

A Phenomenological Investigation of Self-Directed Learning being
Supported or Enhanced within a Virtual Learning Environment

Jennifer Quinn

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Present to:

Dr Sharon Mc Laughlin

Department of Law and Humanities

School of Business

Letterkenny Institute of Technology

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Abstract

Virtual Learning Environments (VLEs) has become commonplace in higher education institutions with limited research available into how learners perceive and experience VLEs. This exploratory phenomenological investigation aims to address this lack of evidence. The study is focussed on learners who are currently (2018) attending the Multimedia Programme delivered via a blended VLE. The programme is one of an extensive range of training programmes delivered by the Education and Training Board (ETB). The possible benefits of this research are that it will help to inform and influence the future enhancement of the Multimedia programme in terms of design, content, delivery, and other factors that impact on learners' perceptions of VLEs.

The literature has been helpful in that it has accentuated research into the area of blended learning environments, and specifically VLEs. A qualitative questionnaire was completed containing three sections of both open and closed ended questions enabling data to be gathered that gave deep insights into learners' views of the VLE. The study data from 19 participants was analysed and summarised to identify emergent themes. The research found the participants conveyed both positive and negative perceptions of the VLE. Key areas identified were; Learner Satisfaction with the VLE; Support and Enhancement; Motivation; Technical and Social Issues. Recommendations include benefits in conducting further research at other sites where the Multimedia Programme is delivered. Areas for improvement contain design of the VLE, technical support for learners, increased interaction between tutor and learner, and learner to learner to enhance the overall learning experience.

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Table of Contents

1.0 Introduction and Rationale.....	1
1.1 Introduction.....	1
1.2 Rationale	1
1.3 Objectives.....	4
2.0 Literature Review and Critique	5
2.1 Learner Centred Environment	6
2.2 Changing Teaching Environment.....	8
2.3 Enhancement and Support.....	10
2.4 Key Benefit of Blended Learning via a VLE	12
2.5 Challenges of Virtual Learning Environment.....	16
2.6 Motivation to Engage in Learning.....	17
2.7 Learner Interaction.....	20
2.8 Benefits of the Literature.....	22
3.0 Implementation and Evaluation	24
3.1 Implementation – Research Paradigm – Interpretive	24
3.2 Implementation – Qualitative Research.....	24
3.3 Implementation – Methodology – Phenomenology	25
3.4 Implementation – Qualitative Research- Method- The Case Study.....	25
3.5 Implementation – Data Gathering – The Questionnaire Design	27
3.6 Implementation – Rating System – Likert.....	27
3.7 Implementation – Data Gathering – Research Setting.....	29

3.8 Implementation – Reliability and Validity	29
3.9 Implementation – Ensuring Reliability and Validity.....	31
3.9 Implementation – Ethical Considerations	32
3.10 Implementation – Limitations of the Study	33
3.11 Implementation – Data Gathering- Collection Phase	34
3.12 Implementation – Analysis of the Data	34
3.13 Evaluation – Questionnaire- Section A	35
3.14 Evaluation – Questionnaire- Section B	51
3.15 Evaluation – Questionnaire- Section C	56
4.0 Conclusion and Recommendations	63
4.1 Conclusion.....	63
4.2 Recommendations	65
References	68
Appendix 1 – Participants Information Sheet	79
Appendix 2- Participant Consent Form.....	81
Appendix 3 - Participant Questionnaire	82
Appendix 4 – List of Abbreviations	86

List of Figures

- Figure 3.1** Age Distribution of Research Participants.
- Figure 3.2** Research Participants Responses to use of online material
- Figure 3.3** Research Participants Responses to flexibility, convenience and ability
- Figure 3.4** Research Participants Responses to online content
- Figure 3.5** Research Participants Responses to satisfaction with available content
- Figure 3.6** Research Participants Responses to programme format
- Figure 3.7** Research Participants Responses to relevant job skills
- Figure 3.8** Research Participants Responses to participation and interaction
- Figure 3.9** Research Participants Responses to attendance to another blended programme
- Figure 4.0** Analysis of Research Participants Responses to benefits of learning environment
- Figure 4.1** Analysis of Research Participants Responses to disadvantages of learning environment
- Figure 4.2** Research Participants Responses to seeking help from tutor
- Figure 4.3** Research Participants Responses to receiving feedback
- Figure 4.4** Research Participants Responses to instructor understood learning environment

Figure 4.5 Research Participants Responses to value of face-to-face environment

Figure 4.6 Research Participants Responses to length of course attendance

Figure 4.7 Research Participants Responses to levels of motivation

Figure 4.8 Analysis of Age & Motivational Levels over Course Period

1.0 Introduction/Rationale

1.1 Introduction

In today's global society, the focus is on giving learners choice in the pace, place and mode of their learning. Affording learners choice in this way necessitates the provision of access to learning resources on a round-the-clock basis. Over the past decade the use of the Virtual Learning Environment (VLE) has become commonplace in higher education institutions and has had implications on the learning environment in terms of educators ensuring they have the skills and attributes necessary to successfully use and incorporate the technology into their course delivery, and learners' expectations and experiences (Goodyear & Ellis, 2008; Kirkwood, 2010; Tyan, Ryan, Hinton, & Lamont Mills, 2012). The uptake/adoption of technology by higher education institutions is continually on the rise. To emphasise the growth, Allen and Seaman (2011) reported that Institutions included online learning in their strategic plan with the percentage increasing from (49%) in 2003, to (65%) in 2011, representing 5.6 million learners. These facts, along with the constant evolution of the technology itself, is changing the role of the tutor to that of facilitator as opposed to lecturer/demonstrator (King, 1993). However, with the changing learning environment, it is still unclear whether a self-directed blended learning environment comprising of conventional classroom strategies and web-based learning assets conveyed in a VLE, may enhance or support learning when compared with traditional face-to-face learning (Stricker, et al., 2011).

1.2 Rationale

Donegal Education Training Board (ETB) specialise in the provision of adult education and training. Their aim is to meet the needs of the learners by providing education that is inclusive, flexible and responsive to the needs of the individual learner and the community (ETB, 2018). The ETB deliver an extensive range of training courses to a diverse range of clients, including

those entering the labour market for the first time, persons wishing to up-date or acquire new skills and those changing careers (ETB, 2018). One such training course is the Multimedia Programme which is delivered via a VLE and is the focus of my research. Generally, there has been research conducted into learners' perceptions and the effects of their learning environment in VLE's, discussed in the research of (Alavi & Leidner,2001; Bendunan-Fich & Arbaugh, 2006; Zhang et al. 2006). Studies has been conducted mainly at higher level institutions both globally (Gyamfi, 2015, Poon, 2013) and nationally (O'Donnell, 2012), yet gaps have emerged in the literature chiefly in relation to courses delivered by the ETB. To date no research has focussed on learners attending ETB courses and in particular those attending the Multimedia Programme, giving rise to my research. The research is an exploratory localised investigation into the learners' perceptions of their learning environment, of those attending the Multimedia Programme. The research has personal significance to me as I have a direct connection with, and experience of, technology enhanced learning – both as a facilitator and as a student. Learners from the Multimedia programme quite often join my Business Administration and Accounts class, where my teaching methods are predominately face-to-face with exercises that are hands on, and are in a structured learning environment, where all activities are clearly articulated and led by the tutor. Activities include group work and peer-to-peer learning, which helps to foster a dynamic relationship between the tutor and the learners. Over a period of time, my observations of the class have led me to question the level of motivation and interaction of the learners' who have joined the Business Administration and Accounts class from the Multimedia Programme; as they do not seem to be focussed on the class activities or want to join in the group work. Their commitment and motivation levels appear to be low in comparison to the other learners in the class who were not part of the Multimedia Programme. More specifically, these observations have led me to question whether the Multimedia learners' experience of VLE and self-directed learning has adversely impacted their self-discipline,

leading to low levels of focus and motivation, and also to question the extent to which VLE had, in fact, supported or enhanced their learning. The information acquired as a result of this research will be analysed and, where feasible, will be used to inform and influence the Multimedia programme in terms of content and delivery methods, adding to the overall learning outcomes and learning experience of learners.

The research was conducted on campus at the Donegal Education Training Board (ETB), XXXX, XXXX, XXXX, Co. Donegal. The Multimedia Programme has up to 20 learners in attendance at any one time. The programme runs for a duration ranging from a minimum of five weeks up to a total of 52 weeks, depending on learner qualification requirements. For example, a learner may attend for 5 weeks to complete a European Computer Driver Licence (ECDL) course, whilst a learner attending for 52 weeks would gain a host of qualifications from ECDL up to programming language skills. The programme is delivered using a blended learning approach, consisting of traditional classroom methods such as tutor demonstrations and online learning resources delivered in a VLE, namely Moodle. Learners need to have the ability to work in a self-directed learner focused environment, where they should develop the ability to take initiative for their own learning, and develop the skills to set individual learning goals. The course is tailored to meet the current skills sought by employers, including up-to-date Information Technology (IT) skills, interpersonal skills and teamworking, through to more technical skills such as software development. Software development is one of the keys skills currently sought by Irish employers (Journal.ie, 2016). All programmes are accredited by Quality and Qualifications Ireland (QQI). Learners attending the Multimedia programme are supported in identifying their individual learning needs via an interview with the programme tutor. Learners are encouraged to clarify their expected learning and qualification outcomes. These are then matched with programme content, for example a learner with no, or limited IT skills can obtain an ECDL, at QQI Level 5. Learners are encouraged to develop to their

maximum potential at their own pace in a supported learning environment of equality and inclusion. It is hoped that successful completion of modules on the Multimedia programme will enable learners to progress to other specific skills training programmes within the ETB, including business administration, accounts, office productivity, software development, IT maintenance, security and network support. They may also choose to further their studies at higher education, or seek employment.

1.3 Research Objectives and Aims

The central purpose of this research is to ascertain learners' perceptions of their Virtual Learning Environment (VLE), and to ascertain the extent to which the VLE supports or enhances the learning experiences of the learners' undertaking the Multimedia Programme.

The objectives of this research are three-fold:

- (a) To ascertain the learners' perception of the VLE used by them (i.e., Moodle)
- (b) To establish the extent to which the VLE supports or enhances their learning experience
- (c) To identify significant differences and/or trends in the perceptions and experiences of learners in terms of
 - (1) Age;
 - (2) Gender;
 - (3) Duration of the Multimedia Programme;
 - (4) Motivation Levels.

2.0 Literature Review and Critique

Blended Learning via a Virtual Learning Environment

Blended learning has been defined by several authors as a mix of pedagogical approaches that combine socialisation opportunities of the classroom with the technological enhancements of online learning (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006). Bowyer & Chambers (2017) defines blended learning as a mixture of online and face-to-face learning, adding that blended learning appears to be most commonly used in higher education or adult education. Blended learning environments consist of conventional classroom strategies that combine face-to-face teaching, tutor demonstrations and web-based multimedia learning assets (Zhao, 2008). Graham (2006) defines blended learning as the convergence of face-to-face settings, characterised by simultaneous independent human interaction, with Information and Communication Technology (ICT) multimedia-based settings. Multimedia is the integration of multiple elements of media that include text, audio, graphics and video, that address the senses of sight and hearing simultaneously (Aoraini, 2005). Learners interact with the interactive content through the use of computer hardware and software (Aloraini, 2005), brought together in a Virtual Learning Environment (VLE) (Zhao, 2008).

A VLE is an Internet based tool that allows tutors to share educational materials with their learners, examples of which include Moodle, WebCT and Blackboard (Stricker, 2011). Pulford (2011) defined VLEs as computer-based online learning environments that have become increasingly common in universities and higher educational institutions. VLEs can provide learning resources as well as immediate feedback to learners in terms of results of online tests. Pulford suggests VLEs can facilitate forums where learners can post questions for the tutor and talk to other learners online. Additionally, Wilson (1996) defined VLEs as computer-based environments that provide access to resources as well enabling a meeting point for interaction

with other learners. According to Dillenbourg (2000), a VLE is an information and social space in which learners may actively participate in their own learning. It integrates multiple tools and overlaps with the physical learning environment.

Literature repeatedly emphasises that multimedia instructional environments are widely recognised to hold immense potential for improving the way that people learn (Mayer, 1999; Sweller, 1999; van Merriënboer, 1997). Mayer (2009) suggests learning involves adding information to a learner's memory, using a computerised system is a method for delivery of that information. Additionally, Aloraini (2005) considers multimedia to be one of the best educational techniques as its structure enables learners to interact with the content using more than one sense. According to Nunan, George, & McCausland (2000), blended learning has shifted the emphasis from teaching to learning (Nunan, George, & McCausland, 2000). Ford (2009) concurs, stating that blended learning has changed the instructional model from one of tutor centred to learner centred instruction where the learners' become active and interactive participants (Ford et al. 2009). Yen & Lee (2011) suggest blended learning has increased the interaction between tutor and learners, and also among learners. It provides formative and summative feedback which in turn boost learners' learning experiences (Yen & Lee, 2011).

2.1 Learner Centred Environment

Student-centred learning, as the term suggests, is a method of learning or teaching that puts the learner at the centre (MacHemer et al. 2007, p.9; Boyer, 1990). Gaeddert (2003) suggests that when learners are active participants in their learning journey, cognitive links are easily established to the learners' prior knowledge. With the incorporation of multimedia delivered via VLEs in the classroom, it is critical to consider their impact on the tutor-learning environment from the learners' perspective (Love and Fry, 2006). Reigeluth (1999) suggests

the learner and tutor share control of the learning process with the learner becoming empowered by the learner-centred environment. Learner empowerment is explicit in the work of Reigeluth (1999) where he discusses learner empowerment as an integral part of the concept of learner-centred paradigm of instruction. Reigeluth implies the focus moves from teaching to learning, with the tutor becoming the “guide on the side” rather than “sage on the stage.” Reigeluth, 2012, p.5. Reigeluth maintains learner-centred learning is a constructivist approach to learning.

Constructivism is a theory of learning which posits that learners learn by actively constructing their own knowledge (von Glasersfeld 1996; Fosnot 1996; Duffy and Cunningham 1996). Corresponding, Gray (1997) states that constructivism is a paradigm for teaching and learning. Gray highlights constructivism to be a theory based on observation of how learners learn. Learning occurs as learners are actively involved in a process of meaning and knowledge construction. Learners will become creators of their own knowledge through experiencing new ideas, adding them to what they already know and have experienced, and reflecting on those experiences (Gray, 1997). The characteristics of a constructivist learning environment is learners being actively involved, the environment is democratic, the activities are interactive and student-centred. The tutor facilitates a process of learning in which students are encouraged to be responsible and autonomous (Gray, 1997). Mikropoulos and Natsis (2011) suggest “The prerequisite for an effective learning environment is its pedagogical approach and the learning theory that follows in order to fulfil the educational goals and reach the desirable learning outcomes” (p. 774). Reigeluth suggests learner-centred learning “is task-based instruction, is active, and largely self-directed as learners play a large role in directing their own learning” (Reigeluth, 1999). Reigeluth stipulates one of the most important rewards for the learner-centred approach is how motivating the method is for learners, since learning is a constructive

process that requires considerable learner effort (Reigeluth, 1999, p.34). Reigeluth's work is applicable as it aids the researcher in addressing the question of motivation in the research. He emphasises blended learning as being a learner-centred approach where motivation is key to learning. Fittingly, in the research from Sultan, Woods and Koo (2011), VLEs have the ability to assist in the key actions that are utilised in creating intelligent and constructivist learning as the learning is self-directed with learners being active participants in their own learning.

Student-centred activities include tasks that are relevant to what they are studying, assisting in the process of new knowledge being constructed adding to their current knowledge and skills. The self-directed environment gives learners the power and responsibility to make decisions about what and how they will learn at a pace that suits them (MacHemer et al. 2007, p.9; Boyer, 1990). In the research from Cortizo et al. (2010) & Granić et al. (2009), who assert blended learning to be an ideal teaching concept particularly in a VLE. Heaton-Shrestha et al. (2009) point to the use of a VLE had accommodated diversity in learning styles. Learners reporting the VLE had enhanced the learning experience and increased confidence due to sense of control over the learning process. The online material had enabled learners to practice exercises (over multiple occasions) at a time that suited them. It had improved their effectiveness as learners as it gave easy access to materials, notes, hints, and tips on how to accomplish tasks (Heaton-Shrestha et al. 2009).

2.2 Changing Teaching Environment

Stricker (2011) has highlighted the fact that the teaching environment is changing from tutor-led to learner-centred. He states it is still unclear whether a blended learning environment, brought together in a VLE, may enhance or support learning in contrast to traditional face-to-face education (Stricker, et al., 2011). He suggests the aim of the VLE is to provide a

framework that provides learning materials and supports learners in their learning journey (Stricker, et al., 2011). Stricker's research is focused on learning support within a blended learning environment delivered via a VLE. The research participants were psychology undergraduates. His research compared the VLE usage of two cohorts of students over a two-year period. The groups were classified as VLE users (N-80), those who regularly utilised the VLE, and non-VLE users (N-82), those who did not use the VLE. Stricker the usage of the VLE was voluntary as the VLE was designed to support the learning process of the learners and was an added aid along-side face-to-face instruction, terming it as "a blended learning environment" (Stricker et al., 2011). Stricker's research explored whether the VLE users attained the same or better grades in their final exam compared to non-VLE users. He indicates that the VLE users achieved a better grade in their final exam, with an average increase in the final grade from 5 to 5.25 when some time was spent (at least two hours per week) using the VLE. Stricker's findings illustrate the use of a VLE being beneficial in that it had supported success in the final exam. He asserts that, from a learner's point of view, learning is probably considered efficient if good grades can be achieved in a short time and by expending little effort. He does highlight the fact that the VLE was only useful when the students had spent a certain amount of time becoming familiar with the basic concepts and key terms of the topic. Stricker's study has a major advantage in that he compared VLE users to non-VLE users. His results showed that, over the period of investigation, VLE learners performed consistently better than the non-VLE users, confirming the contribution of the VLE to the learning outcome. Stricker's article is significant in that it addresses one the researcher's questions in discovering if the VLE supports or enhances the learning experience, pointing out that learning is enhanced if learners interact regularly with the VLE.

2.3 Enhancement and Support

The benefits of blended learning delivered via a VLE have been discussed in many articles (Bouhnik et al., 2006; Liaw et al., 2007; Raab et al., 2002; Shotsberger, 2000). Many studies have shown improved learning outcomes for learners when the method of delivery is that of a blended learning environment (Boyle et al., 2003; Dziuban et al., 2006; Garnham et al., 2002; Lim et al., 2009; O'Toole et al., 2003; Twigg, 2003a). Learning theories suggest that learning is promoted or enhanced when learners are actively involved in the learning process and when critical thinking (or deep learning) is promoted through applied and reflective activities (Bransford, Brown & Cocking, 2000; Driscoll, 2002). Picciano (2002) & Watkins (2005) suggest that learning by doing has been found to result in positive learning outcomes. Johnston et al. (2005) & Pallof & Pratt (2003) portray a blended environment of online coursework and activities having the potential to create an interactive environment. They emphasise that when learners actively engage with and learn from the interactive online material, they build their knowledge in the process (Johnston et al., 2005) & (Pallof & Pratt, 2003).

In the research of López-Pérez et al. (2011), the researcher discusses the findings obtained from a blended learning experience conducted at the University of Granada in 2008. The goal of the research was to reduce dropout rates from the university courses and improve exam marks. López-Pérez explains that blended learning was introduced in 2008 as a means to stimulate and enhance the teaching and learning process. The findings examined learners' perceptions of the various learning activities performed. The participants were first-year undergraduates of the general accounts subject. There were 1431 learners registered for the 2009-2010 academic year, with 985 participating in the research. According to the researchers in the period 2009-2010, blended learning constituted a turning point in terms of dropout rates, as the percentage of registered learners taking the final exams in the general accounts subjects had increased to

(79%), with the passing rates rising to (73%) compared to the previous year of 2008. López-Pérez et al. revealed their learners considered blended learning to be a useful experience for understanding and learning the subject content. The learners were satisfied with blended learning and, moreover, considered that it contributed to increasing their motivation to study the subject (López-Pérez et al. 2011). The research endorsed the use of blended learning as having a positive effect on their learners as its introduction helped to achieve the goal of the university in reducing dropout rates and improving examination marks within the general accounts classes. The research of López-Pérez et al. is significant as it highlights the joint effect of blended learning activities having a beneficial influence on the learners' final marks and helping to enhance and support the learning process. They considered it to have a constructive influence on the work the learners carried out independently (López-Pérez et al. 2011). However, López-Pérez does highlight that possibility of further research in light of the fact that their research focused only on two elements - drop-out rates and exam results. The researcher did not investigate other elements such as the learners' perceptions of enhancement of skills, greater interest in the degree subject chosen, or in career possibilities, therefore suggesting further lines for future investigation. The research of López-Pérez has been beneficial in helping the researcher to address some of the perceptions of the learning environment from a learners' viewpoint. The researcher's current study varies in content from that of López-Pérez in that the research is investigating the use of VLE in terms of satisfaction with online content, availability, flexibility, benefits, drawbacks, and support from the tutor in using the online content.

2.4 Key Benefits of Blended Learning via a VLE

Garnham et al. (2002), Owston et al. (2008), Smyth et al. (2012) consider the key benefit of blended learning to be the enhancement of learners' ability to control their place, mode and pace of learning – as learners have access to learning resources around the clock. According to Chambers (1999), Lebow (1993), Radford (1997), Sharpe et al., (2006) & Tam (2000), having access to resources 24/7 reinforces the learners' independence, reflection, and powers of research, facilitating the review and control of learning (Osguthorpe & Graham, 2003). Song et al. (2004), identified flexibility, convenience and self-directed learning as strengths of blended online learning environments, along with the opportunity of sharing experiences with other learners (Sandar & Walsh, 2004). Furthermore, the blended learning environment increases the learners' opportunity to become more involved in the learning process, thus enhancing their motivation, commitment and perseverance (Donnelly, 2010; Sharpe et al., 2006; Wang et al. 2009; Woltering et al. 2009). Additionally, in a recent study (Poon, 2013), learners reported blended learning as a method that allowed them to study at their own pace and time and encouraged them to become more independent with regard to their own learning.

Poon's research focused on undergraduate and postgraduate programmes at Nottingham Trent University (UK), the aim of the research being the identification of good practice in the context of blended learning. Poon (2013) evaluated the learners' perceptions, attitudes, learning experiences, and success factors towards blended learning as a delivery method. The research was conducted in 2011 with data gathered via online questionnaires. A total of 265 learners participated in completing the questionnaires, the majority (50%) of learner respondents were first-year undergraduates, second-year undergraduates (19%), third-year undergraduates (10%), fourth-year undergraduates (6%), and postgraduates (15%). Poon's findings highlight that the primary benefit of using blended learning is course flexibility as learners could interact

with the content 24/7. As part of the research, learners were asked to consider the most effective aspect of blended learning, with one learner response pointing out that "the use of different teaching methods makes the delivery easier to understand, as a result, we are more engaged to our study" (Poon, 2013). Poon emphasises this reply summarises the effectiveness and efficiency of blended learning as a delivery method as the response had shown it had led to meaningful learning experiences. Learners were asked to compare blended learning with traditional face-to-face learning in terms of feedback. Poon found the majority of learner respondents (57%) commented that the quality of feedback from blended learning courses was no different from that for traditional classroom teaching (Poon, 2013). Learners' highlighted their preference for face-to-face feedback over blended learning, as they considered it to be more effective and more personal (Poon, 2013). Poon suggests the responses reinforce the necessity for including face-to-face elements in blended learning approaches. Learners were also asked to identify one of the least effective aspects of blended learning. Responses included that there was less interactive/direct communication with tutors/lecturers. They considered that, as all learning materials were online, it could potentially lead to tutors/lecturers being redundant to the teaching/learning process (Poon, 2013). Additionally, learners were asked to comment on their previous experience in a blended learning environment. Poon's findings were that only (17%) of the respondents reporting having had previous blended learning experience (Poon, 2013). Poon considers these findings to highlight the need for learners to receive guidance and demonstrations of how to use the online learning resources (Poon, 2013). Poon suggests the results are very much in line with the literature from Beadle & Santy (2008) and Harris et al. (2009), wherein they discuss the importance of skills training to facilitate the successful use of blended learning. Poon indicates the findings reinforce the pedagogical characteristics of blended learning of constructivism, social constructivism and problem-based

learning, confirming the existing literature of Graham (2006), Saltzberg and Polyson (1995), and Yen and Lee (2011).

The use of blended learning also addresses several of the educational principles introduced by Chickering and Gamson (1987), such as "encourage active learning," "give prompt feedback," and "respect diverse talents and ways of learning," which further reinforces the view that blended learning can enhance learners' learning experiences (Poon, 2013). Poon's research is important as it highlighted the benefits of blended learning in terms of support and enhancement of the learning experience. It has examined the learners' experiences and perceptions of blended learning as a delivery method. The research has shown the key advantages for learners of using blended learning as a delivery method as: flexibility of learning; encouragement of active learning; and provision of prompt feedback. Poon does note some of the drawbacks are that blended learning cannot totally replace face-to-face contact with learners, who require reassurance and ongoing support from tutors/lecturers. Technological literacy can be an issue for learners who have had no previous experience in a blended learning environment (Poon, 2013). The major limitation of this study is that the research findings are based on the examination of a single institution. However, Poon does suggest conducting further research in several universities to obtain a broader picture of the use of blended learning in the sector. Poon's research has been valuable as it has assisted the researcher in the quest to fill gaps in the literature pertaining to research in assessing learners' views of blended learning. Poon's research has helped to address one of the researcher's questions as it focuses on investigating the benefits that blended learning offers in terms of support and enhancement of the learning experience.

Both tutors and learners have reported that the online components of blended learning encourage the development of critical thinking skills (Alotaibi, 2013; Burkhart, 2006; O'Neill & Galvin, 2013). For tutors, the development of critical thinking skills in learners can be aided by using clever questioning to guide the learners to new insights (Alotaibi, 2013, Burkhart, 2016). For learners, critical thinking enables them to reach a particular conclusion by applying what they have learnt to solve a specific problem (Alotaibi, 2013). Therefore, the learner who is capable of thinking critically is fundamentally independent and autonomous in their decisions (Mackinght, 2000).

Learner satisfaction has also been reported to be higher in blended learning courses compared with purely face-to-face courses (Dziuban et al., 2006; Owston et al., 2008; Twigg, 2003a). Relatedly, López-Pérez, & Rodríguez-Ariza (2011), uncovered evidence attesting to the fact that blended learning can foster a decrease in learner attrition and facilitate an increase in their final marks, leading to positive impacts on learner achievement. Conversely, other studies point towards the need for more understanding about how blended learning affects learning. Learners' perceptions of blended learning environments have been explored in the research of Ginns and Ellis (2007), where they discuss learner approaches to study, and their academic performance. They found that learners with positive perceptions of their learning environment tended to gain better results, whereas those with a negative perception did not. According to Entwistle, McCune, and Hounsell (2002), the factors that influence learners' perceptions of their learning environment include: prior educational experience; knowledge; conceptions; reasons for studying. Additionally, other factors that influence learners' perceptions is the quality of the course material, including how the course material is selected, organised, presented and assessed (Entwistle, McCune & Hounsell, 2002).

2.5 Challenges of Virtual Learning Environments

Challenges of blended learning have been addressed in the studies by Aldrich (2006) and Dalhstrom et al. (2013), which imply that designing an effective blended learning environment can be difficult as learners and tutors are often required to acquire new skills in order to use it purposefully. Dalhstrom et al. (2013) found that, while learners expect technology to be used in the classroom, they still want the tutor to provide some guidance for its use. Potential pitfalls have been highlighted such as a learners' sense of isolation (Brown, 1996) and frustration, anxiety and confusion (Hara & Kling, 2000, & Piccoli et al. 2001). Bandura (1991) states that self-efficacy – the ability to succeed – is an important factor when trying to accomplish tasks, particularly in relation to a VLE learning environment where learning is self-directed. Gist & Mitchell (1992) suggest computer self-efficacy is a measure of perceived ability to work with computers, and increased exposure to certain tasks often increases a learner's self-efficacy for those tasks. Therefore, computer self-efficacy is theorised to be positively related to learning in a self-directed VLE environment. Golladay et al. (2000) & Serwatick (2003) find learners' lack of interaction, self-motivation, self-discipline, commitment to learning to be detrimental to a learners' ability to flourish in a VLE. Mayer (2011) supports this view in articulating that VLEs do require a high level of learner engagement and could potentially lead to motivation overload, as VLEs tend to require a high level of motivation in order for the learners to reach their learning outcomes.

Instructional design of the VLE appears to be of paramount importance to learners' perceptions of their learning environment (Mueller, 2010). Mueller maintains effective instructional design should contain systems that are functional (reliable and responsive) and include learning materials that are relevant to the subject. He points out that technology supported learning environments (VLEs) tended to have high learner dropout rates due to learner sentiments such

as anxiety and feeling overwhelmed. Muller indicates the factors that contributed being aligned with lack of technical support and the learning environment not meeting their expectations (Mueller, 2010). Equally, Essex & Cagiltay (2001) and Hara & Kling (1999) suggest that learners experience some distress in their online learning environment when they experience technical and communication breakdowns, and when they feel they have not received adequate training to use the technology. Hughes (2007) verifies this view and cites the reasons learners may not complete a course can include “personal resilience, personal identity factors, support networks, as well as finding the course badly presented, poorly supported or too difficult” (Hughes, 2007, p3). In a study conducted by Poon (2013), the research evaluated learners’ experiences of their blended learning environment in terms of the least effective aspects of blended learning. Poon explains learners responses included a lack of direct communication with tutors as all learning materials are online. Learners expressed the desire to receive clearer guidance, demonstrations and training of how to use the online learning resources for them to fully engage with blended learning (Poon, 2013). The research from Beadle & Santry (2008) and Harris et al. (2009) substantiates the view that, in order to accelerate success in a blended learning environment, learners must attain sufficient training. In order for a VLE to have the capacity to support learners to engage in collaborative learning, VLEs need to have the capacity to offer learners the opportunity to access content, learning sessions, and materials. The VLE should employ learning management systems that include interactive blackboards, blogs, wikis, online social networking and video streaming (Friedman & Friedman, 2013).

2.6 Motivation to Engage in Learning

One of the key concerns emanating from the literature surrounding the use of VLE is the level of learner motivation required from learners in order to be successful in achieving their learning outcomes. According to Mayer (2011) motivation is a heavy influencer to learning. Deci and

Ryan (1994) argue performance outcomes are affected by motivation and engagement and are contributing factors in successful learning. Motivation combines conscious and unconscious factors that stimulate the desire in learners to be continually interested and committed to their study (Deci and Ryan, 1994). These factors involve the desire to succeed, the reward that can be achieved, and the expectations of the learner and their peers (Deci and Ryan, 1994). Each of these factors has an impact on the way the learner behaves in their learning environment, for example, a highly motivated learner will spend extra time using the VLE outside of class hours to study for a test (Deci and Ryan, 1994). Accordingly, of importance is the view expressed by Administrator (2010) who maintains motivation may be divided into two types: intrinsic and extrinsic. Learners that tend to be intrinsically motivated use self-regulation strategies, such as goal setting and strategic planning. These strategies employ more effort and time for learners and, as a result, those without motivation are unlikely to enact these strategies (Administrator, 2010). Employing self-regulation strategies enables the learner to process information at a deeper level, for example, taking the main points from the tutor's notes, rearranging the ideas and presenting them in a concept map (Administrator, 2010). Extrinsically motivated learners are more inclined towards tasks that are moderate, less challenging and take little effort. They will complete the task in order to obtain a reward that is external to the activity itself such as grades (Administrator, 2010).

A fitting theory for addressing motivation is Self-Determination Theory (SDT), which provides a framework to understand learners' experiences of autonomous motivation. According to Chen and Jang (2010), the theory addresses three key components of a learner's needs: autonomy, competency and belonging. They attest that the theory is most appropriate for addressing motivation in non-traditional classroom situations such as online learning, web-based learning, and VLEs (Chen and Jang, 2010). Accordingly, Deci and Ryan, (1994) suggest,

consistent with SDT, learners' autonomous self-regulation is theorised to predict learners' engagement. A learner will be more engaged/determined if the learning conditions allow satisfaction of their three-basic learner needs. A learner needs to feel connected, effective and agentic as they are exposed to new ideas and exercise new skills (Deci and Ryan, 1994). Hence, learners who perceive themselves to be acting with a sense of autonomy, competence, and relatedness during the learning activity experience high-quality motivation (Deci and Ryan, 1994). Persistent engagement leads to meaningful learning and high achievement (Deci and Ryan, 1994). Fittingly, Deci and Ryan, (1994) state, in order for a learner to feel success, they seek to be in control of their learning in that they have the intention to act and freely choose when and how much to participate. In order for a learner to experience inherent satisfaction, their intrinsic and extrinsic needs must be met – hence, an intrinsic activity/task must be of quality and interest to the learner in order for them to accept the value of the task, whilst an extrinsic need is met via performing the activity in order to attain a reward (Deci and Ryan, 1994). Motivation in blended learning environments was explored by Clayton et al. (2012), who proclaim that learners' motivation was impacted by learners' self-efficacy, learning strategies (goal setting) and objectives (to pass a test), a view that corresponds with that of Administrator (2010), who maintains that learning strategies led to deeper learning. More recently, Baxter & Hancock (2014) maintain that online learning has been associated with learners feeling disconnected with their learning environment, potentially leading to lower levels of motivation. This view was also conveyed by Brown (1996), who maintains that this sense of isolation can be a demotivator. Accordingly, Russell (2013) tells us that, when interactions between learners' and tutors are predominately through online communications, the learners' lack of real world, physical contact with the course and the tutors can lead to them feeling isolated, anxious and may lead to a loss of motivation. Within a blended learning environment, and particularly in relation to the research in question- the Multimedia course,

interaction between learners' and tutors are mainly face to face, in comparison to online courses where the tutors connect with the learners via online tools such as Blackboard, email and message boards. Therefore, it seems apparent that a learners' self-motivation, self-discipline and commitment to learning are of key importance in a blended learning VLE environment.

2.7 Learner Interaction

Despite the recent influx of research into VLEs (Renau, 2012; Stricker, et al., 2011; Yiu & Eugenia, 2010), questions still remain regarding how learners learn and interact in VLEs remain (Simmering, Posey and Piccoli, 2009). Research pertaining to VLEs discusses the level of learner interaction required in a VLE, as learning depends on learners' effort and participation (Renau, 2012). Researchers have identified that interaction with content, tutors and class peers may affect learning in blended VLE environments, stating that all three interactions work together to support learning (Bolter 1991; Landow 1992; Murray 1997; Turkle 1997). In the study conducted by Piccian (2002), the researchers explored learners' perceptions of interaction and learning. Piccian found a strong positive relationship between student perceptions of their interaction in the course and their perceptions of the quality and quantity of their learning (Piccian, 2002). Similarly, both positive and negative perceptions by learners of online learning have been reported in studies (Swan et al. 2000). Swan et al. indicate tutors interactions have a significant impact on the learners' perceptions of online learning. Swan et al. maintain that the elements that influence learners' perceptions are consistency in course design, interaction with course tutors, and active discussion (Swan et al. 2000). Furthermore, Klingner (2003) & McCall (2002) have indicated that flexibility and communication with tutors and peers is valued in an online learning environment. Comparably, Jiang and Ting (1998) also found that learners valued the degree of instructional prominence on learning through interaction.

Research in the field was conducted by Renau (2012). The researcher designed, developed and implemented a VLE (Moodle) for learners taking a degree course in computer science based in Jaume University (Spain). Renau explains the VLE was created to complement and support traditional face-to-face classes. The researcher emphasises learners using a VLE need to be more responsible, as learning depends on their effort and participation. Renau enlisted the participation of 110 learners to take part in the research. Data was gathered using a questionnaire to evaluate their opinions and comments of a blended environment containing a mixture of classroom and online activities. The learners were asked to complete a series of twelve online tasks and were assessed for their interaction in three areas: (1) Learner-Content Interaction – assessing whether learners completed tasks over a period of time that dealt with new information and ideas; (2) Learner-Tutor Interaction – assessing whether effective learning took place over the period as the tutor imparted knowledge and wisdom; and (3) Learner-Learner Interaction – assessing whether learners learned from each other by sharing ideas and discussing problems. Her findings show learners' participation in the VLE increased from the start until the end of the exercise period. The increase ranged from (56%) at the start of the exercises to (72%) at the end of the tasks. These results suggest the VLE to be of benefit to the learning process as the learner increased their participation and interaction. Renau explains the benefits to learning to be three-fold due to learner participation/interaction; learners and tutors interacting constantly via the VLE, and learner-learner sharing ideas and discussing problems (Renau, 2012). Renau suggests her study demonstrates learner-learner interaction has been possible as the tasks are accessible 24/7. Interaction has a positive effective for learners as they are able to express their ideas, comments, and ask questions. This recent study has highlighted learners interaction in a VLE to be of paramount importance to learners in order for the VLE to be of benefit to their learning journey.

The findings seem to correspond with the research of Piccian, 2002; Bolter 1991; Landow 1992; Murray 1997; & Turkle, 1997, all of whom identified that interaction with content, tutors and class peers may affect learning in blended VLE environments. The major limitation of this study is the research findings are based a small-scale study. The period of investigation is not discussed, leaving it unclear whether the study was for one semester or one college year. The examination is of a singular class and was not extended to other groups within the university, leaving the research ungeneralizable. However, Renau does propose her findings are relevant to those who are interested in online delivery, since the use of online forums and email lists generally enable group discussion to a far greater extent as opposed to a conventional lecture/tutorial environment (Renau, 2012). Accordingly, the study is particularly relevant in addressing the researcher's aims to investigate the learners' perceptions of their VLE in terms of interaction with content, tutor and class peers.

2.8 Benefits of the Literature

The literature has been helpful in that it has accentuated research into the area of blended learning environments, and specifically VLEs. Young (2002) points out the topic is growing rapidly, predicting 80-90% of all courses in higher education could be classified as blended learning. The literature has facilitated the formation of ideas for exploration within this research, such as examining the perceptions of the learners in the blended learning environment and considering the benefits, challenges, interactions and motivation that blended learning via VLEs offer in terms of supporting and enhancing the learning experience. Learners' perceptions of their online learning environment are often overlooked. It is important to remember, as quoted by El Mansour & Mupinga (2007), that "learners are the ones embracing or "fleeing" from these methods of delivery". Studies have been conducted mainly at higher level institutions, both globally (Gyamfi, 2015; Poon, 2013) and nationally (O'Donnell, 2012),

yet gaps have emerged in the literature, chiefly in relation to learner interaction within the VLE platform. The focus of the research discussed by Klingner (2003), McCall (2002), and Jiang and Ting (1998), centred on interaction within online learning courses and did not specifically discuss interaction within VLEs. The absence of research on the perceptions of learners attending the diverse range of courses offered and delivered by the ETB, prompted the development of this research. The central aim of this research is to ascertain learners' perceptions of their Virtual Learning Environment (VLE), and to ascertain the extent to which the VLE supports or enhances the learning experiences of those undertaking the Multimedia Programme. The proposed research will aim to facilitate the shortcomings identified in the findings of Klingner (2003), McCall (2002) and Jiang and Ting (1998) in that they focussed on online learning environments.

3.0 Implementation and Evaluation

The central aim of this research is to ascertain learners' perceptions of their Virtual Learning Environment (VLE) – more specifically, to ascertain the extent to which the VLE supports or enhances the learning experiences of those undertaking the Multimedia Programme offered by the Education Training Board (ETB), XXXX, Co. Donegal.

3.1 Implementation - Research Paradigm - Interpretive

Kuhn (1966) defines paradigm as a research culture with a set of beliefs, values, and assumptions that a community of researchers have in common regarding the nature and conduct of research. An interpretive paradigm is concerned with understanding the world from the subjective experiences of individuals (Reeves & Hedberg, 2003) and has been identified as the appropriate framework for this study.

3.2 Implementation - Qualitative Research

Qualitative research is a form of social inquiry that is used to explore the behaviour, perspectives, feelings and experiences of people in their environment (Flick, 2014). The basis of qualitative research has its roots in philosophy and the human sciences (Flick, 2014). It is often linked to the work of Weber (1949) who suggested social sciences are concerned with Verstehen (understanding). Weber indicates that meaning could be found in the intentions and goals of the individual. Weber believed that qualitative research is concerned with gaining access to the experiences and perceptions of those we study. Quantitative research, on the other hand, is a structured way of collecting and analysing data and involves the use of statistical and mathematical tools to derive hard replicable data (Blaxter et al 2010).

3.3 Implementation - Methodology – Phenomenology

A phenomenological approach was adopted to explore the research question. Phenomenology is the study of how we experience things from the first-person point of view, along with relevant conditions of experience (Kuhn, 1966). According to Ashworth & Greasley (2009), a phenomenological investigation is primarily an attempt to understand empirical matters from the perspective of the participants involved in the research and, as such, is particularly effective at bringing to the fore the experiences and perceptions of individuals from their own perspectives (Ashworth & Greasley, 2009). The phenomenological investigative approach aligns with my aim to achieve an in-depth analysis of how learners perceive and experience their VLE. At present, there is a lack of empirical research nationally, and particularly at local level, exploring the perceptions and experiences of those attending the Multimedia Programmes run by the ETB.

3.4 Implementation - Method - The Case Study

A case study approach is an emerging method used to collect the data in a natural setting, attempting to make sense of or interpret the phenomena in terms of the meanings people bring to them (Denzin and Lincoln, 2011). Yin (2009) has written about the approach one can follow when conducting a case study. Yin takes an orthodox, highly structured approach, following a set of prespecified procedures that include design, data collection, analysis and reporting. Yin (2009) suggests the first step is to decide on the strategy to use, emphasising that defining the research questions is probably the most important step to be taken in a research study. Yin (2009) proposes that there are five different research strategies from which one can choose: experiment; survey; archival analysis; history; and case study. He states that these research strategies can be used to explore situations where the results are unknown. He suggests that making a decision about the strategy to use is dependent on three conditions: (a) the type of research question posed; (b) the extent of control an investigator has over the event; and (c) the

degree of focus on contemporary as opposed to historical events (Yin, 2009). The case study approach is a strategy based on the emergent inductive approach where the results are unknown until the data is analysed. It is not generalisable – meaning that this approach is a detailed examination of a single example.

The emphasis of the case study design is on how individuals construct meaning and knowledge through interactions within the social context (Dewey, 1998). It is based around constructionist theory, which posits that there is no single reality or truth – rather reality is created by the individual. In order for the researcher to understand the underlying meaning of the learner responses, these responses must be interpreted (Piaget, 1971). Yin (2009) and Robson (2011) have noted that case study design is particularly suited to exploratory studies. The research is an empirical single unit of exploration focussed on an ETB programme. It is for this reason that the researcher selected a case study approach. The researcher believed this approach to be best suited to both the context and the research question posed as it facilitates the attainment of insights not previously known prior to the researcher (Buchanan, 2012). In conducting the research, the aim is to ascertain the learners' perceptions of their VLE, and how the VLE helps to support or enhance their learning experiences. The case study approach has an inductive nature in that the data will show emergent themes such as learners' self-direction and organisation and will prove to be a powerful tool in understanding the subjective VLE enhancement, and how it helps to support self-directed learning experiences. It is worth noting that, should the research be conducted in another ETB centre at a later date, it is unlikely that the findings would be the same as the research is of naturalistic nature, revealing the participants perceptions of their VLE at the time when the research was conducted. The researcher envisages the exploration will aid in gaining insights into the learners' perceptions

of their VLE, opening the door to further investigation by the ETB, and will assist in the future enhancement of the Multimedia programme.

3.5 Implementation - Data Gathering – The Questionnaire Design

According to Blaxter et al. (2010) data collected by questionnaires may be either qualitative or quantitative. Questionnaires are designed to collect discrete data in the structure of numbers or words, which can then be coded and represented as numbers in the form of variable frequencies, averages, and ranges. A qualitative questionnaire (Appendix 3) was used for collecting data. This method of collecting data allows easy analysis of results (Wilson and McLean, 1994). There are many advantages and disadvantages that one must consider when using a questionnaire to collect data. Firstly, the advantages are that questionnaires generally follow a format that is familiar to most respondents with the responses being simple and quick for the respondent to complete. They enable the information to be collected in a standardised way, enabling relatively easy analysis of the results, identification of patterns and frequencies (Evalued, 2011). The disadvantages of using a questionnaire may include difficulty in obtaining a sufficient number of responses owing to questions not being fully answered or questions being ignored. It may be due to respondents not understanding the questions on account of poor design and ambiguous language (Evalued, 2011). To help alleviate these issues, one can conduct a pilot study to test if the questionnaire is valid and reliable, ensuring that the questions posed address the aims of the study.

3.6 Implementation - Rating System - Likert

In order to ensure ease of use for the learners involved in this study, the questionnaire employs a Likert (1932) scale, which uses a rating system to permit the learners to choose the option that best supports their opinion. It provides the participants with a method that is easily understood, allowing them to answer the questionnaire quickly. The rating scale will facilitate

and support the acquisition of the learners' attitude in measuring the extent to which they "Strongly Agree" through to "Strongly Disagree" with the statements posed in the questionnaire. Answering the questionnaire allows learners to give their perceptions of their VLE and, in doing so, provide the researcher with the means of generating statistics. The questionnaire contains three sections. Section A is comprised of eight closed-ended questions that ask for the learners' perceptions of their VLE. Closed-ended questions limit the participants' answers as the responses have pre-defined options from which to select using the Likert scale as a rating system to permit the learners to choose the option that best supports their opinion. Section A also contains two open-ended questions which are of an exploratory nature, prompting the learners to answer with sentences, thereby giving deeper insights into their view of the VLE. Section B includes four closed-ended questions that ask for the learners' perceptions of their learning experience in terms of feedback and tutor help and support. Section C contains four closed-ended questions that ask for the learners' perceptions about their level of motivation during their course, again using the Likert scale to enable the learners to choose the option that best supports their opinion. Section C also contains one open-ended question. The use of both types of questions will support the researcher in building a sufficient dataset to discover emerging themes. The use of both types of questions will support the generation of more precise data and allow for additional in-depth analysis. The researcher chose a mono method, which uses one form of data tool to gather data, as they believed the participants were more likely to complete an anonymous questionnaire without fear of reprisal. Initially, the researcher considered using a binary method of data collection/gathering. This would have involved the deployment of a questionnaire to all learners with a view to identifying/selecting, based on the results, suitable respondents for interview. The researcher chose not to do so as the questionnaire would have asked personally identifying information in order for the researcher to identify the participants for interview. The learners' may not have

freely answered the questionnaire as their anonymity was not protected. The researcher was hesitant in conducting interviews as they believed the learners may choose not to participate in the interview process due to the perceived lack of anonymity, and fear of reprisal from their programme tutor in terms of the possibility of their responses having an adverse impact on their grades. In hindsight, the choosing of one form of data tool may have limitations on the data gathered, as an interview process may have enhanced additional in-depth analysis serving to enhance the findings.

3.7 Implementation - Data Gathering – Research Setting

The principal researcher, Jennifer Quinn, has a Bachelor of Business (Honours) and an EDI Diploma in Education Principles and Practice. The researcher has been employed by the ETB for ten years and teaches a range of ETB programmes including Business Administration, Business Management and Information Communication Technology. The research participants are currently attending a Multimedia Programme within the ETB. The participants are not part of the researcher's cohort of learners, enabling the researcher to take an impartial stance when conducting the research and aiding in the elimination of any bias or issues pertaining to insider research. Robson (2002) states that an insider researcher is one who has a direct involvement or connection with the research setting. The setting for the research is the ETB centre. It is simultaneously the authors place of employment, and an environment with which they are familiar, giving them distinct advantages in terms of access to the participants. As stated above, the participants are not part of the authors cohort of learners however, they are aware of the authors existence in that the author is known to them as a tutor within the ETB, enabling the author to establish a relationship. However, being an insider researcher, issues may arise in terms of the concept of validity and objectivity. Robson (2002) suggests familiarity with

research participants can lead to assumptions and results being bias. Additionally, in critiquing a module delivered by a colleague, the researcher's loyalties to their organisation and other tutors may lead to subconscious distortion of data, misrepresenting it to fit in with an ETB view of the learners' perceptions of their course (Robson, 2002).

3.8 Implementation - Reliability and Validity

Rooney (2005) states, in a paper entitled *Researching from the inside - does it compromise validity*, that the questions to consider are: (1) is the research being compromised due to validity issues; and (2) can the researcher remain objective. In order for research to be reliable and valid, the researcher needs to test and demonstrate that the research is credible. Golafshani (2003) states that reliability, validity and triangulation are relevant research concepts from a qualitative point of view and are rooted in the interpretive perspective, adding that the way to achieve validity and reliability of research is to eliminate bias. Further, Patton (1990) states that "validity and reliability are two of the factors which any qualitative researcher should be concerned about while designing a study, analysing results and judging the quality of the study". If research is not valid, then it is judged worthless (Cohen et al. 2000).

For the research to be valid and reliable, the author will ensure that the possible effects of perceived bias from the data collection and analysis processes, as well as and ethical considerations such as consent and anonymity, have been addressed throughout the research. Equally, for the research to be valid and credible, it should truly represent the learners' perceptions of their VLE. According to Joppe (2000), when results of a study are consistent over time they are considered reliable and, if the results of the study were reproduced under a similar methodology, then the research method is deemed reliable and is considered generalisable. Generalisability refers to the results of the research being transferable to another

context. In relation to the context of this research, if the same research were to be conducted in another ETB centre, it is unlikely that the findings would be exactly the same. The findings may differ as the research would include different participants who possess their own views on the questions posed in the questionnaire. As the nature of the research is naturalistic, it reveals the participants' perceptions of their learning environment at the time when the research was conducted.

3.9 Implementation - Ensuring Reliability and Validity

To ensure validity and reliability of the questionnaire, the author first considered whether the questionnaire measured what it purported to measure. To address this concern, the author drafted a questionnaire and asked a colleague – the tutor of the Multimedia module – to complete the questionnaire. The researcher was aware that the tutor has a vested interest in the findings arising from the research but, in light of their specialist knowledge of the module, considered their input to be relevant in creating a questionnaire that covered all elements and in highlighting possible gaps. The Multimedia tutor was aware of the research aims and viewed the questionnaire from the perspective of a tutor in order to ascertain if the questions asked were relevant to the course and also to the research question. The tutor's feedback highlighted the fact that the researcher had not considered asking a question in relation to learners' satisfaction with online content (Section A, Q4) or whether the course was delivering the skills relevant to the job market (Section A, Q6). The feedback later helped in the formation of the final version of the questionnaire. Subsequently, in order to further test the questionnaire, the researcher conducted a pilot study. Five learners who had attended the Multimedia programme within the last few months and had since progressed to other courses within the ETB were asked to complete the questionnaire. The responses of this pilot group helped to further enhance

the relevance of the questions and highlighted potential difficulties in terms of accessibility and clarity of the language.

3.9 Implementation - Ethical Considerations

Ethical considerations arise when human participants are involved in research, and it is essential to be aware of these considerations. To this end, the author was guided by the Ethics Committee at Letterkenny Institute of Technology (LYIT) and by the British Educational Research Association (BERA). BERA have produced a set of guidelines for educational research that states all educational research should be conducted with respect for the person, knowledge, democratic values, quality of educational research, and academic freedom (BERA, 2011). Capron (1989) considered that respect for people is the recognition of participants' rights, including the right to be informed about the study, the right to freely decide whether to participate in a study, and the right to withdraw at any time without penalty.

The researcher has considered all ethical considerations in the design of the Information Sheet (Appendix 1), Consent Form (Appendix 2), and Questionnaire (Appendix 3). To ensure all participants in the research understand the process, the Information Sheet introduces the aims and purpose of the research and discusses the procedure that will be followed during the research. It reassures participants that their participation is voluntary and that all data collected during the research will be anonymous and confidential. The Consent Form, which has to be signed by the participant, highlighted the voluntariness of participation and the right to withdraw from the research up to the point of data analysis, and was collected separately from the questionnaire to safeguard anonymity. Anonymity was ensured as the survey questionnaire did not require Personally Identifying Information (PII). The participants were required to complete the questionnaire immediately upon receipt and return it to the researcher. Brink (1993) maintains that the participants of the research may attempt to please the researcher by responding in a way that they believe the researcher expects. They may additionally feel that their responses should be complimentary (or not) in order to show their course in an

advantageous light (or not) and, as a consequence, the truth of their perception may be impacted. The researcher is aware that the collection of the questionnaire whilst in the room could raise issues around anonymity and truth of responses. However, as the researcher has not acted as a tutor to the cohort of learners and had not previously met the group, anonymity will be maintained as the researcher is not aware of the learners' names, ensuring that their anonymity will be protected. Participants were assured that all data would be collected, processed, and stored in compliance with relevant data protection legislation and in compliance with LYIT's Guidelines for Electronic Data Storage. The researcher considers all ethical issues have been anticipated and have been taken into account in the creation and distribution of all the supporting documentation mentioned above.

3.10 Implementation - Limitations of the Study

Qualitative research presents difficulty in relation to verification. For example, it offers "limited generalizability of findings" (Creswell, 2009). One limitation of this study is that it is small in terms of scale, involving a sample of 19 learners. The number of learners participating in the study could be a limiting factor, as results could vary with a larger number of participants. It is limited to those learners who are attending the Multimedia programme based in the ETB centre in Letterkenny. The research may not be extendable to other courses held in the ETB centre, or in fact to additional ETB centres located around the country, due to the fact that the study is of a unique group in a distinctive situation. Other potential limitations, addressed above bias on part of the learner and researcher.

3.11 Implementation - Data Gathering – Collection Phase

The research was conducted on 3rd of January 2018, with 19 out of 20 (95%) of participants attending the Multimedia programme taking part.

The date and time to meet the cohort was organised in agreement with their course tutor in order not to disrupt the class. During the meeting, the researcher explained the purpose of the research, provided information relevant to consent, and distributed the Information Sheet to the learners. The Consent Form was distributed to those learners who indicated that they were willing to participate in the research. The Information Sheet was retained by the participants, the Consent Form was signed and returned to the researcher. The questionnaire was then distributed to the learners, who completed them immediately upon receipt and returned them to the researcher.

3.12 Implementation - Analysis of the Data

Data analysis is central to credible qualitative research (Maguire and Delahunt 2017), with the researcher requiring the ability to analyse the data in order to discover the meaning behind the research participants responses. Blaxter et al. (2010) assert that interpretation is the process by which you put your own meaning on the data that you have collected and analysed, thereby arriving at your own assessment, recognising the limitations, influences and bias of your own perspective. Maguire and Delahunt (2017) state that Thematic Analysis is the process of identifying patterns or themes within qualitative data and is a method rather than a methodology (Braun & Clarke 2006; Clarke & Braun, 2013) and is not tied to a particular epistemological or theoretical perspective, making it a flexible method onto which analysis may be framed (Maguire and Delahunt 2017).

Using Braun & Clarke's (2006) six step framework and the data gathered from the questionnaire, the responses were transferred into a spreadsheet aiming to reduce the amount of data into useful and relevant data that could be interpreted. The study data was summarised using Microsoft Excel 2016. All data was presented graphically using column, bar or pie charts.

3.13 Evaluation - Questionnaire Section A: Gender and Age Profile

Seventeen males and two females participated in the research. The majority of the respondents were male (89%) followed by the minority, female (11%).

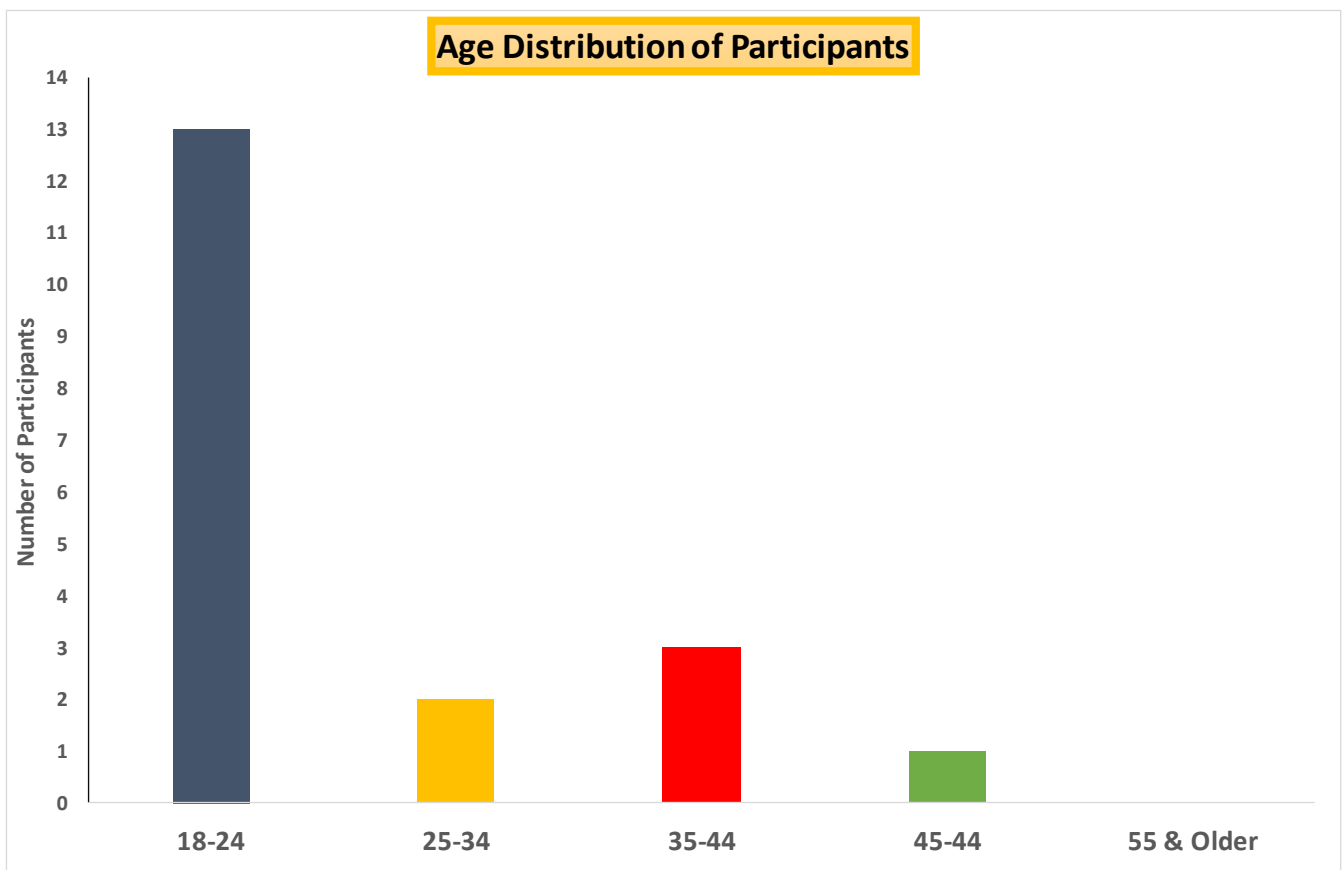


Figure 3.1 Age Distribution of Research Participants.

The age profile of the participants illustrates that those aged between 18-24 years old make up the majority of this particular student cohort (68%), followed by those aged 35-44 (16%), those aged 25-34 (11%) and those aged 45-54 (5%). There were no participants in the 55 and older age band. These results confirm that the majority of learners attending the Multimedia programme are in the 18-24 age range and are male.

Section A Questionnaire Evaluation: Perceptions of the Virtual Learning Environment.

Learners were asked to choose the degree of agreement or disagreement with each of the eight statements in Section A, listed Q1-Q8.

Q1: Using the online material is an effective way to learn about the assigned module.

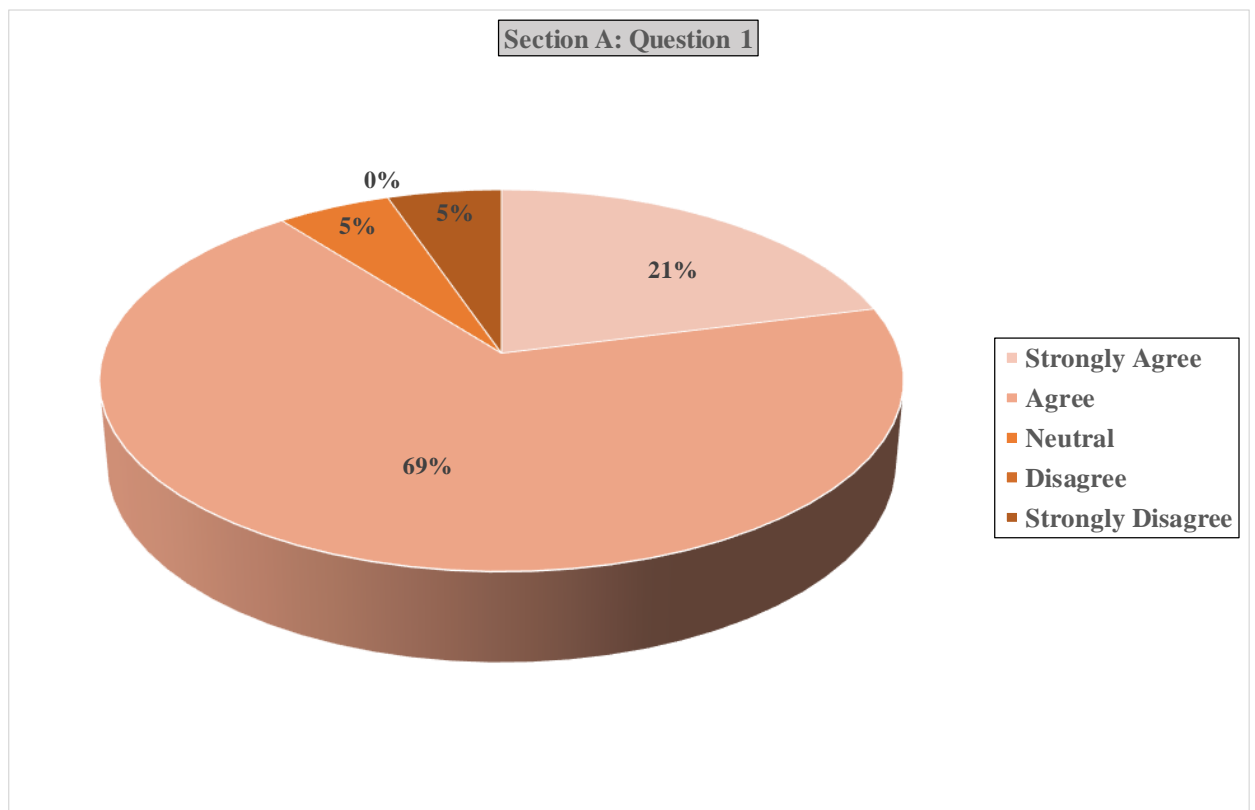


Figure 3.2 Research Participants Responses to Question 1

The majority of the participants, (69%), recorded strong agreement with this statement, with (21%) recording agreement. A minority of learners selected ‘Neutral’ (5%) and ‘Disagree’ (5%), with none selecting ‘Strongly Disagree’. These findings are positive in that the majority of learners considered the use of online material as an effective way to learn about the assigned module.

Q2: There is flexibility, convenience, and ability to complete modules at my own pace.

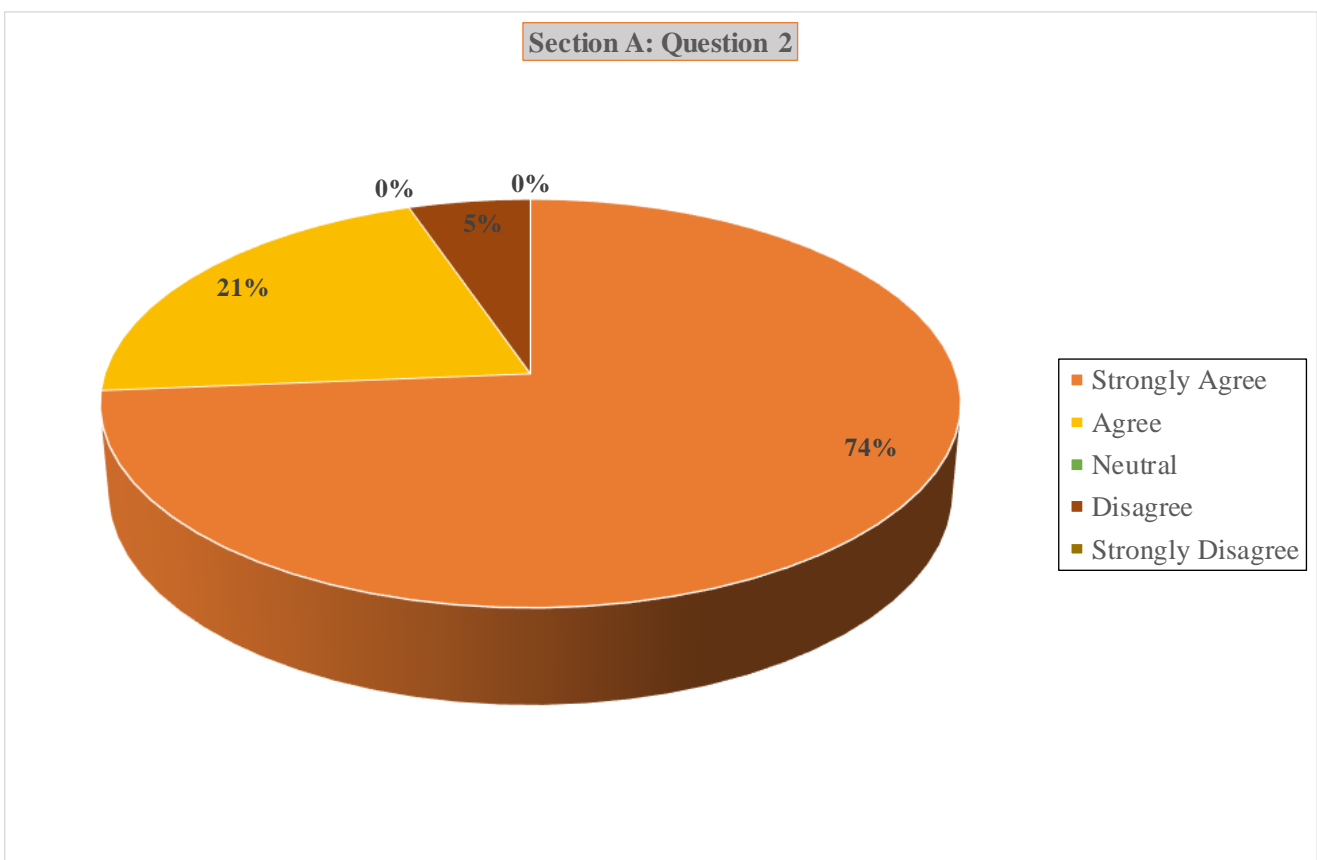


Figure 3.3 Research Participants Responses to Question 2

The majority of the participants (74%) recorded strong agreement with this statement, followed by (21%) selecting ‘Agree’. A minority of learners (5%) recorded disagreement with the statement, with no learners selecting the ‘Neutral’ or ‘Strongly Disagree’ options. These findings are positive in that the majority of learners (95%) regarded the flexibility, convenience and own pacing / self-directed learning of the modules as a benefit of their learning

environment. The findings are in line with the research of Song et al (2004), who identified flexibility, convenience and self-directed learning as strengths of blended online learning environments.

Q3: Online content uses a variety of sources that assisted in my learning (online demonstrations, quizzes, links to websites).

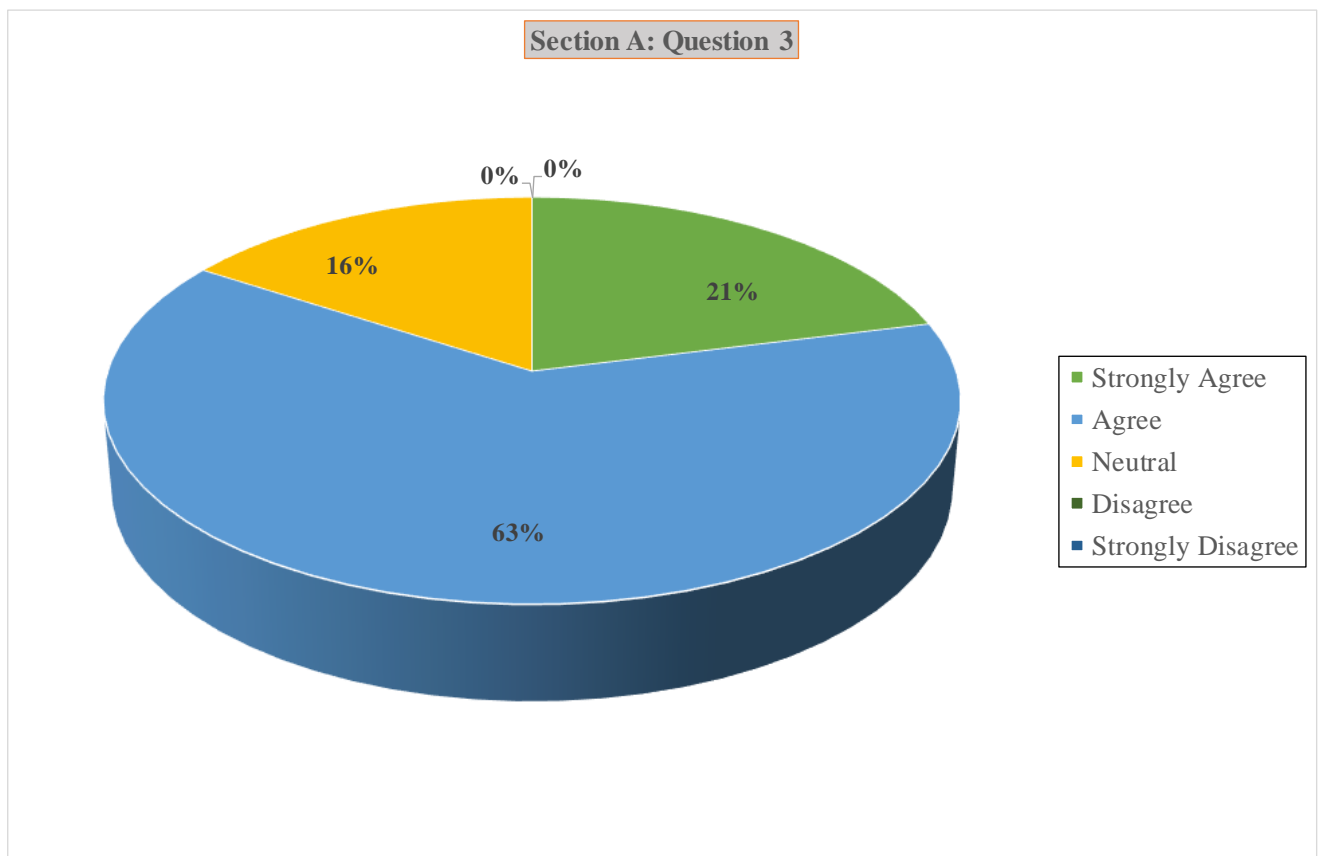


Figure 3.4 Research Participants Responses to Question 3

The majority of the participants (63%) were in agreement with the statement. This was followed by (21%) stating strong agreement. A minority of learners (16%) stated they were ‘Neutral’, with no learners selecting ‘Disagree’ or ‘Strongly Disagree’. The findings are positive in that the majority of learners (84%) agreed or strongly agreed that online tools such as quizzes, websites, and demonstrations assisted in their learning.

Q4: I was satisfied with the content available online.

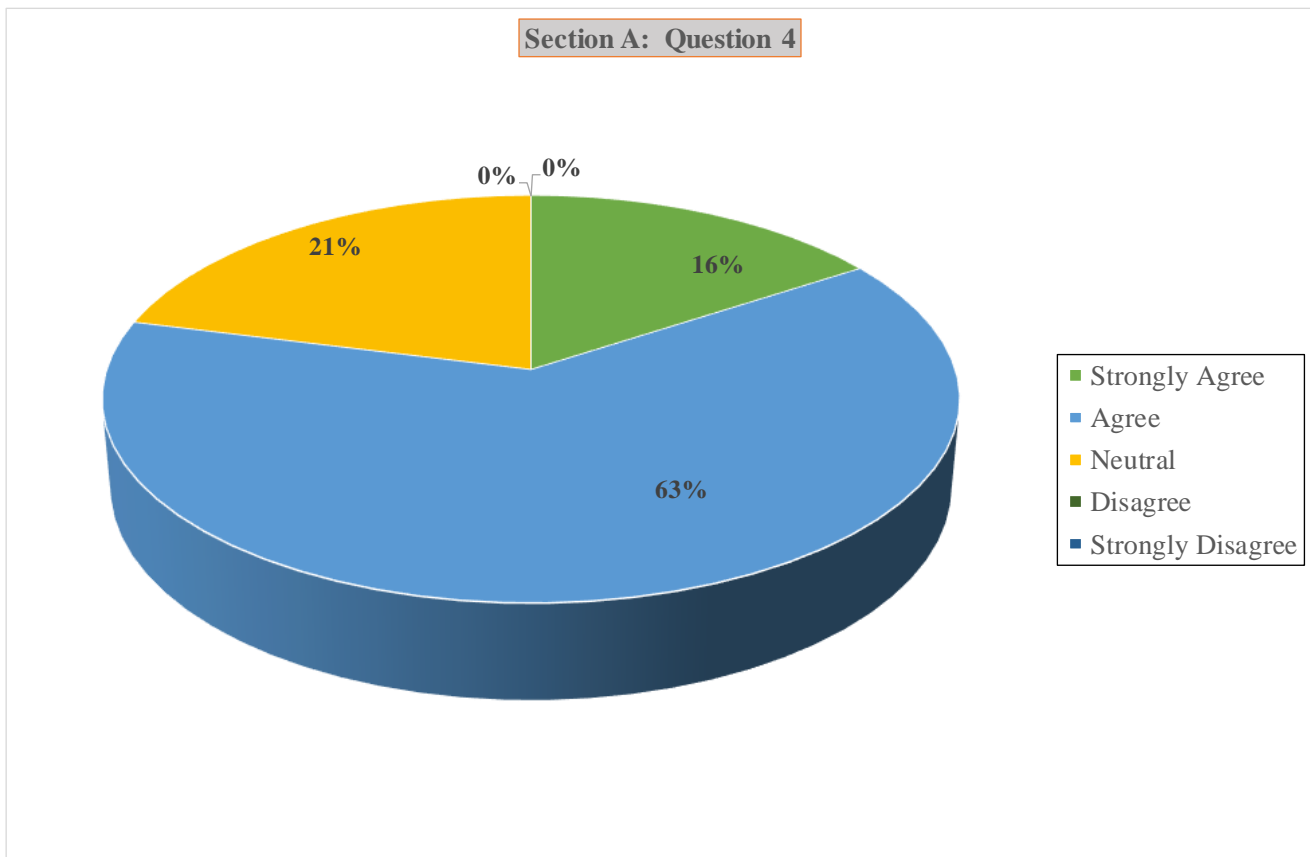


Figure 3.5 Research Participants Responses to Question 4

The data demonstrates the majority of the participants, (63%), agreed with the statement, followed by (21%) stating strong agreement. A minority of learners, (16%), stated they were 'Neutral', with no learners selecting 'Disagree' or 'Strongly Disagree'. The findings are positive as the majority of learners (84%) reported they were satisfied with the content made available online to assist in their learning.

Q5: The programme format makes it easier to meet my learning goals.

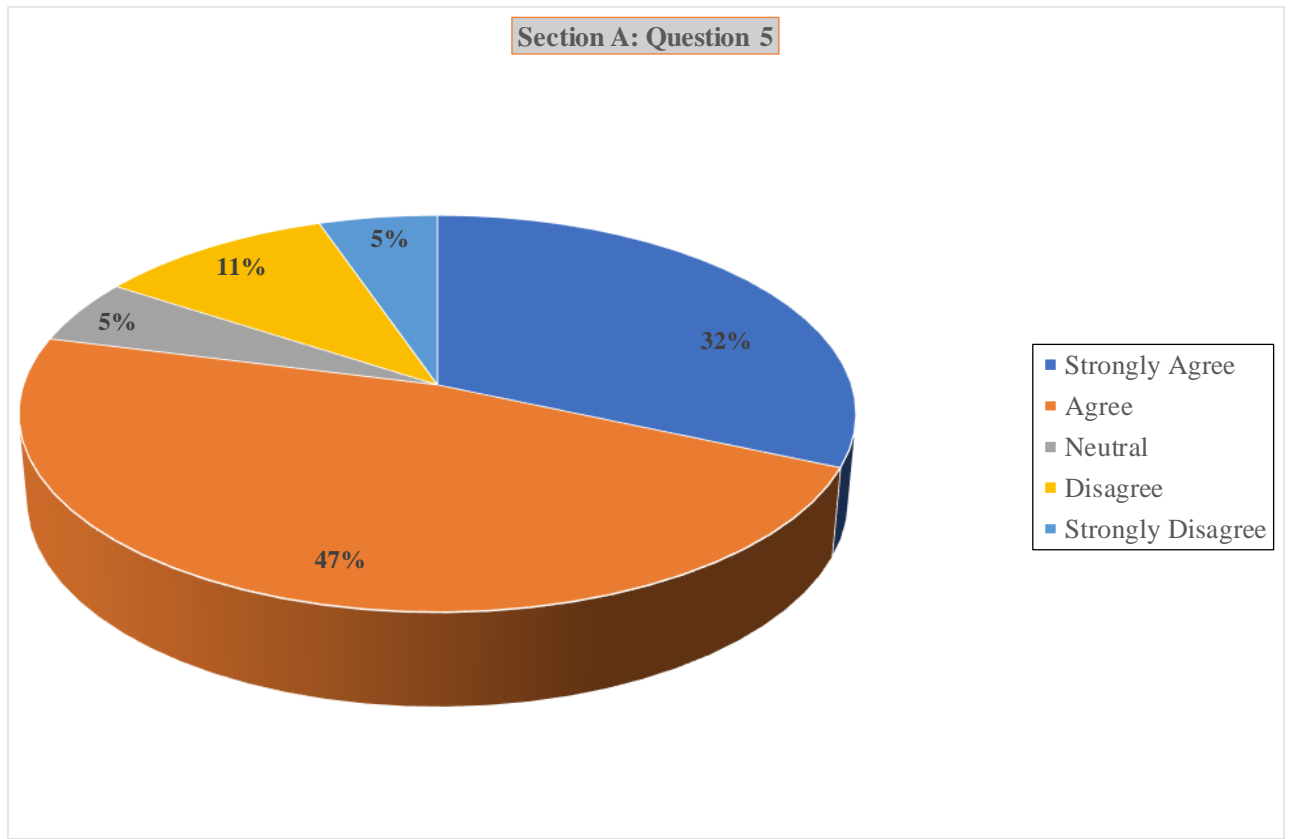


Figure 3.6 Research Participants Responses to Question 5

The majority of the respondents (47%) agreed with the statement, followed by (32%) stating strong agreement. In disagreement with the statement were (11%) of respondents. The minority of learners (5%) stated they either disagreed or were neutral with the statement. The findings are positive in that the majority of learners (79%) appreciated the format/design of the programme in making it easier for them to meet their learning goals. The positive result may be due to the design of the programme. Learners are encouraged to clarify their expected learning and qualification outcomes which are then matched with programme content. As part of this process each learner attends an interview with the programme tutor. An individualised learning plan (ILP) is created based on their learning goals. The ILP is revised each month as the learners work through their selected modules.

Q6: The programme content has given me skills relevant to the job market (Information Technology, ECDL, Programming languages).

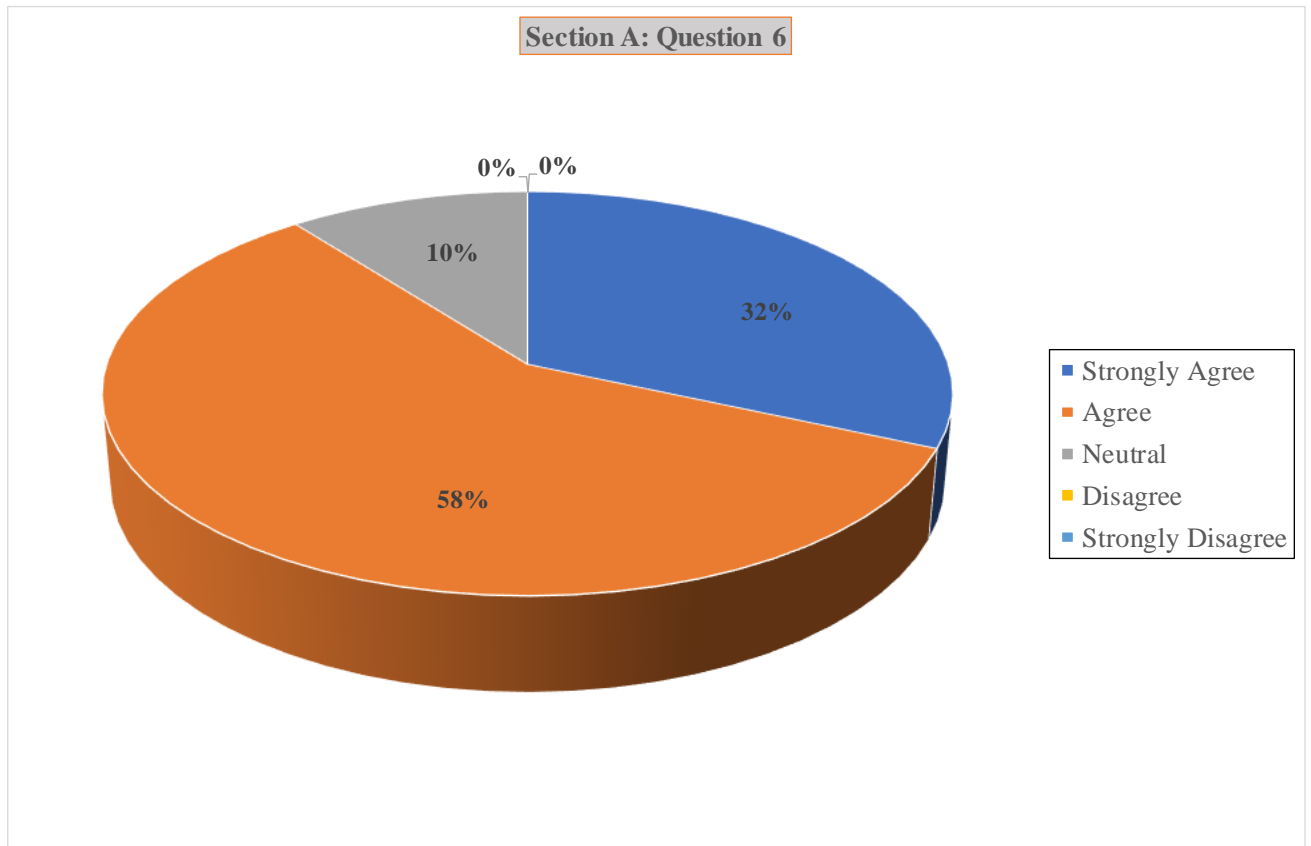


Figure 3.7 Research Participants Responses to Question 6

It was found that the majority of participants (58%) agreed with the statement. Strongly agreed was selected by (32%). A minority of learners (10%) selected 'Neutral', with no learners selecting 'Disagree' or 'Strongly Disagree'. These findings are positive in that the majority of learners (90%) felt the programme content had furnished them with skills relevant to the job market. This positive result may be due to the design of the programme as the course is tailored to meet the current skills sought by employers. The skills in demand by employers range from up-to-date Information Technology (IT) skills, interpersonal skills and teamworking, through to more technical skills such as software development.

Q7: The learning environment promoted greater student participation and interaction.

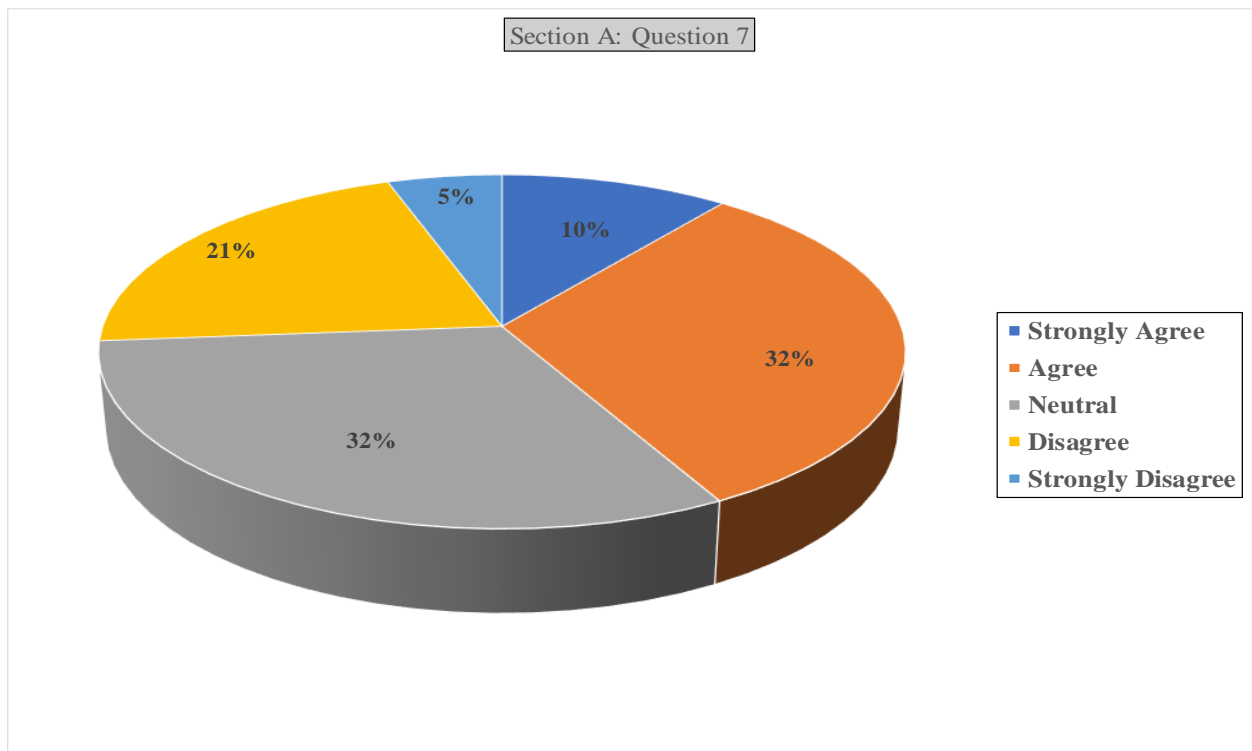


Figure 3.8 Research Participants Responses to Question 7

The data gathered in this statement found a 50/50 split (32%) in reply to agreeing or neutral in their responses to the statement. Disagreement was selected by (21%), followed by (10%) strongly agreeing. A minority of respondents (5%) strongly disagreed with the statement. These findings are neither negative or positive. The results are interesting as they indicate the majority (64%) of learners did not necessarily find the learning environment promoted greater student participation and interaction. The 50/50 response is noteworthy and may be due to the design of the programme. The self-directed nature of the programme requires learners to be active participants in their own learning and may not suit all learning styles. Brown (1996) has highlighted a learner's sense of isolation as one of the potential pitfalls of this type of learning environment.

Q8: I would attend a blended learning programme again.

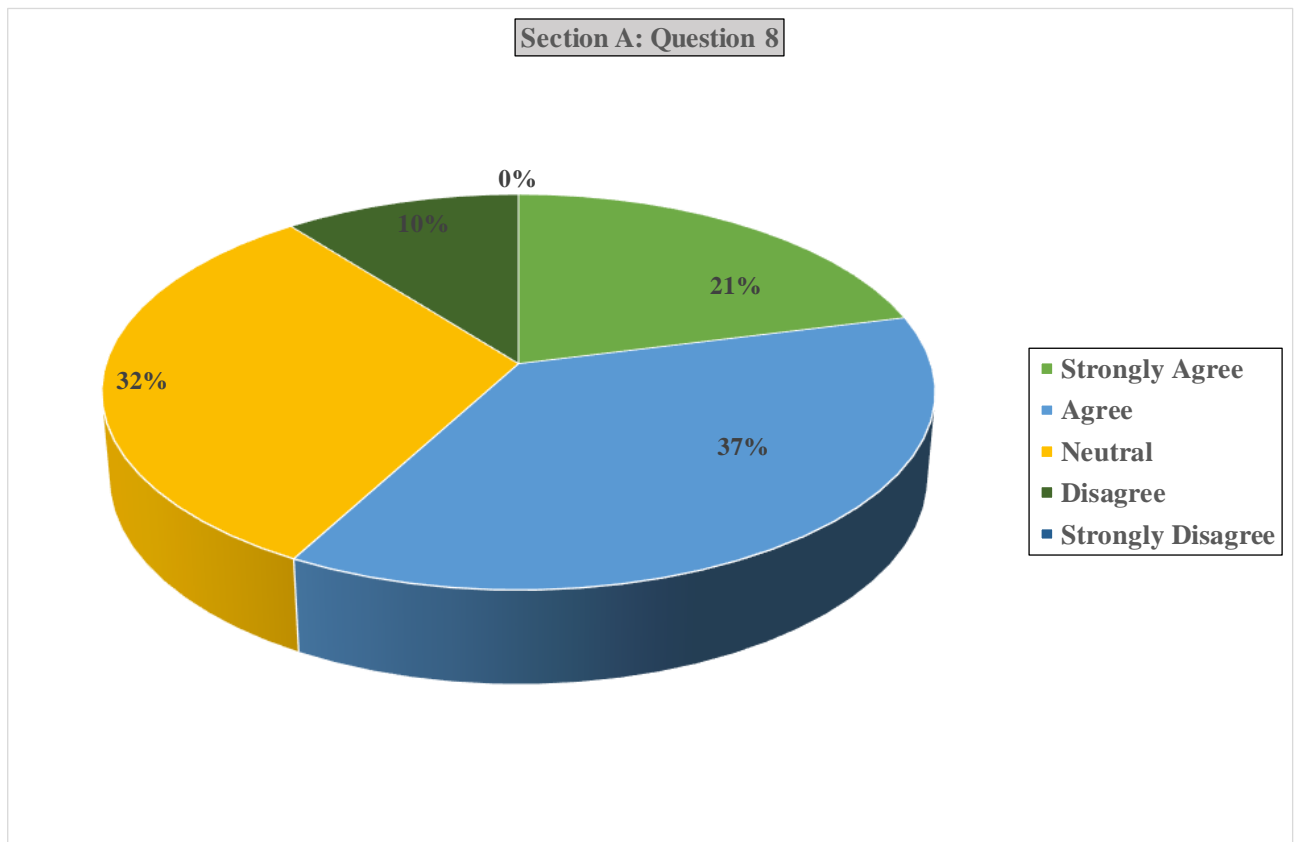


Figure 3.9 Research Participants Responses to Question 8

A majority of participants (37%) recorded agreement with this statement, followed by (32%) recording a 'Neutral' response and (21%) selecting the 'Strongly Agree' option. A minority of learners (10%) signalled disagreement with this statement, with no learners selecting 'Strongly Disagree'. These findings are positive in that the majority of learners (58%) said they would attend a blended programme again. The neutral response (32%) is interesting as it shows that the VLE environment does not suit all learning styles.

Open-ended Questions

Section A also contains two open-ended questions (Q9 & Q10). The following themes emerged from the results.

Question 9: What do you think is or might be the greatest benefit of this type of learning environment?

Fifteen respondents out of nineteen (79%) elected to answer Q9 and four (21%) chose not to do so.

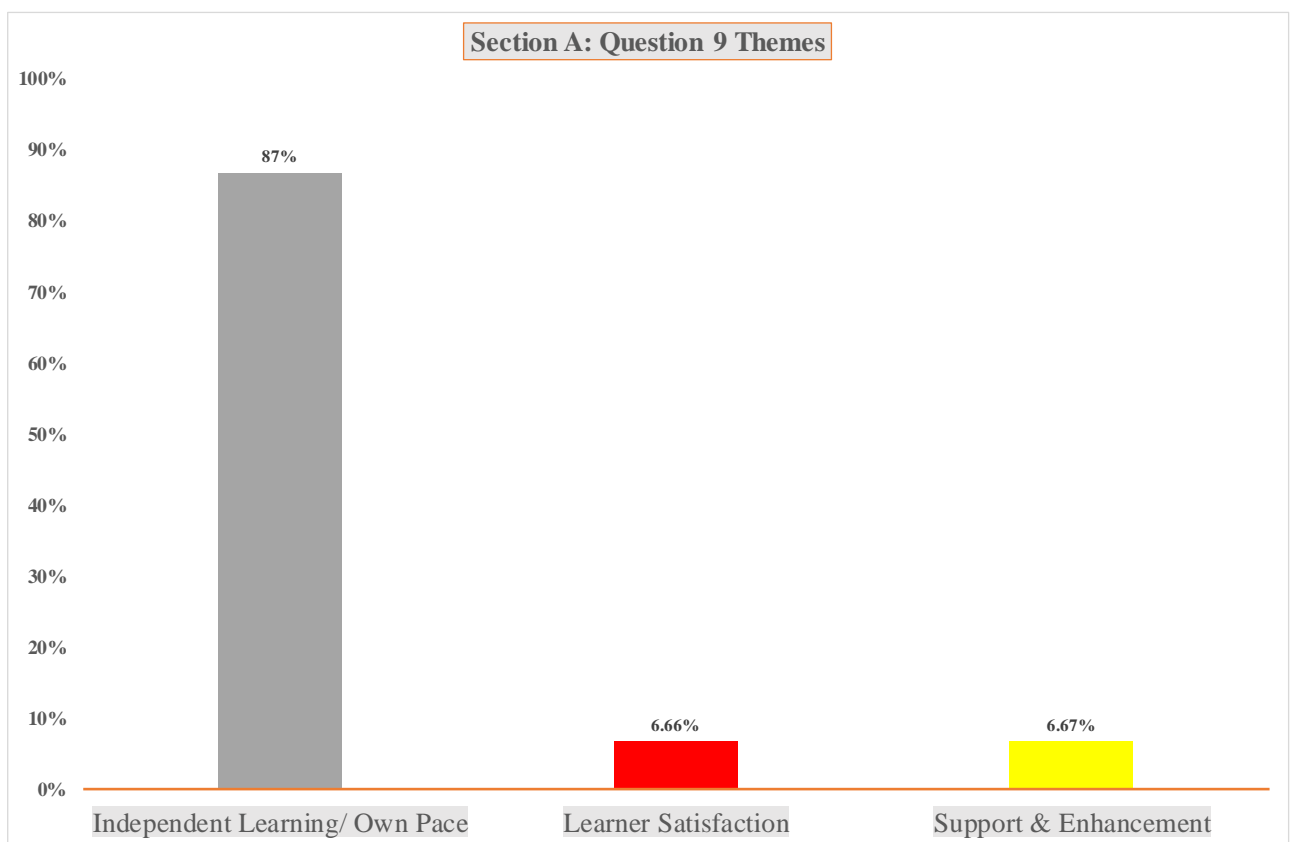


Figure 4.0 Analysis of Research Participants Responses to Question

Themes - The three themes that have emerged from the data are Independent Learning, Learner Satisfaction and Support and Enhancement. The data reveals the majority of participants (87%) considered the opportunity to learn at their own pace to be one of the main benefits of their learning environment and correlate with positive result found in Q2, where (74%) of the respondents regarded the flexibility, convenience and own pacing / self-directed learning of the modules as a benefit of their learning environment. The two other categories were split equally (6.66%) were satisfied with the variety of online course material. Learners considered the material to be of benefit as it helped to increase their skill set and correlate with the findings in Q4, where (63%) of learners liked the variety of sources that the online content contained to assist in their learning. Learners responses show that (6.67%) appreciated support and enhancement of their learning experience. Learners stated they could seek help from the tutor when required and valued the instant feedback received from online exams and quizzes.

Independent Learning

The results suggest that the participants valued their learning environment due to the focus being on giving learners choice in the pace, place and mode of their learning. Responses from learners included: “I like the independent learning, I can study at my own pace, I don’t feel in competition with other learners”; “I enjoy working at my own pace without the work mounting up”; “I like working on my own, learning on my own and at my own pace”; and “You can study at a time that suits, e.g., morning, evenings”. The findings appear to correspond with the research from MacHemer et al (2007); Boyer, (1990); Garnham & Kaleta, (2002); Owston, Wideman, Murphy & Lupshenyuk, (2008), & Smyth, Houghton, Cooney, & Casey, (2012). Their literature asserts that a self-directed learning environment gives learners the power and responsibility to make decisions about what and how they will learn at a pace that suits them. Additionally, Song et al (2004), identified flexibility, convenience and self-directed learning

as strengths of blended online learning environments. Furthermore, in a recent study from Poon (2013), learners reported blended learning as a method that allowed them to study at their own pace and time and encouraged them to become more independent in regard to their own learning.

Learner Satisfaction

The data demonstrates (6.66%) of the respondents signalled their appreciation of the provision of online course material on the basis that it facilitated access to learning resources on an around-the-clock basis. A response from a learner included quoting “I think online course material helps with upcoming tests, as you can practice the exercises as many times as you like”. Another quoted “It’s easier to learn and work through each section, you can skip forwards and backwards to recap on learning”. The comments from learners agree with the research from Heaton-Shrestha et al (2007) who considered online material to improve the effectiveness of learners due to access to materials, notes, hints, tips, and websites. Additionally, Picciano (2002) & Watkins (2005), suggest that learning by doing - learners adding to their knowledge by partaking in an activity/exercise that reinforces their previous learning, has been found to result in positive learning outcomes. Johnston et al (2005) & Pallof & Pratt (2003) emphasise that when learners actively engage with and learn from the interactive online material, they build their knowledge in the process.

Support and Enhancement

The learner responses (6.67%) indicate the importance of support and enhancement in the learning process. Learner responses included “There is help from the tutor when I need it” and “I like the instant feedback from online tests, as you know how you have done, it makes you feel proud”, “I felt the tutor knew how to use all of the programmes which helped when showing me how to complete a task”. The positive comments from participants demonstrate

the importance of interaction and feedback between tutors and learners. The findings correspond with the research of Yen & Lee (2011), who suggest learner learning experiences are enhanced when there is increased interaction between tutors and learners and in the receiving of prompt feedback. Additionally, by encouraging active learning and giving prompt feedback a tutor is addressing several of the educational principles introduced in the literature of Chickering and Gamson (1987). These findings are positive in that the majority of learners (74%) regarded the flexibility, convenience and own pacing / self-directed learning of the modules as a benefit of their learning environment. The findings correlate with the findings in Q9 where independent learning was identified as one of the themes emanating from the responses. Accordingly, one of the respondents quoted “I enjoyed learning at my own pace and in my own time”.

Question 10: What do you think is or might be the greatest drawback of this type of learning environment?

Fifteen respondents out of nineteen (79%) elected to answer Q10 and four (21%) chose not to do so.

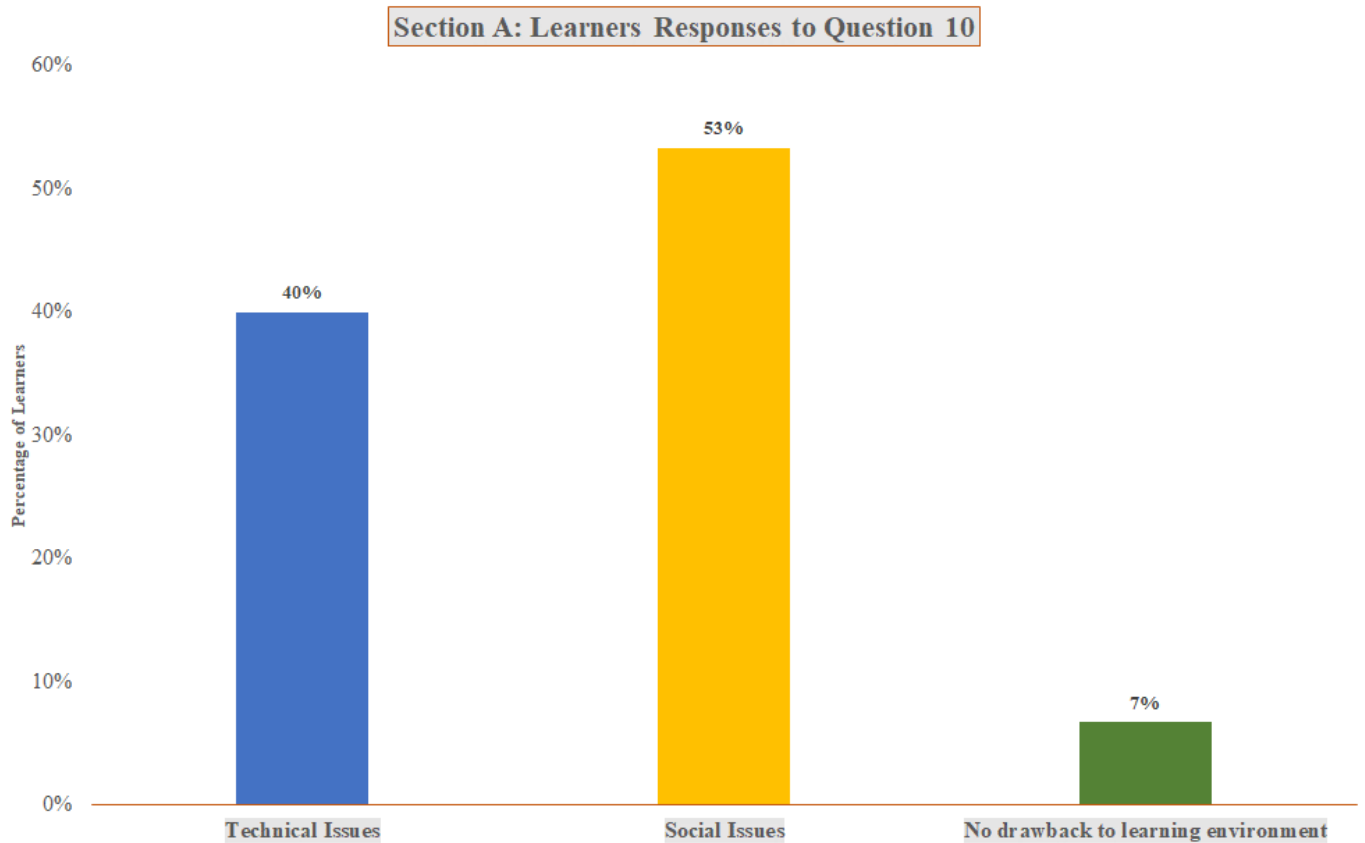


Figure 4.1 Analysis of Research Participants Responses to Question 10

Assessment of question 10 has highlighted the drawbacks of the blended learning environment. Two main observations have emerged from the data and include Technical and Social Issues. The data reveals the majority of participants, (40%) encountered problems with the online material in that the resource links were not operational. The majority (53%) were categorised under the Social theme which included responses in reference to isolation and face-to-face teaching. Isolation/lack of interaction appears to be of concern for (36%) of the learners. Other

respondents (17%) noting they preferred face-to-face teaching as opposed to the blended learning environment. No drawbacks were highlighted by (7%).

Technical Issues

Responses from participants (40%) considered technical issues with the online resources, links and system to be a drawback. Learners responses included: “Some of the online questions don’t work and show as unanswered, they seem to glitch”; “Some of the online material is not working for some reason, it’s really annoying as it holds me back”; and “It can be difficult to teach yourself some of the modules online as it sometimes freezes, opposed to being taught directly from a tutor”. These results appear to suggest instructional design is an issue in the VLE. The findings are consistent with research from Muller (2010), who state instructional design of the learning environment is of paramount importance to learners. Muller maintains that effective instructional design should contain system characteristics of functionality that includes resources with links that function in a reliable system that is responsive to demand (Muller, 2010). Equally, Essex & Cagiltay (2001) and Hara & Kling (2000) suggest that learners experience some distress in their online learning environment when they experience technical and communication breakdowns.

Isolation Issues

A high percentage of learners’ responses (36%) considered a disadvantage of their learning environment to be feelings of isolation/lack of interaction with other learners and with the tutor. Examples of respondents’ views in this context include: “I feel isolated from other students. I think you can learn a lot from other peoples’ thoughts and ideas”; “It is a very impersonal form of learning and with every aspect of society becoming further detached from human interaction, I feel this is taking learning in the wrong direction”; and “You are by yourself a lot of the time.

Might be hard for some people”. Other respondents highlighted lack of interaction/ isolation from the tutor to be of concern, stating: “The tutor does not really keep a regular check on the class to see if your stuck and need any help”; “It is easy to lose motivation as there is no pressure from the tutor”; and “I did not like the lack of tutor interaction as it can take longer to find the answer to a question online”. The findings correlate with the research of Bolter (1991); Landow (1992); Murray (1997); & Turkle (1997), who identified interaction with content, tutors and class peers as factors that may affect learning in blended learning environments. They identified all three interactions work together to support learning (Bolter 1991; Landow 1992; Murray 1997; Turkle 1997). Accordingly, Swan et al (2000) asserts tutor interactions and active discussion amongst learners will have a significant impact on the learners’ perceptions of online learning. Race (2005) advocates learner interaction in class to enhance learning because it is motivational and helps keeps learners interested.

Social Issues

A number of respondents (17%) identified a preference for face-to-face teaching as opposed to a blended learning environment. Learner responses included: “Don’t like independent learning – don’t feel supported. Prefer face-to-face teaching”; “When I got stuck on certain things, I had to go onto YouTube to get the answer, I would prefer more tutor help”. The results have highlighted a blended learning environment is not suited to all learners, particularly to those that require more support in their learning. The nature of a blended learning environment is that it is self-directed – the focus moves from teaching to learning with the tutor becoming the “guide on the side” rather than “sage on the stage” (Reigeluth, 1999). A minority (7%), reported no drawbacks to their learning environment. “I feel there are no drawbacks as I like this learning environment”. These findings are interesting but does raise the question are learner’s fully aware of the nature of a self-directed learning environment in that it is an autonomous learning environment where the learners are independent in regard to their own learning.

Perhaps more emphasis should be made of the course requirements at the learner’s initial interview for the course.

3.14 Evaluation – Questionnaire - Section B

Virtual Learning Environment: Support and enhancement of the Learning Experience.

Section B includes four closed-ended questions.

Q1: During the programme, if I encountered difficulties I was able to seek help from the tutor.

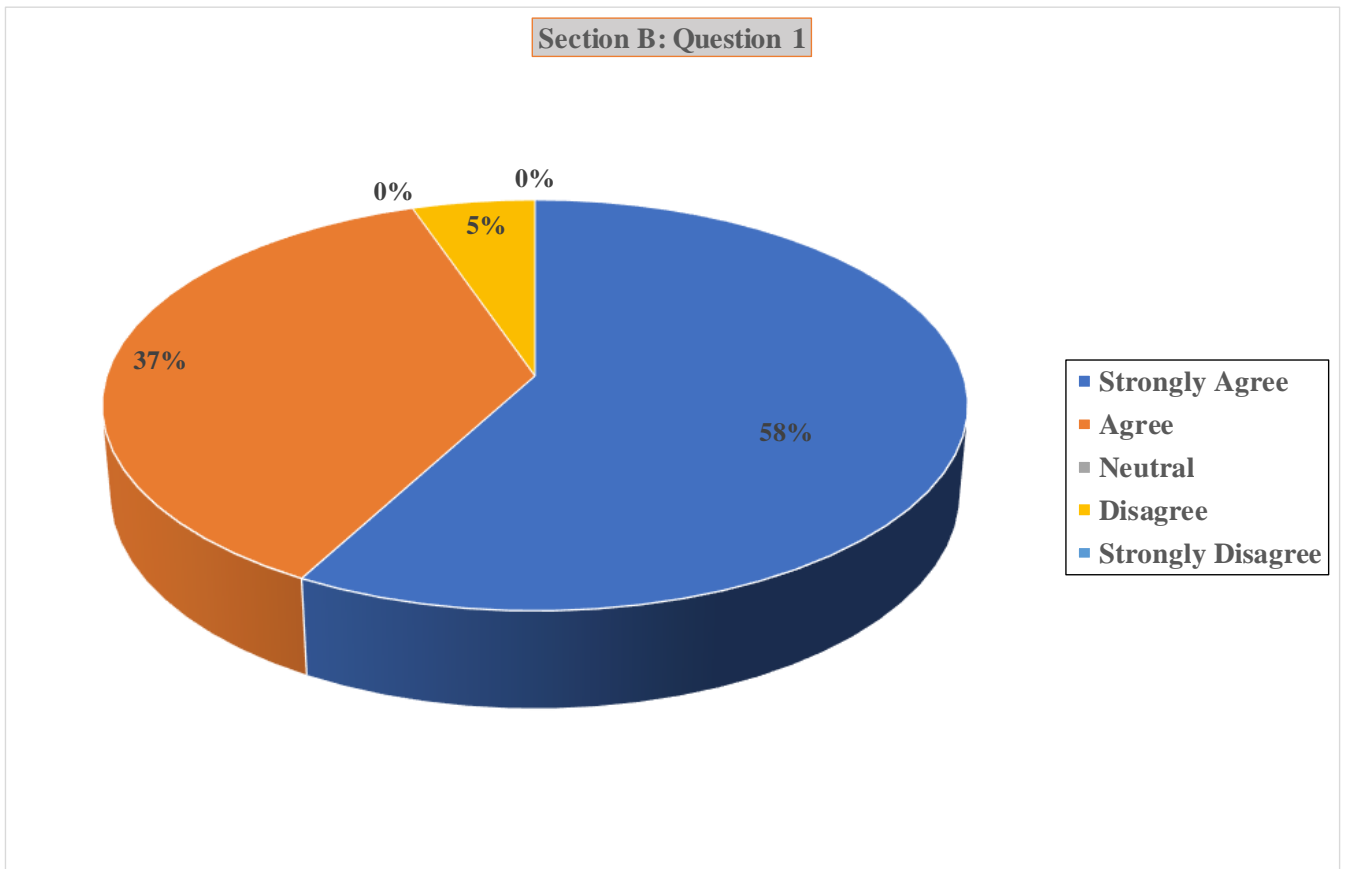


Figure 4.2 Research Participants Responses to Question 1

The majority of the participants (58%) recorded strong agreement with this statement, followed by (37%) signalling agreement. A minority of learners (5%) selected ‘Disagree’, with none

selecting 'Neutral' or 'Strongly Disagree'. These findings are positive in that the majority of learners (95%) revealed that they could seek help from the tutor when needed. The findings show that learner interaction with the tutor is one of the factors that supports and enhances the learning experience. The results are consistent with those of Bolter (1991); Landow (1992); Murray (1997); & Turkle (1997), who identified interaction with tutors as one of the influences that may affect learning in blended learning environments. Of note, the findings correlate with those found in Section A, Q10, where learners indicate the importance of interaction between tutor and learners to be of support in their learning environment.

Q2: Receiving instant grades after taking online exams/quizzes impacted positively on my learning.

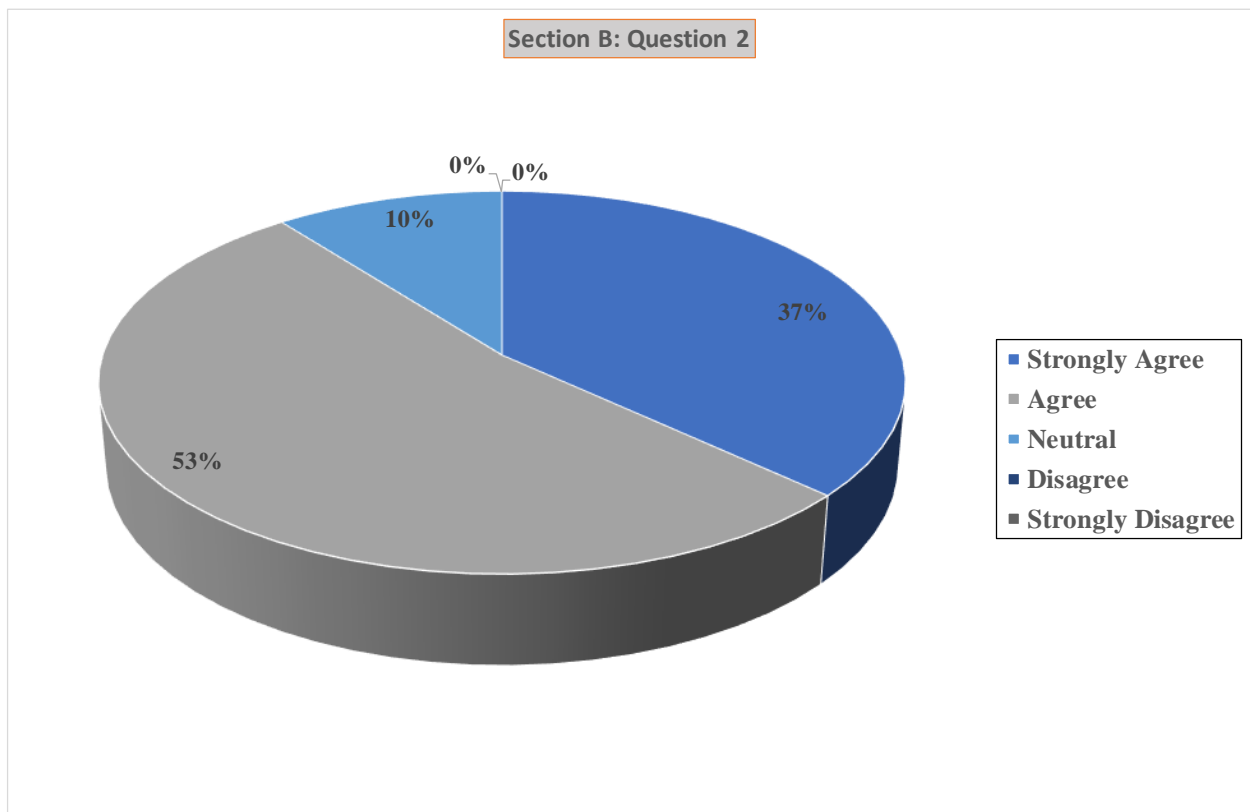


Figure 4.3 Research Participants Responses to Question 2

A majority of participants (53%) recorded agreement with this statement, followed by (37%) in strong agreement. The minority of learners (10%) were neutral, with no learners stating

disagree or strongly disagreeing. These findings are positive in that the majority of learners (90%) valued the instantaneous results received from online exams/quizzes to have a positive impact on their learning. The results are reinforced by the research of Donnelly (2010); Sharpe et al (2006); Wang, Shen, Novak, & Pan (2009); Woltering, Herrler, Spitzer, & Spreckelsen, (2009), whose results emphasise the significance of receiving immediate feedback when it comes to providing learners with the opportunity to become more involved in the learning process, thereby enhancing their motivation, commitment and perseverance. Additionally, Poon (2013) asserts that the provision of prompt feedback can enhance learners' learning experiences.

Q3: The instructor understood the virtual learning environment and made it easy to learn.

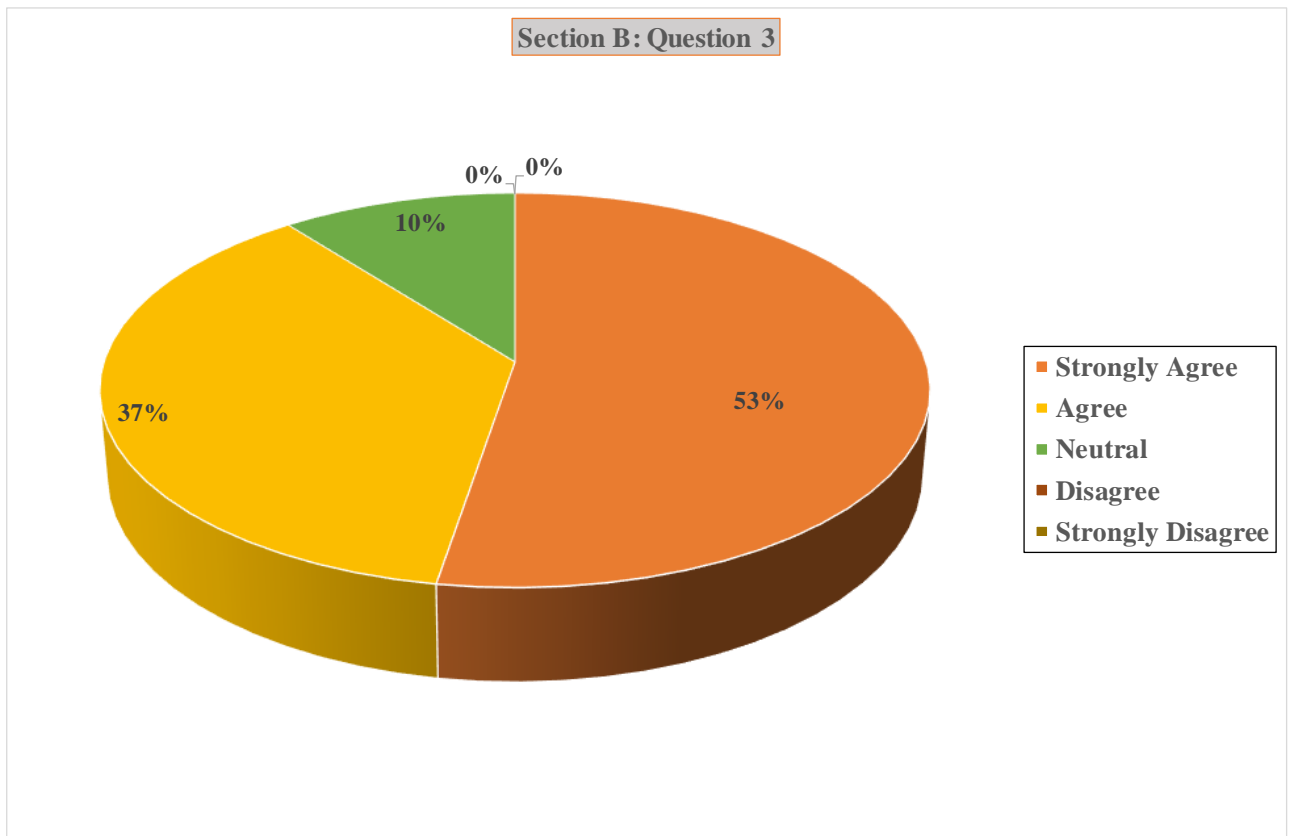


Figure 4.4 Research Participants Responses to Question 3

The majority of the participants (53%) selected 'Strongly Agree' in response to this statement, followed by (37%) in agreement. The minority of learners (10%) were neutral, with no learners

stating disagree or strongly disagree. These findings are positive in that the majority of learners, (90%), point out that the instructor understood the virtual learning environment and made it easy to learn. The results show the necessity for the tutor/instructor to be fully conversant with the learning environment in order to be able to support learners. This is one of the challenges highlighted in the studies of (Aldrich, 2006, Dalhstrom, Walker, and Dziuban, 2013), who imply that designing an effective blended learning environment can be difficult as learners and tutors often are required to acquire new skills in order to use it purposefully.

Q4: I valued the online environment more than the face-to-face environment.

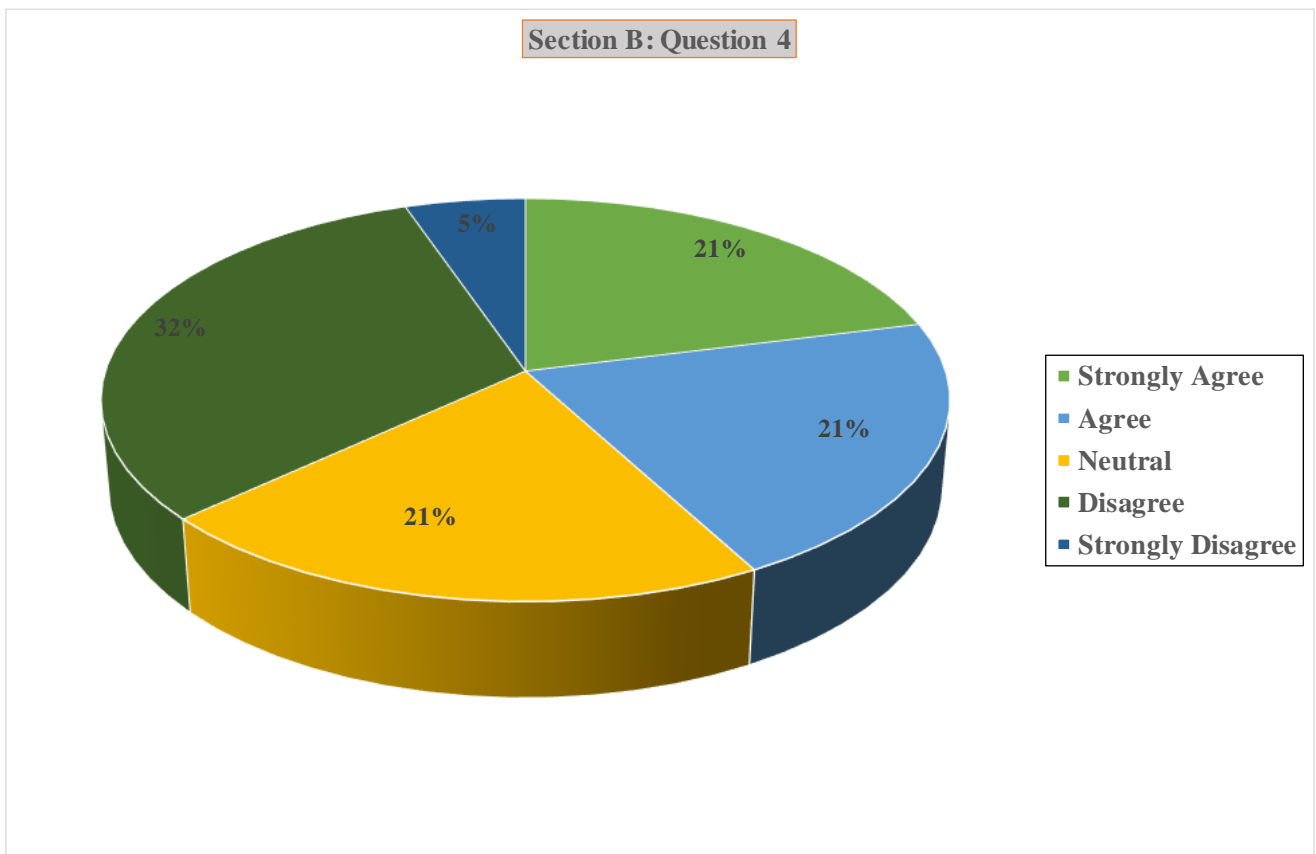


Figure 4.5 Research Participants Responses to Question 4

The data gathered in Q4 found the majority (32%) disagreed with this statement. Equally split (21%) were the replies strongly agree, agree and neutral. The minority (5%) returned strong

disagreement with the statement. These findings are predominantly negative as the majority, (37%) disagreed with the statement, demonstrating that learners did not necessarily value the online environment more than face-to-face teaching. The results show a relationship with the findings in Q10 where (14%) of learners identified one of the drawbacks of the learning environment is a preference for face-to-face teaching as opposed to the blended learning environment. Bowyer (2017) clarifies this point in defining blended learning as a mixture of online and face-to-face learning – therefore, a blended learning environment may not suit all learning styles, particularly those learners that require more support. Correspondingly, in the research conducted by Poon (2013), findings highlight learners desire to receive clearer guidance, demonstrations and training of how to use the online learning resources for them to fully engage with a blended learning environment.

3.15 Evaluation – Questionnaire - Section C

Virtual Learning Environment: Differences/Trends - Motivation

The purpose of section C is to ascertain whether there is a correlation between age and levels of motivation increasing or decreasing over the course period.

Section C: Question 1

How long have you been attending the Multimedia Programme?

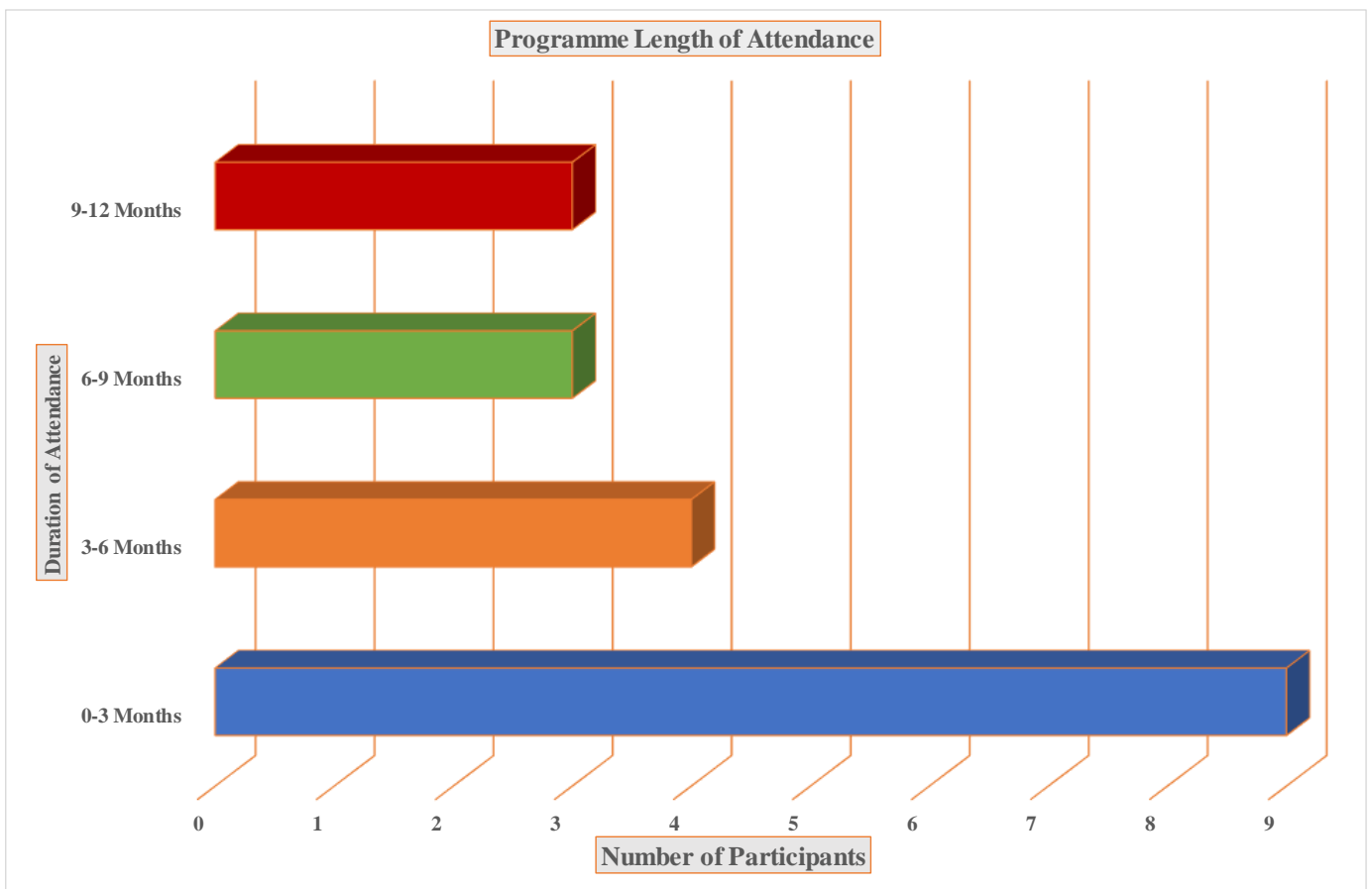


Figure 4.6 Research Participants Responses to Question 1

Figure 4.6 demonstrates the length of attendance of the course. The majority (47%) nine learners attended for 0-3 months. Four learners (21%) attended for 3-6 months. Three learners (16%) attended in the 6-9 months range, and (16%) attended in the 9-12 months range. The results show the majority of learners (47%) attended the course for 0-3 months and of those (83%) were male, (17%) were female.

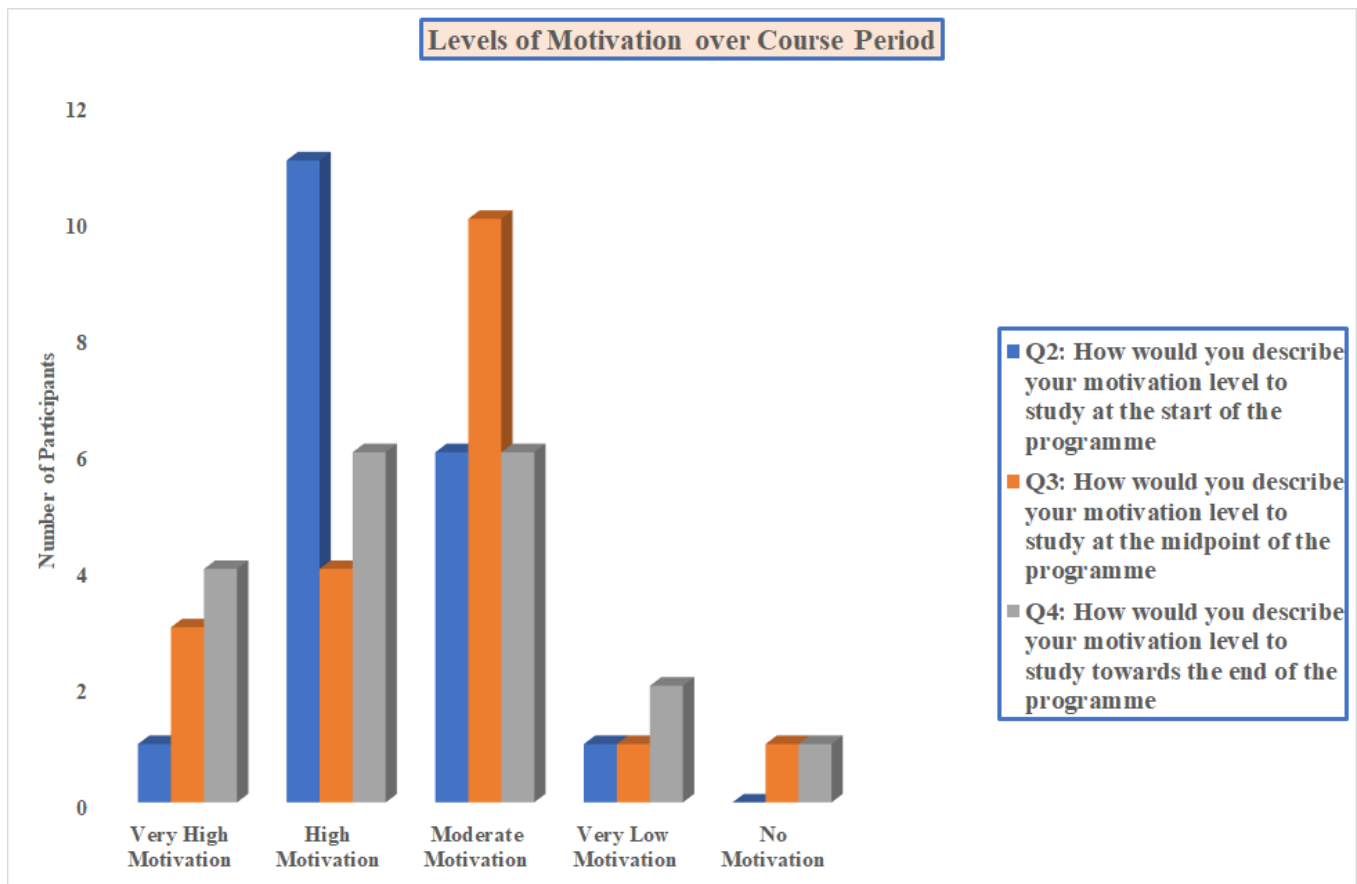


Figure 4.7 Research Participants Responses to Question 2-4

Question 2: How would you describe your motivation level to study at the start of the programme?

The data gathered in question two found the majority (58%) displayed high levels of motivation at the start of the programme. Moderate motivation was recorded as (32%) with the minority of responses stating either very high (5%) or very low (5%). No respondents record no motivation.

Question 3. How would you describe your motivation level to study at the midpoint of the programme?

The majority of respondents (53%) recorded moderate motivation at the midpoint of the programme. High motivation was (21%) with (16%) displaying very high motivation. The minority of responses stating either very low (5%) or no motivation (5%). No respondents record no motivation.

Question 4. How would you describe your motivation level to study towards the end of the programme?

Question four shows an equal split (32%) between high and moderate motivation. Very high motivation is recorded by (21%) of respondents with (10%) stating very low motivation. The minority (5%) display no motivation at all.

Levels of Motivation

The results suggest that there are variances in motivational levels over all time frames.

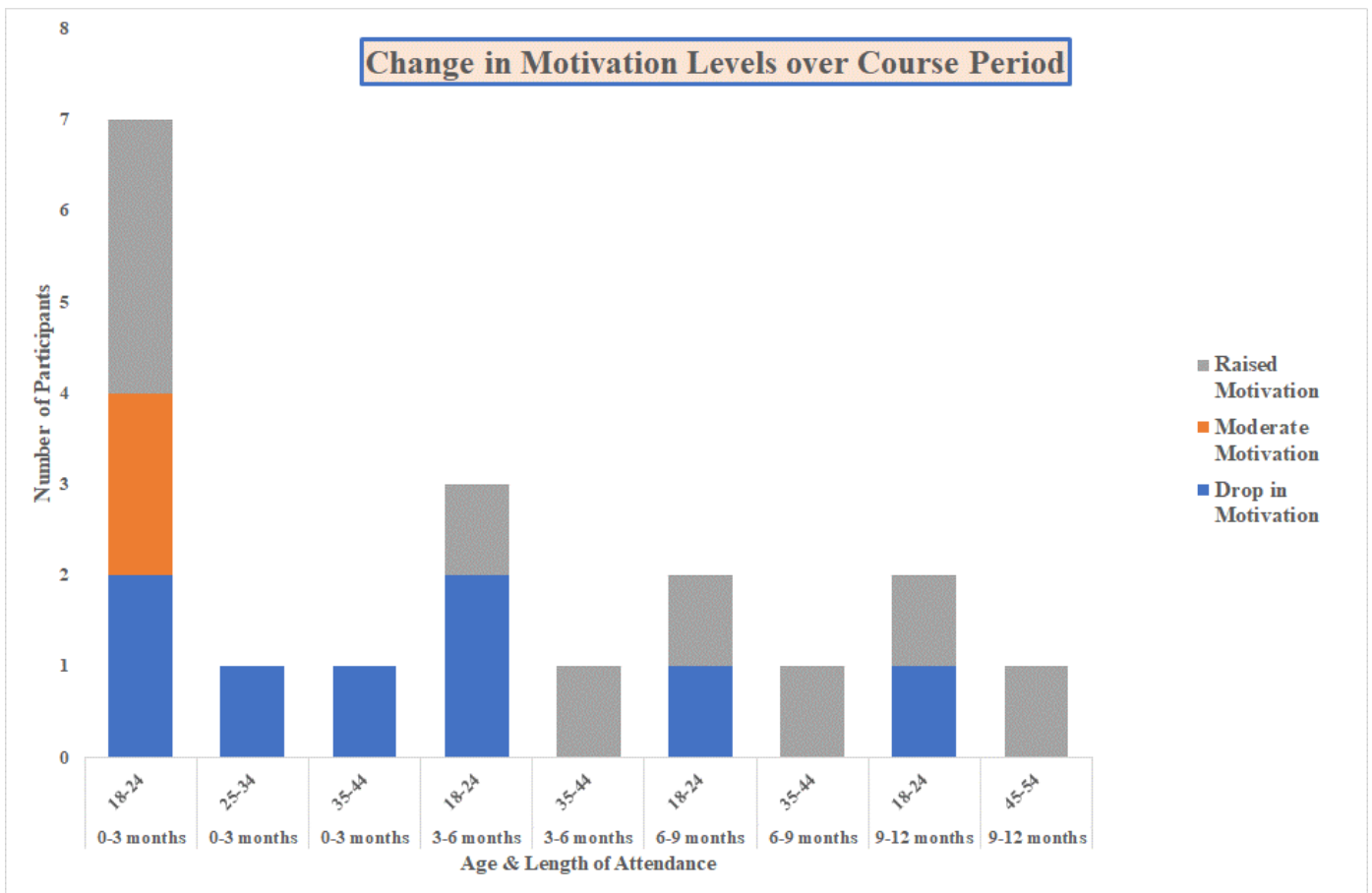


Figure 4.8 Analysis of Age & Motivational Levels over Course Period

The findings reveal there is a correlation between age, length of attendance and motivation as demonstrated in the learners' responses.

Length of attendance 0-3 months: The majority of learners (43%) within the age range 18-24 stated a raise in their motivational levels over the period with occurrences of dropped or moderate motivation equally at (29%). There was one learner in each of the 25-34 and 35-44 age both stated a decrease in their motivational levels. The responses to Q2-4 highlight those in the age range 18-24 (43%) seem to favour the learning environment as they reported high levels of motivation at the start of the course. The older age ranges show a decrease in their motivational levels. The findings may be due to the younger age range finding the learning environment suited their style of learning, whereas the older age range may have found the learning environment to be challenging in that the learning is self-directed, their previous learning experiences may have been in traditional face-to-face teaching environments.

Length of attendance 3-6 months: The majority (67%) within the 18-24 age range stated a drop in their motivational levels over the period with one learner stating a raise (33%). There was one learner in the 35-44 age range stating an increase their motivational levels. The data highlights that those in the age range 18-24 (67%) had a significant decrease in their levels of motivation in comparison to the start of the course, whereas the older age ranges show an increase. The findings may be due to the younger age range 18-24 finding the learning environment requires a sustained level of motivation and determination to consistently achieve results. Furthermore, other factors such as reason to attend the course perhaps for professional development or to meet external expectations of parents or peers, may have has an impact on the levels of motivation. Motivation in the age range 25 upwards may be related to the learners favouring the self-direction of the learning environment. Additionally, they may be more driven to gain knowledge. Motivation of adults returning to education was researched by Houle (1961) who identified three learner types, goal orientated, activity orientated and learning orientated in terms of their motivation. Houle indicated that adult learners had an internal drive for knowledge that sets them apart from younger learners.

Length of attendance 6-9 months and 9-12: The findings are consistent over both time frames. For both time periods within the 18-24 age range the findings are split equally (50%) between a drop or raise in their motivational levels over the period. There was one learner in the 35-44 and 45-54 age range stating an increase their motivational levels. The data highlights that those in the age range 18-24 (100%) had either an increase or decrease in their levels of motivation in comparison to the start of the course, whereas the older age ranges show an increase. The findings may be due to the younger age range whose motivation had increased may have done so towards the end of their course and the realisation that their motivational levels had a direct connection with the results they could achieve. Whereas those who levels had decreased may have found the learning environment requires a sustained level of motivation and determination to consistently achieve results. Again, those in the older range who had shown levels of increase may have adjusted to the change in teaching environment and favoured the self-direction of the learning environment.

Question 5: Do you feel the learning environment helped to keep you motivated?

A majority of participants (89%) of the respondents answered question 5. The minority (11%) did not respond.

High Levels of Motivation: Responses from learners (58%) to question five demonstrate the learning environment to have a positive effect on motivation levels as demonstrated in the following examples: “Yes. I set my own personal goals, discussed these with the tutor and then pursued the modules to achieve these goals”. Another quoted “I think the environment is very good for motivation because you have your own space to work and learn” Additionally, “Yes I did, as week by week passing exams makes you feel proud and keeps you motivated”, and “Being interested in the subject keeps you motivated to get a good result. You need to keep a timetable for study time to keep going”.

These positive responses agree with the research from Mayer (2011) who emphasised motivation to be a heavy influencer to learning. Mayer's opinion is endorsed in the research of Ryan and Deci (2000) who state motivation combines conscious and unconscious factors that stimulate the desire in learners to be continually interested and committed to their study. They suggest performance outcomes are affected by motivation, engagement, desire to succeed, and expectations of the learner and their peers and are all contributing factors in successful learning (Ryan and Deci, 2000).

Moderate and Low Levels of Motivation: The findings highlight moderate (32%) and (10%) low levels of motivation as depicted in learners' comments "Yes and No. Since it is independent learning I found it hard to be motivated all the time, considering I always had people in college and 3rd level to get motivated from", others included "Yes and No. Yes, as working by yourself helps, no as I like to have interactions with people", and, "Yes in the beginning but no towards the end".

Some learners expressed negative views quoting "In my opinion the learning environment did not help to keep me motivated as overtime it got a bit boring". Another stated "No, I am not satisfied with blended/online learning and prefer a face-to-face learning experience" and, No. The motivation levels were consistent although I found the classroom environment with no contact with other students was very mundane and did not help with motivation".

The findings seem to correspond with the research of Baxter & Hancock (2014), who argue blended/online learning has been associated with learners feeling disconnected with their blended/online learning environment, potentially leading to lower levels of motivation. This outlook was also conveyed by Brown (1996), who maintains that the sense of isolation can be a demotivator. Accordingly, Russell (2013) tells us that when interactions between learners' and tutors are predominately through online communications, the learners' sense a lack of

physical contact with the course and the tutors. Russell states feeling isolated and anxious may lead to a loss of motivation.

Lack of interaction was portrayed in the response from a learner “I found the classroom environment with no contact with other students was very mundane and did not help with motivation”. Isolation was also illustrated in responses from learners in question ten from section A, where the data has shown that (36%) of participants indicated the feeling of isolation and lack of interaction with learners and tutor to be a disadvantage of their learning environment. A learner responding “it is easy to lose motivation as there is no pressure from the tutor”, I did not like the lack of tutor interaction as it can take longer to find the answer to a question online”.

Motivation was highlighted in the literature to be one of the key critical concerns in a VLE (Clayton et al, 2012). The responses to question five have helped to address this concern and to confirm the research of Clayton et al (2012), Mayer (2011), Ryan & Deci (2000), Baxter & Hancock (2014) and Brown (1996), who have highlighted motivation to be of key importance in order for learners to be successful in achieving their learning goals within a blended learning VLE.

4.0 Conclusion/Recommendations

4.1 Conclusion

This paper has investigated learners' perceptions of their Virtual Learning Environment (VLE) and ascertained the extent to which the VLE has supported or enhanced the learning experiences of the learners' undertaking the Multimedia Programme delivered by Donegal Education Training Board. The majority of participants conveyed a positive perception, with a minority pointing out what they considered to be the negative aspects of their learning environment. Based on the findings arising from this research, a number of concluding observations/recommendations can be made in the following key areas: Learner Satisfaction with the VLE; Support and Enhancement; and Motivation.

Learning Satisfaction with the VLE: The results show that the participants valued independence of learning afforded to them in their blended learning environment in terms of the choice, pace, place and mode of learning. The findings correlate with the literature from Garnham et al. (2002), Owston et al. (2008), Smyth et al. (2012) which asserts that self-directed learning environment gives learners the power and responsibility to make decisions about what and how they will learn at a pace that suits them. Indeed, the literature has identified flexibility, convenience and self-directed learning as key strengths of blended online learning environments (Song et al., 2004).

Learner Satisfaction: The majority of respondents signalled satisfaction with the variety of online course material available to them via the VLE, opining that access to learning resources on an around-the-clock basis improved their effectiveness as learners. In particular, participants, emphasised that the online course material such as demonstrations, exercises, and

course notes on how to accomplish tasks helped to increase their skill set as they could practice exercises on multiple occasions and at a time that suited them.

Support and Enhancement: The predominantly positive responses from the learners demonstrate that their learning experience was enhanced due to various factors: The VLE offered choice in terms of pace, place and mode of learning. The tutor was on hand to assist with any issues experienced by the learners, technical or otherwise. Learners receiving instant feedback from taking online exams/quizzes were all important in the context of learners' overall satisfaction.

Motivation: The majority of learners stated they considered the learning environment to have a positive effect on motivation levels as learners indicate the mechanisms that motivated them included being able to set their own goals, being interested in the subject, and receiving instant feedback on results. The positive responses from learners in terms of motivation correlate with research from Mayer (2011) who emphasised motivation to be a heavy influencer to learning. Mayer's opinion is endorsed in the research of Ryan and Deci (2000), who suggest some of the contributing factors that affect motivation are desire to succeed, and expectations of the learner and their peers.

Disadvantages

The results have identified some disadvantages attaching to the learning environment, which are categorised here as Technical and Social Issues.

Technical Issues: Responses from participants imply the majority considered technical issues such as links not working and software glitches as one of the main drawbacks associated with this type of learning environment. It appears that instructional design is an issue that needs to be addressed. The findings correlate with the research from Muller (2010), who found instructional design of the VLE is of paramount importance to learners, as learners who

encounter technical problems will experience some distress in their online learning environment (Essex & Cagiltay, 2001).

Social Issues: The findings suggest isolation and lack of interaction with other learners and with the tutor to be a disadvantage of their online learning environment. The online learning environment was described by some learners as an impersonal form of learning, one which could lead to a lack of motivation in light of the limited interaction with the tutor and with other learners. The nature of the programme suggests limited interaction between learners, as each learner has their own individualised learning plan and may be studying different modules from other learners on the programme. Interaction with tutors and class peers was a factor identified in the literature as having a significant impact on learners' perceptions of their online learning environment. Race (2005) advocates learner interaction in class to enhance learning because it is motivational and helps keeps learners interested. Additionally, a minority of learners expressed a preference for face-to-face teaching as opposed to a blended learning environment as they valued the support they received from the tutor in a traditional classroom setting. The results have highlighted a blended learning environment is not suited to all learners, particularly to those that require more support in their learning.

4.2 Recommendations

Several recommendations can be made based on the findings of the research. There may be a benefit in conducting further research at other sites where the Multimedia Programme is delivered to help confirm the findings of this research and to improve the VLE design and learning experiences of learners. The findings are interesting but do raise the question are learner's fully aware of the nature of a self-directed autonomous learning environment, where the learners are independent in regard to their own learning. Perhaps more emphasis should be made of the course requirements at the learner's initial interview for the course.

Areas of improvement include technical design of the VLE to ensure links work and software is updated on a regular basis. Technical support for learners through the development and deployment of a reporting system for learners to report problems with links and resources so they may be dealt with in a timely fashion should be provided. In terms of addressing isolation and lack of interaction, a suggestion would be to conduct regular group working activities/quizzes to encourage improvement in tutor-learner and learner-to-learner interaction, and to foster a sense of community. Improvement in face-to-face interaction with the tutor may be facilitated, each month, at the meeting between tutor and learner for the purpose of revising the learner's individualised learning plan (ILP). The tutor could take this opportunity to address any learner concerns. Additionally, ILP meetings could be held more frequently, perhaps on a weekly basis, for those that require additional support. Of note, the social aspects of learning via a VLE need to be addressed within the design of courses delivered via VLEs in order to ensure learners are not feeling isolated, and to make VLEs a more rewarding experience for all learners.

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Appendix 1

Participant Information

Title: A Phenomenological Investigation of learners' perceptions within a Virtual Learning Environment:

Name of Researcher: Jennifer Quinn

Introduction and aims:

In today's global society, the focus is on giving learners choice in the pace, place and mode of their learning requiring access to learning resources twenty-four hours a day, seven days a week. Over the past decade the use of the Virtual Learning Environment (VLE) has become commonplace in learning environments. The adoption of technology is helping to improve the learning experience of students, however, with the changing teaching environment, it is still unclear whether a blended learning environment, which combines online digital media with traditional classroom methods, may enhance efficient learning compared to traditional face-to-face education. Participation in the research study will provide valuable information regarding your experience of attending the Multimedia course.

The purpose of this research is to conduct an investigation within the area of Technology Enhanced Learning (TEL) and is focussed in your class as your course is delivered predominately online. The investigation will gauge the (a) your perception of your virtual learning environment (VLE); (b) to ascertain to what extent the VLE supports or enhances your learning experiences; (c) to determine whether any major differences or trends will emerge in responses between subjects in terms of: 1. Age; 2. Length of course attendance; 3. Motivation levels and 4. Gender.

Procedures

The researcher will meet with your class to explain the purpose of the research, provide information relevant to consent and distribute an information sheet. The researcher will then distribute a Consent Form, a short Questionnaire and a blank envelope to those of you who are willing to participate in the research. The purpose of the blank envelope is to ensure complete

anonymity. The Information Sheet will be retained by you, the Consent Form will be signed immediately and collected by the researcher. You are required to complete and submit the questionnaire at any time before the stipulated deadline of **Thursday 19th of January 2018**, completion of the completed the questionnaire should take less than 5 minutes. To help maintain anonymity can you please insert the completed questionnaire into the blank envelope and seal it. The envelopes can be submitted at any time before the stipulated deadline to your course tutor XXXX, who will store them in a locked drawer until they are collected by the researcher.

Exclusion from the project

The researcher has the right to remove any partially completed questionnaires.

Confidentiality and data protection

Your identity will remain confidential, complete anonymity is guaranteed as names are not requested. Your completed questionnaire will be returned in the sealed envelope provided, please return to your tutor who is aiding in the collection of the questionnaires on behalf of the researcher.

Voluntary Participation

You have volunteered to participate in this research project and signed a consent form. If you wish to withdraw from the project this may be achieved by not submitting your completed questionnaire. There will be no penalty encountered if you do not choose to participate or withdraw from the project.

Discontinuation of the study

You understand that the researcher may discontinue the project at any time without your permission.

Permission

This project has Research Ethics Approval from LYIT

Further information

You may find more information about the research project or answers to any questions or queries you may have by emailing XXXX

Appendix 2

Participant Consent Form

Title: A Phenomenological Investigation of self-directed learning being supported or enhanced within a Virtual Learning Environment.

Name of Researcher: Jennifer Quinn

Declaration: I _____, acknowledge that:

- I have been informed of and understand the purposes of the study
- I have been given an opportunity to ask questions
- I understand I can withdraw up to the point of return of my completed questionnaire
- I understand there will be no penalty if I do withdraw from the study
- I understand that my participation is voluntary
- I consent to the publication of results
- I understand that my personal information will not be identified in this study and all data will be collected, processed, and stored securely
- I agree to participate in the study as outlined to me

Participant's Name: _____

Signature: _____

Date: _____

Appendix 3

Student Opinion Questionnaire:

A Phenomenological Investigation of Self-Directed Learning being Supported or Enhanced within a Virtual Learning Environment.

Author: Jennifer Quinn

This questionnaire has been designed to help ascertain your perceptions of the programme that you are currently attending. This data is being collected anonymously to help encourage honesty in your responses. Most of the questions can be answered simply by ticking the answer with which you agree. It should take approximately 5 minutes to complete. Please remember – there are no right or wrong answers, it’s your opinion that counts!

Gender: Male Female

What age range are you, please tick the appropriate box.

18-24		25-34		35-44		45-54		55 and older	
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Please choose the degree of agreement or disagreement with each statement below. Tick as appropriate.

Section A

Perceptions of the Virtual Learning Environment (VLE)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Using the online material is an effective way to learn about the assigned module.					
2. There is flexibility, convenience, and ability to complete modules at my own pace.					
3. Online content uses a variety of sources that assisted in my learning (online demonstrations, quizzes, links to websites).					
4. I was satisfied with the content available online.					

5. The programme format makes it easier to meet my learning goals.					
6. The programme content has given me skills relevant to the job market (Information Technology, ECDL, Programming languages).					
7. The learning environment promoted greater student participation and interaction.					
8. I would attend a blended learning programme again.					
9. What do you think is or might be the greatest benefit of this type of learning environment? Please write an explanation in the space provided.					
10. What do you think is or might be the greatest drawback of this type of learning environment? Please write an explanation in the space provided.					

Please choose the degree of agreement or disagreement with each statement below.

Tick as appropriate.

Section B

Virtual Learning Environment: Support and Enhancement of the Learning Experience	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. During the programme, if I encountered difficulties I was able to seek help from the tutor.					
2. Receiving instant grades after taking online exams/quizzes impacted positively on my learning.					
3. The instructor understood the virtual learning environment and made it easy to learn.					
4. I valued the online environment more than the face-to-face environment.					

Please choose the degree of motivation from the statement below.

Tick as appropriate.

Section C

1. How long have you been attending the Multimedia programme? _____

Differences/Trends	Very High Motivation	High Motivation	Moderate Motivation	Very Low Motivation	No Motivation
2. How would you describe your motivation level to study at the start of the programme?					
3. How would you describe your motivation level to study at the midpoint of the programme?					
4. How would you describe your motivation level to study towards the end of the programme?					

5. Do you feel the learning environment helped to keep you motivated? Please explain in the space provided.

Thank you for taking the time to complete this questionnaire.

Please add any comments/ suggestions that you may have in relation to the programme.

Appendix 4

List of Abbreviations

Education and Training Board (ETB)

European Computer Driver Licence (ECDL)

Individual Learning Plan (ILP)

Information and Communication Technology (ICT)

Information Technology (IT)

Letterkenny Institute of Technology (LYIT)

National Framework of Qualifications (NFQ)

National Union of Students (NUS)

Organisation for Economic Co-operation and Development (OECD)

Periodic Programmatic Evaluation (PPE)

Personally Identifying Information (PII)

Quality and Qualifications Ireland (QQI)

Self-Determination Theory (SDT)

Virtual Learning Environment (VLE)