

THE GOOD, THE BAD AND THE UGLY: AN IDENTIFICATION AND CLASSIFICATION OF THE BARRIERS TO E-LEARNING ON AN UNDERGRADUATE E-LEARNING ENTERPRISE DEGREE.

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ABSTRACT

This paper examines and evaluates the existence of barriers to learning on an online BA in Enterprise and the impact they have on student retention. Strategies to overcome and diminish these barriers are presented. The BA Enterprise is offered by E-College Wales (ECW), a project designed by the University of Glamorgan aimed at creating and improving entrepreneurial and managerial capacity in the European Union Objective One Areas of Wales. This elearning programme has been created with the aim of aiding individuals and communities to generate their own economic development solutions, through the tools of entrepreneurship and promotion. The BA Enterprise programme commenced in September 2001 with approximately 400 students. This programme had an open entry policy attracting a diverse population of applicants in terms of experience, age and prior qualifications. The academic literature has identified the existence of a number of barriers to e-learning including technology, the student experience, course delivery and on-line miscommunication. Research has provided preliminary classifications of these factors as student, situational and educational system factors. The combination and influence of these factors is impacting upon student retention and withdrawal rates on all e-learning providers. This study examines the existence of barriers to e-learning experienced on the E-College Wales BA Enterprise programme during the 2001/02 academic year. The study found that e-learning enterprise students are subject to a variety of barriers including HE, e-learning and enterprise related factors. Key strategies to diminish their influence are proposed including induction, accreditation of prior learning and experience and flexible course design.

E-College Wales

ECW is a project initiated and designed by the University of Glamorgan aimed at creating and improving entrepreneurial and managerial capacity in the European Union Objective One Areas of Wales. The University of Glamorgan and Further Education colleges located throughout Wales supported the project. The project was piloted with the BA Enterprise degree, which was initiated in September 2001. The course was supported via the online Blackboard Virtual Learning environment (VLE). This comprised interlinked communication and content area. The VLE communication area supported both synchronous and asynchronous communication media enabling interaction between students and module tutors. This paper examines the retention issues within the program

and identifies whether the causes of withdrawal correlate with the existing academic literature.

The Reasons for Withdrawal on Higher Educational Programmes

The Higher Education sector faces a two-fold enrollment problem: firstly getting students to enroll and secondly retaining them on their courses (Wetzel, O'Toole and Peterson, 1999). Retention remains a critical issue as identified within the Dearing Report, 1997. The Select Committee on Education and Employment (2001) identified that one in six of students entering British Universities would not complete their qualification. Yorke and Thomas (2003) posit withdrawal and non-completion is viewed as inefficiency, which must be controlled and minimized within HE providers. Furthermore, Bennet (2003) identifies problems caused by student withdrawal as creating financial problems for Universities through lost fee income, lecturer time wastage, disruption of remaining student group and possible drop in student morale. Hence the introduction of league tables to monitor and gauge the effectiveness of University performance. Despite this trend, Yorke and Thomas (2003) note that the UK HE sector retains a tendency of full time student participation although the increasing trend is for students to work part time to fund their studies. This implies that the HE sector is not meeting the changing needs of the student and retention remains an issue. Tinto (1982, 1987) posits that there is no one stop solution to student retention and "the key to successful student retention lies with the institution, in its faculty and staff, not in any one formulae". Tinto suggests that retention involves 2 commitments from the student namely to achieve a qualification and secondly to achieve that award at a particular institution. These are described as goal and institutional commitments and their interrelation will directly influence the retention level. Tinto also recognised the need for the student to achieve social and academic integration to ensure successful completion. Social integration is a measure of the student's satisfaction within the colleges' social and institutional framework. Whilst academic integration evaluates the match between the colleges academic program and the individuals own motivation and academic ability. Wetzel, O'Toole and Peterson (1999) criticise this framework as simplistic and lacking consideration of financial variables. Bennet (2003) identifies 2 classification of student withdrawal as compulsory or voluntary. Compulsory withdrawal includes illness, finance, caring for a family member and failing the course. Voluntary withdrawal is a conscious decision to withdraw due to dissatisfaction with factors related to the course.

Dunwoody and Frank (1995); Yorke and Thomas (2003) identified topics influencing student retention in HE as: academic preparedness, the academic experience (also Medway and Penney, 1994) (poor teaching, learning and assessment), institutional expectations and commitment, academic and social match, finance (also Porter, 1989) and employment, family support and commitments and institutional support services. In terms of significance Callender's (1999) survey of 1000 students identified that financial hardship was the dominant cause of withdrawal. By contrast, Davies (2000) study identified that drop out rates varied between 3 and 56% across different courses, despite similar student circumstances. Davies concluded that financial or personal problems are only significant when the students have a low opinion of the course.

Yorke and Thomas (2003) and Martinez (2001) identify several key factors in reducing student withdrawals as a student centred approach, good teaching, pre entry and early engagement with students, curriculum related issues such as assessment and effectiveness of induction, satisfaction with courses, personal tutoring, effective recruitment and supporting student finance. Yorke and Thomas (2003) suggests that factors likely to have a positive impact on retention and students experience includes a

supportive institutional climate, student support (also Dunwoody and Frank, 1995), formative assessment, development of social interaction via learning activities and flexibility to meet student needs.

Wetzel, O'Toole and Peterson's (1999) research empathises with Tinto's earlier research in recognising the importance of academic and social integration. Interestingly they identify that financial considerations have limited significance, rather students are driven by success and progress and this correlates positively with programme completion. They posit that courses require greater flexibility in meeting student needs and there might be a case for limiting the quantity of modules studied and increasing course length.

Research investigating barriers to e-learning is emerging. The literature suggests three main categorisations as student or dispositional, situational and institutional factors (Diaz, 2002; Rezabek, 1999; Garland, 1993). Student or dispositional factors, recognises levels of educational preparation, attitude, motivational and persistence attributes. Situational factors occur within an individual's general life and include transportation, age, time constraints and family responsibilities. Educational or institutional system examines the educational standards and qualities of the course and the impact of pastoral support for the student. These can include issues related to admissions, registration, scheduling of courses, financial aid and support services. Therefore we can conclude that e-learning retention is a complex and multi faceted issue. For e-learning courses to improve rates of retention, time and effort must be given to prepare students for the learning experience (Alexander 2001) and ensure the course is flexible with suitable assessment requirements.

The necessity for enterprise education

Enterprise education is a key activity to ensure the development of both the enterprise and its employees. The justification for enterprise education for the business is necessity. Running a small business professionally isn't a just a good idea, its a perquisite for business survival (Ehrenfeld, 1995). Garavan and O'Conneide (1994) suggest that there is a positive relationship between enterprise education and business start-ups. Whilst Coulsen-Thomas (1999) suggests businesses would benefit from positive steps to encourage and build entrepreneurial qualities. Research indicates that skills deficiencies exist in smaller enterprises in areas such as strategy, planning, marketing and sales (Welsh, 1996). Scott et al., (1996) and Greig (1997) - identifies a lack of formal vocational training culture within SMEs. Gibb (1998) suggests that the dominant mode of learning in SMEs is experiential, namely learning by doing. This includes learning from customers and suppliers, also from problem solving and opportunity taking and learning by error. Anderson, Boocock and Graham (2001) concur with this suggesting informal unplanned education via social and business networks.

In terms of individual's development of enterprise skills, Binks (1996) posits that many graduates were poorly prepared for employment post Higher Education and that there was insufficient provision for enterprise education. Westhead (1997) noted 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. Petermen and Kennedy (2003) posit that existing formal education does not encourage entrepreneurship but prepares individuals for work in corporations. Shurry et al. (2001) suggests that there is a general mistrust of entrepreneurs in the UK. Carter and Collinson (1999) identifies there are a latent population of graduates, interested in starting their own businesses who require training to encourage and inform the process of business start up. They suggest that such training programmes should focus on younger graduates and concentrate on

reducing barriers such as ideas generation, finance (also Shurry et al. 2001) and expertise. Further barriers are recognised by Galloway and Brown (2002) as graduates suffering from debt (also SBS, 2002), lack of funds (DTI, 2001), limited experience, regulation, taxation (Michaelis et al, 2001) alternative personal priorities and fear of failure (HM Treasury, 2001). Continuing negative attitudes to entrepreneurship form a significant barrier to business start up (Roberston et al. 2003)

By contrast, Watkins and Watkins (1984) and Robertson et al. (2003) reported that the typical entrepreneur are in their mid thirties, white and male. This indicates that female entrepreneurs and ethnic groups are disenfranchised from business start up. Ball and Shank (1995) identify 3 prerequisites for small business education to occur; firstly potential participants must recognise a need for enterprise education, secondly, they must know of the programmes existence and lastly that these courses match potential users needs.

The development of Enterprise Education

Enterprise Education has seen a growth in provision since the 1980s in schools, vocational colleges and Higher Educational institutions (Peterman and Kennedy 2003). Furthermore, the individuals involved in Enterprise Education have increased to include owner managers, students, pupils, graduates, women, unemployed and other disadvantaged groups (Caird, 1990; Curran and Stanworth 1989). Galloway and Brown (2002) report on the increase on growth of Entrepreneurial education in UK universities such as Strathclyde and Stirling. This suggests that this increased provision will enable graduate start-ups, which given the knowledge and capabilities of the owner-managers are more likely to be survive and be successful (Galloway and Brown 2002). Garavan and O’Cinneide (1994) posits a high level of entrepreneurial education enables higher levels of enterprise growth. However, Galloway and Brown’s (2002) study indicated that the return in HE entrepreneurial education is likely to be long term rather than immediate. Despite the development of enterprise education Kolvereid and Moen (1997) and Garavan and O’Cinneide (1994) state that there is a lack of research investigating the phenomena. Furthermore, Garaven and O’Cinneide (1994) claim existing research has a tendency to be exploratory in nature.

Whilst enterprise literature considers the deterrents to initial business start up in depth, there is limited appreciation of the causes of withdrawal from such programmes. Moreover the development of Enterprise Education programmes via e-learning is an emergent phenomena and remains unexplored within the academic literature. This study investigates reasons for student withdrawal on an online Enterprise Education undergraduate programme. These barriers to online Enterprise Education are evaluated and contrasted against the extant literature.

METHODOLOGY

The research methodology comprised both quantitative and qualitative research encompassing 71 students from two partner colleges (Coleg Sir Gar and Coleg Morgannwg) within the ECW project. Initially a detailed analysis of the demographic breakdown of the student cohort and completion, withdrawal and deferral information was undertaken. Thereafter the study used in depth content analysis of student feedback to identify reasons for withdrawal. A semi structured questionnaire was developed to identify prime motivations for student withdrawal. Withdrawn students were contacted via

telephone and the questionnaire was completed in a 15-minute interview with each respondent. In total, 35 former students (85%) completed the questionnaire, whilst six (15%) respondents declined or were unobtainable. The aim of the questionnaire was to investigate the prime causes for student withdrawal. The initial question established the date of withdrawal from the programme, whilst the second question asked the respondents to explain their rationale for leaving the course. This was an open-ended question designed to fully explore the key reasons behind the withdrawal decision

FINDINGS

This section analyses the student data in terms of gender, age, result, occupation and entry qualifications.

Student Results

Seventy-one students enrolled for the first year of the programme within both partner colleges. As can be seen from Table 1, 22 (31%) students successfully completed the first year, 41 (52%) withdrew and 7 (26%) deferred to the next academic year. Forty-four (62%) students were male and 27 (38%) female, the oldest being 67 and the youngest 25. The average age of the group was 43 with a standard deviation of 9.9. A group frequency analysis revealed that the most populace group was 31-40 (38%) followed by the 41-50 (28%). Overall 55% (39 out of 71) of the year group were 41 years of age or over. Male students were predominantly in the 31- 40 (45%) age bracket whereas females were principally in the 41-50 (41%) group. Male students accounted for 74% of the 31-40 age group and 65% of the 51-60 age classification whilst females accounted for 55% of the 41-50 age group.

Table 1: Classification of Student withdrawal factors

Age Groups	Group Demographics			Completion data			Withdrawal data		
	All Group	Male	Female	Over all	Male	Female	Withdrawn	Male	Female
21 - 30	5	2	3	0	0	0	4	2	2
31 - 40	27	20	7	8	7	1	15	11	4
41 - 50	20	9	11	7	3	4	10	4	6
51 - 60	17	11	6	7	3	4	10	8	2
61 - 70	2	2	0	0	0	0	2	2	0
Totals	71	44	27	22	13	9	41	27	14

Overall, 33% of female and 30% of male students were successful. Further analysis revealed that 67% of 51-60 aged female students were successful. The most successful male age group was the 31-40 category, with a 35% success rate. The least successful age groups were the male 51-60 category with a 27% success rate and the female 31-40 group (14%). Eighty-eight percent of successful females were 41 year olds or above in contrast to 46% of males in this age category. In total, 66% percent of withdrawn students were male and 34% female. Within each gender 61% of all male students and 52% of female students withdrew. The most prevalent age groups for student withdrawal were

51-60, with a 59% rate, followed by 31-40 (56%). The 51-60 male age group suffered a high withdrawal rate with a 73% dropout rate. Similarly the female 31-40 (57%) and 41-50 (55%) categories endured high withdrawal rates.

Employment Data

Twenty-nine students were self-employed (41%), 15 worked within the public sector (21%), 17 were in private sector (24%) and 10 (14%) were not in employment. Self-employed students witnessed a 31% completion rate and a 66% withdrawal rate. Public sector students recorded a reasonable completion record (40%) and a high withdrawal rate 47%. The worst completion record was displayed in the private sector employment group with only an 18% completion record and 59% withdrawal record. In terms of entrepreneurial activity it can be seen that 46% of self employed student withdrew from the course.

Sector	All Pop	%	Passed	% of Passed	% of Sector	W/D	% of Withdrawn	% of Sector
Self Employed	29	41	9	41	31	19	46	66
Public sector employment	15	21	6	27	40	7	17	47
Unemployed/Not Working	10	14	3	14	30	5	12	50
Private sector employment	17	24	4	18	24	10	24	59
	71		22	100		41	100	

Educational Profile

Forty percent of students possessed no prior HE qualifications, 20% were graduates and 5% possessed a Masters degree. Forty six percent of students had achieved O levels or equivalent qualifications and 49% attained A levels. When these statistics are analysed in terms of completion against prior qualifications it revealed that of the 20 students with a prior HE qualification only 20% successfully completed the year and 80% withdrew. Of the 22 successful students only 4 (18%) possessed a prior degree. Typically successful students were lacking in prior HE attainment with only 41% of students having gained a previous qualification.

Total Students	Graduates	Masters Degree	HE qualification	No HE Qualification	O levels	A levels
71	20	5	31	40	33	35
%	28	7	44	56	46	49

Questionnaire Results

The semi-structured interviews with 35 students revealed 11 factors of withdrawal cited on 69 occasions (see Table 8). Nine prime causes were identified occurring on 4 or more occasions. The average number of withdrawal factors per student was two, with 17 students identifying two causes.

Table 8: Reasons for Student Withdrawals		
Factor	Frequency of Occurrence	As a % of all Respondents (35)
<i>Prime Causes</i>		
Lack of Time	13	37
Job or Business Changed/increasing pressure of work	12	34
Nature of the Course	9	26
Personnel Issues	8	23
Amount of Coursework	7	20
Technical Problems	6	17
IT skills	4	11
Did not require further qualification	4	11
Confusion/lack understanding	4	11
<i>Other Causes</i>		
Inflexibility in course design	1	3
Withdrawn by College	1	3
	69	

Lack of Time

Thirteen students (37%) cited time as a prime cause of their withdrawal. Of this number, 5 ran their own business and 2 held high-level positions in the public sector. All of these individuals identified that they did not initially appreciate the amount of time the course would entail and also underestimated the demands of their current posts. As identified in the previous section there was a realisation that the coursework was onerous and required reduction. Again this factor can be identified as a contributory factor towards their withdrawal decision.

Job or Business Changed – increasing pressure of work

This was the second most frequently identified cause of withdrawal cited by 34% of respondents. These were students who suffered a change in their working circumstances. Four of this group withdrew due to having to relocate due to new employment whilst 6 cited a change in their existing working circumstances caused by launching their own business or extra responsibility within their current post. Nine out of twelve students who cited this factor either ran their own business or were employed within the private sector where time is a critical factor. Four students identified this factor as the sole reason for their withdrawal whilst 3 students recognised it as 1 of the 2 factors behind their withdrawal.

Nature of the course

Nine students identified that they did not think that this was the right course for them. This was a contributory factor behind student's withdrawal as 5 candidates identified it as one of the two reasons which caused their final withdrawal. These students were from a diversity of backgrounds and quoted a variety of reasons including a lack of enjoyment of the subject matter and the method of learning not suiting their learning style. Comments included "I needed a vocational course which equipped me with the relevant business skills in a short time scale" and "lacking interest in subject matter", "not meeting my

needs, “*lacked applicability to my current job*” and “*preferred the chalk and talk and intimacy of an actual lecture*”. One student complained about the distance that he had to travel to attend support sessions in a partner college and a feeling of isolation.

Technical Problems

Six students identified technical problems as a cause of their withdrawal. Technical issues severely affected the launch of the course and included virtual learning environment (VLE) reliability and connection issues. Two students identified it as the sole cause, whilst two others identified it as one of two reasons for withdrawal

T Skills

Four students identified their IT skills as a reason for their withdrawal from the programme. These students identified several other factors that contributed to their withdrawal; they were all self-employed males in excess of 54 years of age.

Confusion/ Lack of understanding could be course related factor

Four students identified a lack of understanding and confusion as a factor contributing towards their withdrawal. This was one of a number of factors, which caused the students to withdraw from the programme. Student comments included that they did not understand what they needed to do and felt confused about using the technology.

Personal Issues

Eight students (23%) quoted personal issues as reasons for withdrawal. These personal issues were a significant factor (such as illness, divorce or family issues) in the decision to withdraw accounting for the sole reason for 3 students.

Amount of Coursework

Seven students criticised the amount of coursework, which involved weekly tasks and assignment work. Three students withdrew stating that they could not cope with the number of assignments. Four students identified that they were unable to complete the weekly tasks due to lack of time and withdrew or stopped participating early on in the course. Five students identified it as one out of the two reasons for their withdrawal. This can be seen as a contributory factor rather than a prime reason for student withdrawal.

Did not require further qualification

This factor was identified by four students and was a contributory factor to withdrawal interacting with several others. When students understood the demands of the programme in terms of workload and time those with first degrees typically withdrew stating they did not need a further first degree.

Other Causes

Two other factors were identified on one occasion namely withdrawn by supporting college and inflexibility in course design.

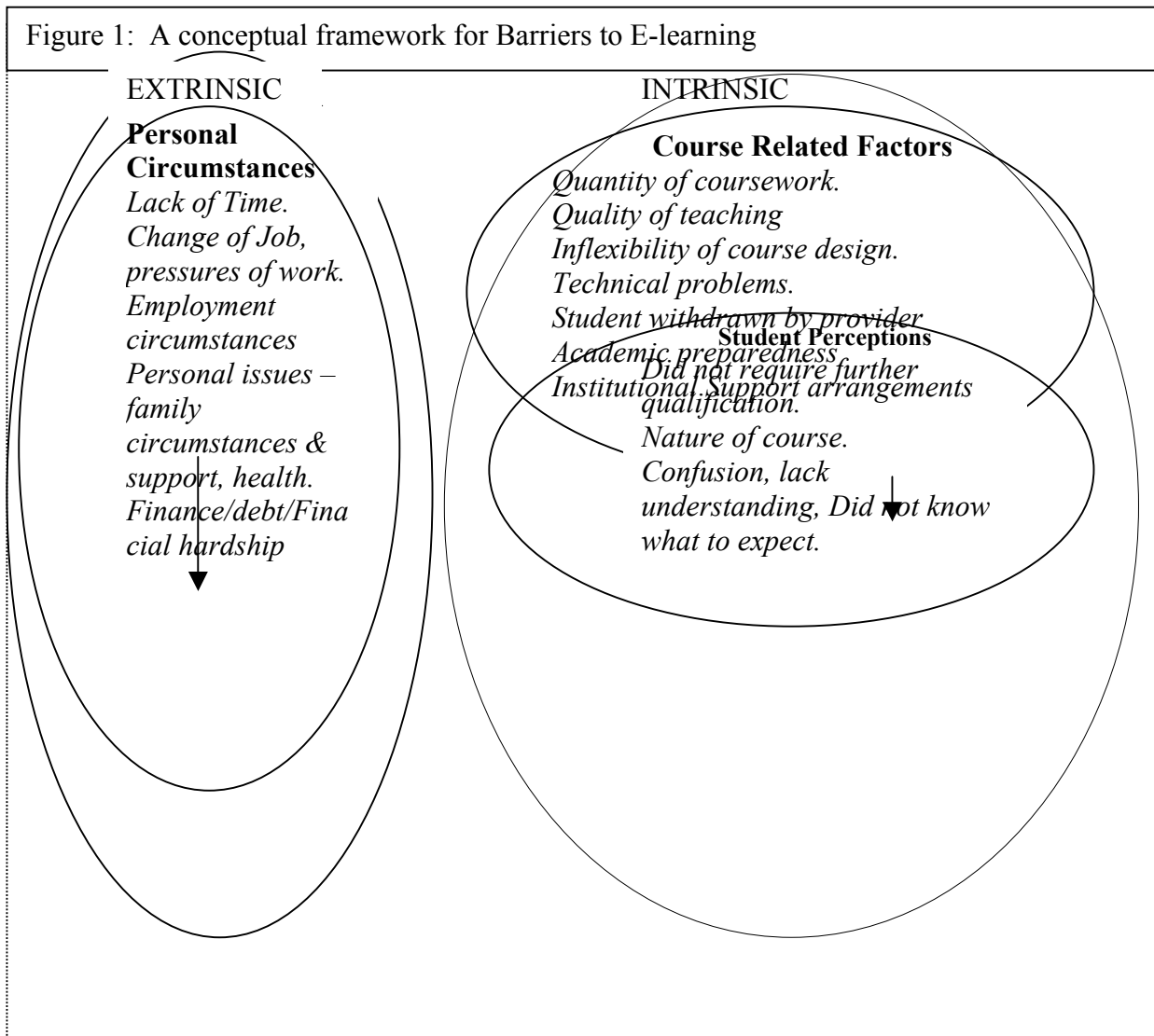
CONCLUSIONS

This study classifies reasons for withdrawal on this undergraduate enterprise e-learning programme and correlates these causes with the extant literature suggesting strategies to manage and overcome them. Students who withdrew from the course were influenced by a variety of barriers to online Enterprise education including HE, e-learning and Entrepreneurial related factors. These factors will negatively impact on students to make a compulsory or voluntary withdrawal decision. There is considerable interrelation between these factors. For example a key barrier to withdrawal has been identified as time (Jones et al 2003). Both the HE and entrepreneurial literatures recognises the influence of this factor. The study found that successful students were typically non HE qualified, self employed and aged between 31 and 60. Female students were marginally more successful than their male counterparts with older males particularly likely to withdraw. The lack of success of students with prior HE qualifications could be attributed mainly to their motivation. Students with existing undergraduate and postgraduate awards were discouraged from pursuing the qualifications due to its extensive demands in terms of commitment and time. Several identifying they wanted to achieve specific vocational business skills rather than another degree thus de-motivating them from continuing with another long educational programme.

Our study of withdrawn students identified the existence of nine prime causes of withdrawal, which can be categorised in two ways. Figure 1 presents a framework to explain these relationships.

The factors impacting on the e-learning enterprise students can be classified as extrinsic or intrinsic. Intrinsic factors (see Figure 1) are internal and course related, which the course provider can influence and extrinsic, which are external to the course and more difficult to control. Within these two categories we can identify sub classifications namely personal circumstances (PC), course related factors (CRF) and student perceptions (SP). The nine factors of student withdrawal identified within this study can be positioned within these classifications. The personal circumstances category is an extrinsic classification and are external to the programme such as a change of employment and family and health related problems. These variables are far more difficult to influence and control, a critical consideration being their initial identification and coping strategy. The Intrinsic or internal course related element contains two sub categories namely SP and CRF. The CRF group identifies any withdrawal decision related to a course component such as technical problems, assessment, reliability of the VLE, course structure and type of and quantity of assessment. The SP group identifies problems related to the students understanding of the course and how it could benefit them.

Figure 1: A conceptual framework for Barriers to E-learning



COMPULSORY or VOLUNTARY WITHDRAWAL DECISION

Figure 2 provides an analysis of the student results using an extension of the conceptual framework. Individual students are charted by withdrawal factor. Coleg Morgannwg students are identified via a PP code in the range 1-27 and Coleg Sir Gar students with a C suffix in the range 1 - 44. The student's code is placed in the set associated with their withdrawal decision. For example, PP3 identifies a Coleg Morgannwg student who withdrew due to lack of time, which this study classifies as a personal circumstance factor. If a student withdrew due to a number of causes their coding appears in the relative subset. For example, C22 identifies a student who withdrew due to the nature of the course and the quantity of coursework. Therefore their coding appears in the intersect between the course related and perceptions sets.

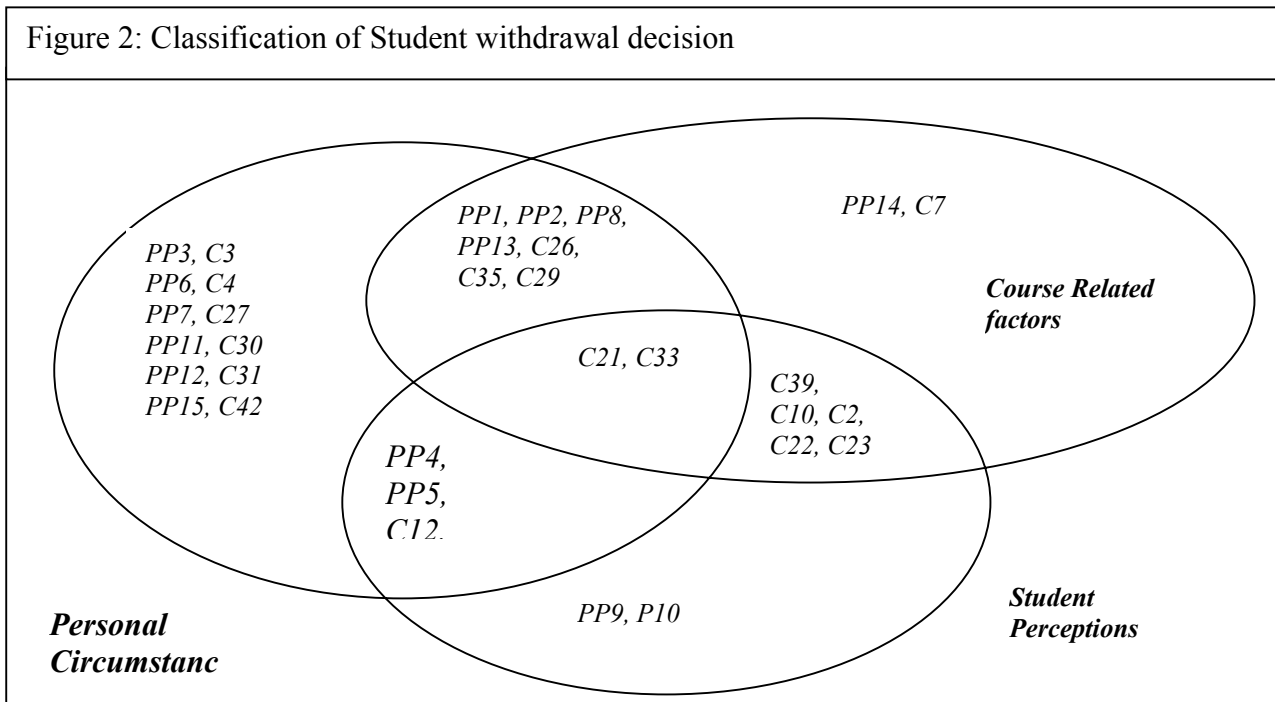
In summary, an enterprise student's withdrawal decision can be seen to have several influences such as HE, e-learning or entrepreneurial related factors. As Figure 1 identifies some of these factors are interrelated. HE factors can include the academic experience, institutional expectations, family support and commitment, college support arrangements. Therefore in our conceptual framework, HE factors can impact on PC, SRFs and CRF. This would apply to any traditional or e-learning related programme. E-learning courses are impacted by HE and e-learning specific barriers. The e-learning barriers are those

factors that directly influence and potentially detract from the student experience such as limited IT skills, technical problems and learning style associated with the media. Finally there are entrepreneurial related barriers to enterprise education. These will only impact on the individuals who are owner managers or employees of an SME. In this study this would involve 41% of the students in self-employment and 24% in private sector employment. Specifically these would involve 2 factors identified within this study namely limited time and increased pressure of work. These individuals would have to cope with these entrepreneurial related pressures in addition to the e-learning and HE factors. Therefore in conclusion barriers to online enterprise education can be seen to be multi layered and interrelated. The critical success factor is to identify and alleviate their influence both their negatively impact on the student experience.

Therefore specific policies to improve retention on enterprise related programmes should include effective recruitment and selection policy. This process should identify candidate applicability for the programme of study and identify their specific training needs. These would include identification of IT skills and a provision for training if required. In addition student would require thorough training in the use of the Virtual Learning Environment (VLE) prior to the commencement of the course. These might involve a face-to-face induction and production of high quality technical manuals explaining the use of the VLE as a support mechanism for students. Moreover it is important that Entrepreneurial students receive accreditation for any prior qualifications or experiences via a process of accreditation of prior learning (APL) and experiential learning. These systems would allow the course to be customised to suit the needs of the learner and avoid duplication of existing knowledge.

This paper will assist e-learning enterprise education providers in identifying and managing barriers to e-learning for enterprise education and creating strategies and systems to reduce their impact and by association improve student retention.

Figure 2: Classification of Student withdrawal decision



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