programme resources during the online induction including books, handbooks and IT equipment

These online induction competencies differed from those of the traditionally delivered course with increased focus on skills development. Key facets included:

- the induction for the online courses comprised both face-to-face and online provision
- the online induction had greater focus on IT skills development than the traditional face-to-face induction requires

The key processes in the ECW induction included:

- providing a rigorous interview process
- accreditation for work completed on the induction
- face-to-face training in the use of the VLE and ICT skills

Such competencies provide key linkages to the educational, dispositional and situational factors mooted within the literature (Jones *et al.*, 2004). Educational factors were addressed by providing key course information in a structured and coherent manner to avoid cognitive overload (Sweller *et al.*, 1998). The situational variables were addressed by providing a rigorous interview process. This enabled the course team to assess the candidate suitability for the programme based on their current life circumstances. Similarly, the dispositional variables including candidate motivation, suitability and attitude were examined and tested during the interview phase and throughout the induction process. The authors acknowledged the impact of the interview process in removing unsuitable candidates from the induction process. This case study should inform entrepreneurship education and e-learning providers in the preparation of their students for HE programmes in terms of best practice. However, the results of this study must be regarded with caution as it represents a single case study. The study has highlighted the importance of an appropriate and student focused induction process.

Future research

Further research is required to assess the impact of each of the induction components on successful student progression. Awareness of the most significant induction processes would further inform educational programme providers and managers in critical processes during the induction phase. The authors are planning further in-depth research in the form of qualitative inquiry of both withdrawn and successful students' experiences of the induction process. However, such evidence is required from a range of e-learning programme providers to fully inform the debate.

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