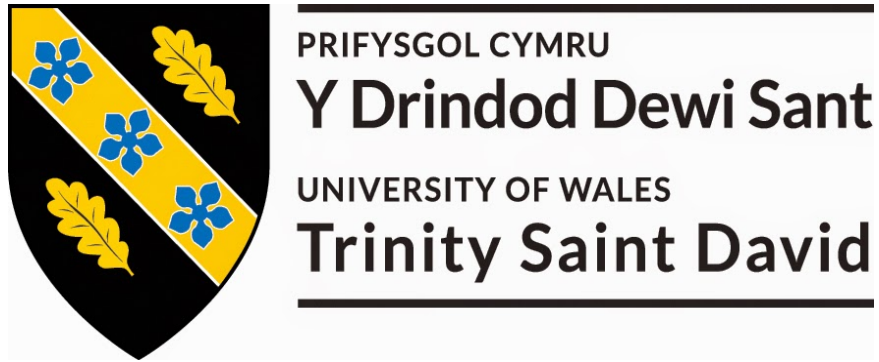




A Critical Analysis of the Role of Feedback in Aiding Learner Progression within Higher Education

Submitted to the University of Wales in partial fulfilment of the requirements for the Degree of Master of Education

University of Wales Trinity Saint David

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Abstract

The overall aim of this dissertation is to examine the role of feedback on learner progression within Higher Education, with particular emphasis upon the benefits of its provision on mock examinations. This dissertation also seeks to determine if Assessment for Learning and Developing Thinking practices are applied within the researchers department.

Action research has been utilised due to the research being associated with the researchers own teaching practice and the practices undertaken within their department. A mixed methods approach has been used as it allows for methodological mixes to support the researcher with answering their research question. The questioning focused on determining the students mindset related to numerical subjects, whether they felt the formative feedback provided on their mock examinations helped develop a deeper understanding of the topic, facilitated their revision planning or served no purpose.

The major findings determined that there are benefits for learners who receive feedback on mock examinations, with discernible improvements in the overall summative examination marks having been recorded. There was also considerable evidence that Assessment for Learning and Developing Thinking practices are applied throughout the researchers department. The dissertation concludes with recommendations for further research into the beneficiary role of feedback on mock examinations, with suggestions for its application.

Declaration and Statements

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed: S M Pitson..... (candidate)

Date: 1st September 2020

STATEMENT 1

This dissertation is being submitted in partial fulfilment of the requirements for the degree of Master of Education

Signed: S M Pitson..... (candidate)

Date: 1st September 2020

STATEMENT 2

This dissertation is the result of my own independent work / investigation, except where otherwise stated.

Other sources are acknowledged by footnotes giving explicit references. A reference list is appended.

Signed: S M Pitson..... (candidate)

Date: 1st September 2020

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Chapter 1. Introduction

The purpose of this study is to advance the knowledge related to formative assessment and associated feedback and how this supports learner progression within Higher Education. The main issues for investigation relate to the benefits of written feedback upon learner development, with focus upon Assessment for Learning (AfL) and Developing Thinking. Moreover, the research seeks to determine how the four elements of AfL fit into Higher Education modules with particular emphasis upon accounting modules. This study also considers whether specific feedback on accounting mock examinations enables learners to identify their strengths and weaknesses of the subject, in order for them to align their revision to specific areas and develop deeper learning. Additionally, this study seeks to determine the justification for future development of assessment for learning and developing thinking principles within the researcher's teaching and department, whilst considering the implications for higher education overall.

The primary purpose of educational research is to facilitate the improvement of education, and advance student achievement linked to the changes made in classroom practice (Wiliam, 2007; Wyse et al, 2017). It is hoped that this research will demonstrate that developing positive processes related to teaching numerically based subjects, examination preparation, development of feedback methods, assessment for learning and developing thinking practices can benefit learners irrespective of their age or level of study. The majority of the research linked to AfL and Developing Thinking is aligned to primary and secondary education. Current literature regarding these concepts is more aligned to discussing the role of formative assessments other than mock examinations, and the feedback supplied on those methods. Very little research is related to the role and benefits of mock examinations with regard to Higher Education.

The mainstream academic models of education, particularly mathematics education do not completely meet the demands of learners (Hodgen and Wiliam, 2006; Boaler, 2016; Dweck, 2017). Numerical and financial literacy is considered by many to be an essential 21st Century life skill (De Witte et al, 2020). Harvard Business School (2020) state that finance is a key component in business, and that graduates need an understanding of the subject in order to be prepared for employment. Employer expectations are changing; as well as university qualifications, employers now require graduates to have work experience and specific

transferable skills sets (Roberts et al, 2018; Jobs.ac.uk, 2019). These include cognitive flexibility, critically thinking, problem solving skills, highly developed communication skills, commercial knowledge and competence in numeracy and finance; or at the very least have an understanding of how organisational finance works (Roberts et al, 2018; University of Kent, 2019; Jobs.ac.uk, 2019; Harvard Business School, 2020). To facilitate these requirements, a number of undergraduate and post graduate programmes at universities within the United Kingdom, including the researchers, require students to study compulsory finance and accounting modules (Swansea University, 2020a, 2020b; Cardiff University, 2020a, 2020b; University of Birmingham, 2020a, 2020b, University of Cambridge, 2020a, 2020b; UWTSD, 2020b).

Within the researchers institution, the majority of the accounting and finance modules are aligned to examinations as a form of assessment, as they are linked to professional exemptions from the Association of Chartered Certified Accountants (ACCA) who set down this requirement (ACCA Global, 2020). It is important to note that not all students studying the modules are accounting students, but rather, they are business students studying accounting modules. In recent years, it became evident to the researcher that some learners had a fixed mindset regarding their ability to study mathematics or numeracy based subjects successfully. Many students arrive at University with a fixed mind-set regarding their abilities in particular topics; this is particularly evident with regard to modules linked to numeracy (Dweck, 2006; Boaler, 2016).

The researcher also noted that amongst a number of students there was a negative fixed mindset with regard to examinations as a method of assessment. In order to support students through the accounting modules and associated examinations, it is imperative to fully understand the mindset of students with regard to undertaking finance based modules (Dweck, 2006; Boaler, 2016). Furthermore, it is also important to determine the importance learners place on formative examinations with regard to benefitting their progression and understanding of the topic (Birenbaum, 1997).

Taking into account the beneficiary evidence of formative feedback highlighted by Black and Wiliam (1998), Hattie, (2012) and Wiliam (2011b, 2012) in 2015 the researcher moved away from the traditional method of giving marks on mock examinations, and introduced the practice of comment marking. This approach was applied to enable the students to receive

individualised structured feedback which included guidance and examples indicating how they could improve and help them develop deeper learning (Hodgen and Wiliam, 2006; Hattie and Timperley, 2007; Brookhart, 2017). The students were encouraged to utilise the feedback to aid their revision planning and undertaking of the summative examination. This incorporation of the feedback in revision development and planning was undertaken during a timetabled revision session to ensure maximum participation. Following the introduction of this approach, it was noted by the researcher that there was a discernible increase in the marks achieved by the learners in their summative examination.

In light of the research being wholly aligned to the researchers own teaching practice and practices undertaken within their department, action research will be the research method utilised (Cohen and Manion, 2011; Cohen et al, 2017). As a practitioner based research method, it affords the researcher the opportunity to bring about change or improvement within their own institution (Cohen and Manion, 2011; Cohen et al, 2017; University of Bristol, 2020). Through this method the researcher seeks to evaluate the role of Assessment for Learning and Developing Thinking within their department. Furthermore, to determine learner preference with regard to assessment methods, determine learner mindset related to accounting and finance-based modules and assessments and whether students believe that the feedback supplied on the mock examination has aided their understanding and helped them with the summative examination. It is imperative that the opinions and perceptions of the students are received to enable appropriate analysis to take place.

In light of this, it was determined by the researcher that it would be beneficial to ascertain the opinions of the students who undertook the mock examinations, received feedback and then undertook the summative exam. The examination marks alone are not sufficient to make a true determination of the benefits of the methods applied, as other factors may have brought about the changes. For example, different teaching strategies, revision planning, early revision, mnemonics or group work/revision (Oxford Royale Academy, 2017). Cohen and Manion (2011) discuss the importance of action research as a methodology for research, particularly for teachers who undertake research within or aligned to their own institutions.

The researchers own motivation for undertaking this research is to determine appropriate approaches to support students through what some of them perceive to be a challenging module. Furthermore, to help students develop and bring about a change in behaviour, rather than just

rote learning so they can undertake meaningful active learning (Darling-Hammond, 2019). As a result of this approach it is hoped that students will not only develop the knowledge of how financial systems work so that they are prepared for employment, but also develop confidence in their ability to study finance and apply basic financial concepts. It is also hoped that the research will benefit other lecturers and departments in my organisation, or even other HE institutions that use examinations as a method of assessment.

Chapter 2. Literature Review

2.1 Assessment for Learning and Developing Thinking

Assessment for Learning (AfL) and Developing Thinking are terms widely used in discourse aligned to educational practice (Black and Wiliam, 1998; Jones, 2005; McGregor, 2007; Welsh Assembly Government, 2010a). AfL is in principle the custom of good teaching practice, integrating formative assessment in its many guises to the benefit of learners (Klenowski, 2009; Welsh Assembly Government, 2010a). Developing Thinking encompasses the teaching pedagogy within the classroom and the activities employed within that setting (Welsh Assembly Government, 2010a).

2.1.1 Assessment for Learning

AfL relates to the process for “seeking and interpreting evidence” in order for teachers and learners to determine where learners are with their learning, where they need to go next, and how to get there (Black and Wiliam, 1998; Chappuis, 2005). AfL is individualised learning which incorporates four elements; sharing aims and objectives with learners, appropriate questioning, quality of talk, provision of feedback and the inclusion of peer and self-assessment (Black and Wiliam, 1998; Jones, 2005; Hodgen and Wiliam, 2006; Klenowski, 2009; Black et al, 2013). According to Black and Wiliam (1998) unless all four elements are present, it is not Assessment for Learning (AfL).

Black et al (2013) state that AfL should be “part of everyday practice for learners, their peers and teachers’, and effective teachers will integrate AfL as a natural part of how they teach. It should work through reflection on the basis of continued discussion, demonstration and observation to enable the teacher to determine appropriate ways to ensure that ongoing learning is enriched through the application of these methods’ (Jones, 2005; Klenowski, 2009; Black et al, 2013). Good AfL involves a two-way dialogue between the educator and the student; with each not only listening to what the other is saying, but also, using what is said to inform the learning process’ (Black et al, 2013; Hodgen and Wiliam, 2006).

2.1.2 Developing Thinking

Developing Thinking follows a system of planning, developing and reflection which brings about metacognition or ‘thinking about thinking’, to enable learners to activate skills they have used to learn in the past, integrate new learning and link the learning to a new situation (McGregor, 2007; Welsh Assembly Government, 2010a). Developing Thinking skills help learners gain a deeper understanding of the topics being studied, develop critical thinking, make considered judgements and apply flexible thinking. It involves the different stages in learner development, and the tools utilised by the teacher and learner to support this (McGregor, 2007; Welsh Assembly Government, 2010a). It is important that the educator ‘plan and manage’ each learning session so that it is challenging (Hattie, 2009; Welsh Assembly Government, 2010a). To enable development, progression and for true learning to take place, it is key for learners to seek out challenges (Clarke, 2005; Hodgen and Wiliam, 2006; Hattie, 2009). Teachers should provide opportunities for learners to develop thinking strategies through the design of challenging tasks, questioning, peer group work, using debates, handling data and incorporating examples which include errors to determine if learners spot the errors (McGregor, 2007; Hattie, 2009; Welsh Assembly Government, 2010a).

In the development of thinking the establishment of an appropriate environment is vital (Welsh Assembly Government, 2010a). Language and social interaction are important, and can stimulate or demotivate learners, it is essential that two way dialogue, reflection and the application of new experiences and prior knowledge are incorporated within the classroom (McGregor, 2007; Moss and Brookhart, 2019). Consideration must be made over how to teach as well as what to teach, the delivery of the knowledge should not be controlled but should flow (Welsh Assembly Government, 2010a). Wiliam (2007) argues ‘the role of the teacher is not to teach per se, but rather, create situations in which students learn’.

2.2 Learning

Understanding how people learn has long interested educators and psychologists due to the centrality of learning to human endeavour (Schuell, 1986; Biggs, 1999b). The participation of learning can take place in formal and informal settings and is not exclusive to the education system (Boaler, 2016; Wyse et al, 2017; Pritchard, 2014, 2017). But rather, learning relates to a change in behaviour, the acquisition of knowledge or skills through practice, training or

experience in any environment (McGregor, 2009; Pritchard, 2014, 2017). The attainment of knowledge through the application of teaching, instruction or experience should focus upon the construction of understanding based on a range of different sources (Pritchard, 2014, 2017 Petty, 2009, 2014).

Historically the primary opinion of many within early years education concluded that education is not aligned to the needs of the learner, but rather the learner is required to align to the education (Bloom, 1956; Bloom et al, 1964; Wiliam, 2011a). When such alignment did not occur, learners were assigned to remedial activities, as it was assumed that the causes of failure lay within the learner and not the education itself (Wiliam, 2011a). Bloom (1956) suggested that many of the failures within education, lay with the individualised differences between learners not being recognised. Therefore, consideration needs to be made with regard to how each individual learner undertakes learning and the role of educational practice in facilitating this (Biggs, 1999b).

It is crucial to look at the context in which people learn in order to fully facilitate learning and maximise the effectiveness of teaching (Lave and Wenger, 1991; Biggs, 1999a; Dweck, 2017). According to Biggs (1999b) there are two core theories aligned to the student learning paradigm; Phenomenology and Constructivism. Phenomenology grew from studies undertaken by Marton and Saljo (1976) related to surface and deep learning and the level of engagement undertaken by learners, and how the nature of the learner determined the way that information was processed. Marton and Saljo, (1976) argued that there are those students who are academically committed and those who have no real academic curiosity whose effort is only sufficient to pass (Marton and Saljo, 1976; Biggs, 1999b). This disparity in student commitment brings about challenges and increased workloads for teachers (Biggs, 1999b). Marton and Saljo (1976) and Dweck (2017) suggest that the teaching approach should focus on utilising activities and strategies that are engaging so that all learners can develop an engaged approach to learning.

Biggs (1999a) developed a taxonomy of learning, the model of constructive alignment, which identifies levels of learning and considers how to move learners from passive to active engagement. The model considers learners construct meaning through the undertaking of different activities and reflecting back on prior knowledge to facilitate the construction (Biggs, 1999a; National Research Council, 2002). The role of the teacher is to align the teaching and

learning activities to facilitate the construction and the achievement of higher level engagement and learning (Biggs, 1999a; Manchester Metropolitan University, 2020). According to Bloom (1956) and Biggs (1999a) learners need to be at the rational level of learning in order for connections to be made between different concepts and ideas, whereby they need to understand a concept before they can apply it. To support this, the assessment method, teaching strategies and learning outcomes should link cohesively (Biggs, 1999a; Hillier, 2012).

All programs of study should be developed and executed to consider the different learning requirements, backgrounds, abilities and motivation of learners (Bloom, 1956; Biggs, 1999a; Wiliam, 2011a; Hillier, 2012; Sriram, 2014; Abbas et al, 2016; Dweck, 2017). It is the role of the teacher to ensure that in-class practices and assessments allow for the differences to be catered for; whilst still delivering sessions and writing assessments for the group as a whole whilst adhering to the module aims and objectives and enabling deeper learning to take place (Petty, 2020).

All individuals have different levels of knowledge and experience linked to the programme of study they are embarking upon and the modules within them (Biggs, 1999a; Hillier, 2012; Darling-Hammond, 2019). Teaching should build upon these prior experiences and knowledge, as doing so scaffolds the learning, and enables expansion to 'new areas of content and skills' (Darling-Hammond et al, 2019). Kolb (1984) observed that individuals learn from experiences, followed by reflection of that experience. However, there may be pedagogical problems if learners have little or no knowledge of the concepts at all if they are learning an entirely new topic (Hillier, 2012). This is an important issue which needs to be considered at the curriculum design level to facilitate a link between the learners basic knowledge in order to develop to advanced knowledge of a new topic (Hailikari et al, 2007). With regard to undertaking accounting modules, an understanding of arithmetic can be considered the prior basic knowledge, which in turn can be applied to models and methodologies related to basic accounting (Dowker et al, 2009).

2.3 Assessment

The concept of assessment relates to activities undertaken by educators and learners to facilitate reflection of the teaching and learning undertaken (Jones, 2005; Brookhart, 2017). This reflective process gives both the educator and the learner an opportunity to make any necessary

alterations to the process (Marriott and Lau, 2008; Brookhart, 2017). Within education, assessment plays a critical role in the learning process, and when undertaken appropriately should motivate the student to learn by enabling them to monitor their progress and support the teaching (Ramsden, 1992; Race, 2007; 2019; Marriott and Lau, 2008; Brookhart, 2017). The assessment methods utilised by educators can influence whether learners use a surface or deep approach to learning, but should promote deep learning (Campbell and Norton, 2007).

Accountancy and finance modules are cumulative in nature, so testing through questioning is paramount, as this enables learners to build on previously learned concepts in order to move onto the next (Kluger and DeNisis, 1996; Black et al, 2013; Jaijairam, 2012; Dowker et al, 2019). Bloom (1956 *cited in* Imperial College London, 2020) found that over 98% of the test questions encountered by students only required them to think at the lowest possible level; the recollection of information. If structured appropriately prior testing can produce ‘substantially greater retention than studying, even though repeated studying increased students’ confidence in their ability to remember the material (Roediger and Karpicke, 2006).

Questioning is a key aspect of applying developing thinking and assessment for learning in the classroom (Welsh Assembly Government, 2010a). Effective questioning is an integral and essential element of education, which is used by teachers to promote learning, involve learners in the session through thinking, and assess learner understanding (Jones, 2005; Hodgen and Wiliam, 2006; Avdic and Akerblom, 2015). Therefore, it is important that teachers ask the right questions, encourage questioning, consider the importance of the question to the learning, and plan questions related to the level of the domain of study (Jones, 2005; Welsh Assembly Government, 2010a; Van Aswegen et al, 2011). It is essential that learners understand the questions and that questions are linked to and help learners achieve the learning objectives (Hodgen and William, 2006; Reese and Walker, 2007; Welsh Assembly Government, 2010)a. On average, 60% of questions asked within the classroom require students to recall facts; 20% require them to think, and 20% are procedural (University of Nebraska-Lincoln, 2020). However, in order to challenge learners, questioning and tasks should focus on synthesis, analysis or evaluation, as this approach develops higher order thinking (Mcgregor, 2007).

Formative and summative assessments are ‘essential components’ within education, and the validity of the assessment is contingent upon its ability to measure the achievement, skills, understanding and knowledge it was designed to assess (Petty, 2009, 2014; Black et al, 2013;

Brookhart, 2008, 2017). However, Race (2001 *cited in* Marriott and Lau, 2008) noted that certain forms of assessment can disadvantage students and so diversity in assessment is necessary to give students ‘a greater opportunity to demonstrate their true potential’.

2.3.1 Formative Assessment

Formative assessment relates to the methods applied to recognise, judge and respond to student learning throughout the learning process (Cowie and Bell, 1999; Black et al, 2013; Wiliam, 2014b). Within the classroom environment teachers use a plethora of different assessment methods to check how students are learning and enable amendment of teaching strategies where necessary (Cambridge Community, 2020). These methods include Q&A’s, debates, discussions, group work and peer and self-assessment, case study analysis, games, wikis, blogs, portfolio evidence, skills tests and mock examinations (Reece and Walker, 2007; McGregor, 2007; Hillier, 2012).

Formative assessment should be introduced early in the module to enable both the student and the educator to determine where learners are in regards to their learning (Race, 2007). Black and Wiliam (1998) and Cauley and McMillan (2009) argue that engagement in formative assessment can have a positive and motivational impact upon learners, establish lifelong learning and raise test scores. To facilitate this it is important to encourage learners to participate in Q&A so they are fully immersed in the learning process, as when learners are fully participative they learn more and ability increases (Hodgen and Wiliam, 2006; Jaijairam, 2012; Moss and Brookhart, 2019). Throughout the process the learner themselves should take an active role in their own learning, with the lecturer employed in the role of ‘controller’ and ‘coordinator’ (Clarke, 2005; Jaijairam, 2012).

Formative assessment should be designed for the purpose of developing and enhancing the learning process, not just to produce test scores and qualifications (Blanchard, 2009). Furthermore, formative assessment should not be considered as a ‘series of handy tips and techniques’; but rather, as a road map to support learners with their development to enable them to identify their strengths and weakness (Hodgen and Wiliam, 2006; University of Oxford, 2020b). Testing regularly is essential in order to check learner understanding and should constitute an important element of classroom practice, and ‘questioning is one of the most common methods’ utilised to test and determine learner understanding (Jones, 2005).

Continuous assessment and in-class testing are a powerful means of improving learning, not just assessing it', but it needs to be challenging as this encourages learners to think critically and develops deeper learning (Hodgen and Wiliam, 2006; Roediger and Karpicke, 2006).

(i) Mock Examinations

Mock examinations are formative assessments which are generally structured to mirror the summative examination (University of Oxford, 2020a). The aim of mock examinations is to give learners the opportunity to develop their revision strategies and have an opportunity to practice undertaking the examination under exam conditions (ibid). Mock examinations also enable learners to consider their strengths and weaknesses in the subject to be assessed, reflect and evaluate their exam approach, and see how the summative examination will be structured. Mock exams can also motivate learners to begin the revision process early, which could support deeper learning (Oxford Reference.com, 2020). Furthermore, as well as practicing the assessment topic, disabled students who have approved alternative arrangements for extra time or use of a computer can also trial these at the mock exams (University of Oxford, 2020a). Learners also have an opportunity to discuss their results with teaching staff (ibid).

2.3.2 Summative Assessment

Summative assessment is an integral element of the learning process within Higher Education (Ramsden, 2003; Petty, 2014). Summative assessment is also a significant element of primary and secondary education, and there is a long held belief that it is the benchmark for student achievement (Petty, 2009, 2014). The mark and grades achieved are considered by learners and educators, and can impact learners future and their progression onto Higher Education or employment (Campbell and Norton, 2007; Black et al, 2013).

Summative assessment is used to assess and evaluate student learning and largely occurs at the end of a module or unit of study which counts toward the final qualification (Hillier, 2012). Based upon the requirements of the programme of study, within Higher Education a number of different summative assessment methods are utilised (Reese and Walker, 2007; Cambridge Assessment, 2013). These methods include; essays, reports, portfolios, presentations, VIVA's and examinations (Reese and Walker, 2007; Race, 2007). Some summative assessment methods are specified by external bodies in line with exemptions from professional qualifications (ACCA, Global, 2020).

In many Higher Education accounting and finance programmes, summative assessments are examinations, as these subjects are dominated by professional priorities and in many cases professional exemptions (Abbas et al, 2016; ACCA Global, 2020). Research by Woodfield et al (2005) in conjunction with University of California has indicated that learners who fear examinations achieve considerably lower marks when sitting examinations compared to the marks they achieve when assessed by other methods. Furthermore, according to Ramsden (2003) and Cambridge Assessment (2013), there is evidence that following the examination, some students can no longer remember the elements related to the subject assessed. This is due to many learners 'memorising' in order to reproduce the required facts and figures, rather than fully understanding them (Ramsden, 2003). However, there are many misconceptions regarding assessment and testing (Cambridge Community, 2020). Determining the effects of assessments is complex as there are innumerable reasons that could account for the manner in which assessment is approached learners, including assessment preferences and learner mindset (Gipps, 1994; Gidjels and Dochy, 2006; Pitson, 2012, 2015). Learners will have a particular preference related to the different assessment methods used to assess their work (Fontana, 1995; Dweck, 2005). This is linked to their prior experience of learning a subject, different assessment methods and the associated results, which in turn can affect their motivation, mindset and ability to learn (Fontana, 1995; Dweck, 2005; Pitson, 2012, 2015).

2.4 Learner Mindset

Mindset is primarily aligned to the beliefs or locus of control of an individual, those who internalise and believe they control their own lives and by definition their learning journey, and those who externalise and believe their life decisions are controlled by outside forces (Rotter, 1954, 1966; Dweck, 2006, 2017; Sriram, 2014). Studies by Dweck (2006, 2017) and Farrington (2013) examined the concept that learner mindset and attainment have indicated that mindset plays an integral role in learner success, and that appropriate intervention can bring about more positive results. Individuals who have a fixed mindset regularly avoid challenges that they perceive to be above their permanent level of performance (Dweck, 1986, 2000a, 2017; Black et al, 2013). Some learners believe that characteristics such as intelligence and talent are fixed entities, and immovable, particularly with regard to STEM subjects like mathematics (Dweck, 1986, 2017; Black et al, 2013; Boaler, 2016). These fixed mind-sets are

linked in part to negative experiences of mathematics when in primary and secondary education (Dweck, 2005, 2017; Boaler, 2016).

Knowledge of mathematics is a universal necessity in order to enable individuals to interact with the world (Dweck, 2005; Hodgen and Wiliam, 2006; Boaler, 2016). The understanding of mathematics as a method of relational understanding of how different ideas can interrelate (Skemp, 1976; Hodgen and Wiliam, 2006). Many learners struggle to see the connectivity of mathematics with life outside of the classroom (Dweck, 2005; Hodgen and Wiliam, 2006; Boaler, 2016). There are concerns with the negative connotations related to studying mathematics and numerically based subjects, with some students indicating that maths is too aligned to answering, and less to learning and understanding (Wiliam et al, 2006; Boaler, 2016).

Boaler (2016) states that ‘mathematics is a performative subject, whereby there is an expectation that an answer will be revealed quickly’. It can be difficult to have a growth mindset if the learners are only provided with short, closed questions which have only a wrong or right solution (Dweck, 2005, 2017; Schwartz, 2015; Boaler, 2016). There is also a long-held belief that there are those individuals who are ‘maths people’ and those who do not have a maths brain (Dweck, 2005; Schwartz, 2015; Boaler, 2016). It is essential that teachers ensure that the environment within the classroom is supportive to develop learner self-esteem and reduce negative mindsets (Clarke, 2005, Dweck, 2006, 2017). Within the confines of a supportive classroom, teachers should enable those learners who provide incorrect answers the opportunity to articulate their reasoning, without the fear of being demoralised (Clarke, 2005; Farrington, 2013). Demoralising the learner only works to further embed the fixed mindset and confirm the negative connotations the learner has with regard to their intelligence and ability (Dweck, 2006, 2017; Boaler, 2016).

2.5 Feedback

Assessment and feedback are considered to be the bridge between thinking and learning (Wiliam, 2011b). Feedback is a key element of the incremental process of effective teaching and ongoing learning within education and supports deeper learning (Wiliam, 2014b; Victoria State Government, 2020). Feedback is a learning tool used to provide information and knowledge for learners to use to modify, confirm or reject prior knowledge (Fyfe et al, 2012; Fyfe and Rittle-Johnson, 2016). Brookhart (2008, 2017) argue that providing feedback to

students is one of the most important elements of formative assessment, as it scaffolds the learning. Feedback can be provided verbally within the classroom environment, or on written submissions, be that formative work, drafts or alongside marks and grades on summative assessments. Feedback should include elements which reference what has been done and feedforward indicating what to be done, and how to get there (Brookhart, 2008; 2017). It is important for the students to understand the importance of receiving and acting upon the feedback/feedforward provided (Wiliam, 2012, 2016).

The rationale behind feedback provision is to improve student learning. However, in order for the feedback to be beneficial, it need to not only focus upon the current piece of work, it also needs to include guidance on how to improve future work (Wiliam, 2016). Appropriate feedback should help close the gap between where the student is and where they need to be (Clarke, 2005). Closing the Gap Theory suggests that three specific conditions must be reached in order for effective feedback to be introduced and learning to take place (Sadler, 1989; Chappouis, 2005). Firstly, learners need to ‘possess a concept of the standard aimed for’, which sharing module aims and objectives can support (Hodgen and Wiliam, 2006; Brookhart, 2017). Secondly, learners need to be able to compare where their current level is in line with the required standard, which modelling can benefit. Finally, as a result, learners should engage in appropriate actions such as questioning, a two way discourse between themselves and the lecturer or peers, can facilitate in ‘closing the gap’ (Sadler, 1989; Chappouis, 2005; Race, 2007; Victoria State Government, 2020). It is important to use feedback to modify instruction and help learners to better understand assessment objectives which in turn will improve assessment results (Chappuis, 2005; Brookhart, 2017). Feedback needs to be individualised, include positive language, be critical, honest and include modelling so that learners know what to aim for (Hodgen and Wiliam, 2006; Race, 2007).

Fyfe and Rittle-Johnson (2016) observed that despite considerable endorsement related to the benefits of feedback, research by Mory (2004) has indicated that feedback is not universally beneficial. There are also incidences whereby learners place too much reliance on feedback to support them through their studies, rather than utilise self-analysis or link to prior learning to develop their work (Butler et al, 2007; Fyfe and Rittle-Johnson, 2016). Furthermore, if the feedback does not go so far as to change the learner in some way, then the whole process of producing the feedback has been a waste of time (Wiliam, 2009). Educators should focus on the realisation that the aim of feedback is not exclusively about changing the work, but rather,

about changing the learner, which in turn should enable more purposeful feedback to be provided (Clarke, 2005; Wiliam, 2016; Pitson, 2016).

2.5.1 Comment Marking

Traditionally, within higher education the most common form of feedback given to students were grades or marks, coupled with very little or no additional commentary (Oosterhof, 2001; Hodgen and Wiliam, 2006). Marks and grades can be over-emphasised within education, whereas providing suitable feedforward linked to the learning objectives are under-emphasised' (Black and Wiliam, 1998). Comment marking is a method of formative assessment which involves the educator giving constructive feedback and linked goals in order to encourage and motivate students to promote their independent thinking and develop self-assessment skills (Black et al, 2013; O'Mahoney and Heinz, 2016). Written comment marking, if structured appropriately, leads to improvements in student performance (Black and Wiliam, 1998; Hodgen and Wiliam, 2006).

The primary purpose of formative feedback is to support and develop learning, not to provide marks and grades (Black and Wiliam, 1998; Welsh Assembly Government, 2010a; Black et al, 2013; Moss and Brookhart, 2009; 2019). Comment marking informs the student how to improve their work, and an opportunity to develop their learning (Black et al, 2013). Only including a mark or grade as a form of feedback fails to place attention on what is achieved, subsequently demotivating and damaging the self-esteem, particularly with regard to low attainers (Black et al, 2013). Feedback can only benefit learners if it includes guidance regarding ways to improve, as learners need to know how to 'reach the next stage' (Kluger and DeNiss, 1996; Black et al, 2003; Shute, 2008; Hattie, 2012). It is essential that this feedforward is included so it benefits learners, particularly during the 'process of on-going work' (Race, 2007). Therefore, it is important for learners to discern between the two elements and seek out the feedforward (Race, 2007).

Lipnevich and Smith (2009a) undertook research with university students in order to determine the effectiveness of feedback on formative assessment. They concluded that when detailed feedback was provided on formative assessment the inclusion of marks and grades proved to be ineffective and unnecessary, particularly as the goal of formative assessment is to aid learner progression (Lipnevich and Smith, 2009a). Marks as a method of feedback are

counterproductive, and result in a sense of failure for some learners (Butler, 1998; Hodgen and Wiliam, 2006; Lipnevich and Smith, 2009a). Low grades can demotivate and elicit a negative effect, as marks do not give the learner any advice linked to how the work can be improved (Butler, 1998). Feedback which focuses on where the learner is and what needs to be done can enable the learner to believe that improvement is attainable (Butler, 1998; Clarke, 2005). This form of feedback can enable both direct and indirect learning by suggesting to all learners that they can improve (Clarke, 2005).

2.5.2 Feedback Structure

The structure of written feedback is key, it should be presented in clear, manageable units, based on instructional constraints and learner need (Hodgen and Wiliam, 2006; Shute, 2008; Hattie, 2012). Furthermore, it should be impersonal, objective, unbiased and focus on the task, as this approach will aid in reducing uncertainty for the learner (Shute, 2008; Hattie, 2012). It is also important to ensure all learners know what quality work looks like in the form of modelling, as this helps them see where they need to be and can have an impact upon achievement gaps (Wiliam, 2011b). Studies have indicated that due to poor structure some students learn less when provided with feedback (Kluger and De Nisi, 1996; Wiliam, 2011a, 2016). Feedback should be structured so that the learner develops an understanding whereby they no longer need to follow the instructions (Darling-Hammond et al, 2019).

Race (2007) suggests that lecturers should involve learners in elements of their own assessment in order to enable deeper learning. Chang et al (2013) state that learners feel they benefit from engagement in the feedback process, and associated revisions to their work. Assessments and associated feedback should motivate the learners to learn and promote deeper learning, as opposed to passive or reproductive learning, inadequate feedback fails to develop understanding, particularly in the long term (Race, 2007). It is essential that educators know learners perception of the role of feedback and how it is presented to them (Higgins et al, 2002; Denton et al, 2008; Parkin et al, 2012; Sopina and McNeill, 2015). Students views on the benefits of feedback can help support efficient and effective learning and development (Chang et al, 2013). Feedback provision has increased within Higher Education, however, according to Mamoon-Al-Bashir et al (2016) feedback is a difficult issue in Higher Education, although it is universally acknowledged that its provision is an essential element of the student learning process.

One issue is learners reluctance to read, with many feeling overawed by the necessity to read whilst at University (Race, 2007, 2019). The addition of feedback on formative or indeed summative assessment intensifies the reading requirement, and could account for some students being reluctant to read the feedback provided (Race, 2007, 2019). This brings about the necessity for feedback being an integral element of in-class teaching. Continuous feedback during the sessions such as questions, discussions and comments can help learners become motivated (Darling-Hammond et al, 2019; Victoria State Government, 2020). Additionally, it is imperative that at the end of each lecture or tutorial, learners are able to understand where they are with regard to achieving the lesson objectives (Race, 2007, 2019; Wiliam, 2011).

Chapter 3. Methodology

3.1 Aims and Objectives

The aims and objectives of this research are to:

- Evaluate learner preferences of different assessment methods within Higher Education
- Analyse the of the role of feedback of summative assessment, with particular reference to accounting and finance based modules.
- Evaluate the role of Assessment for Learning and Developing Thinking within Higher Education.
- Evaluate learner mindset related to accounting and finance based modules and assessments

3.2 Research Rationale

The rationale for this study links into existing literature from Black and Wiliam (1998), Clarke (2005) Dweck (2000, 2006) and Hattie (2012) and the findings from three pilot studies undertaken by the researcher, regarding the benefits of Assessment for Learning and Developing Thinking with particular emphasis of written feedback on formative assessments.

This research also aims to put into context the methods undertaken by the researcher in their teaching practice, whereby written feedback was provided on a level 4 accounting module mock exam over five consecutive academic years. Statistical evidence has been collected, but further research by means of questioning the student participants needed to be undertaken to determine if the summative examination results were as a consequence of the feedback provided on the mock examination, or as a result of other processes.

3.3 Research Design

Research design can be a framework to aid the researcher during the research process and involves the setting out of appropriate procedures in order for relevant information and material to be acquired to aid the answering of the research question (Thomas, 2013; Cohen et al, 2017).

This research seeks to contribute in some way toward an understanding of the role of Assessment for Learning and Developing Thinking within Higher Education, and the role of feedback in aiding learner progression. Particular focus is on the researcher's own teaching practice. When deciding upon an appropriate research method, it is imperative that limitations are considered, including time, accessibility of raw data and the word count allocated to the project (Descombe, 2014; Hennink et al, 2020).

Action Research has been utilised for the purpose of this research, as the University of Bristol (2020) and Cohen and Manion (2011) recommend this method, as it enables the researcher to undertake a systematic enquiry of their own practice and the potential beneficiary role of feedback on mock examinations. Cohen et al (2017) and Coghlan (2019) discuss the importance of action research as a methodology for research, particularly teachers, who undertake research within their own institutions. Educators usually have an issue or situation which they wish to change, as a practitioner based research method, it affords the researcher the opportunity to bring about change or improvement within their institution (Bargal, 2008; Coghlan, 2019). In order to bring about this change they develop actions to facilitate it (Bargal, 2008; Miller et al, 2017 *cited in* Wyse et al, 2017).

Action research was chosen as it enables the researcher to test a hypothesis through the application of a method in their teaching. Action research is a cyclical process, whereby the researcher collects both practical and theoretical data, interprets the data, followed by the development of strategies to implement the change (Bargal, 2008; University of Bristol, 2020). Numerous cycles can be undertaken, with each cycle consisting of assessing a situation formulating a plan, actioning the plan to make a change, evaluating it and defining any issues, and repeat the cycle if necessary (Khanlou and Peter, 2005; Cohen et al 2017; Coghlan, 2019). The researchers cycle involved assessment of the negative fixed mindset of learners, the introduction of different teaching strategies to develop more positive mindsets, and the provision feedback on mock examinations, and the subsequent evaluation of this approach. Continuous evaluation of the practice was undertaken in order to determine its validity and appropriateness to each new cohort. As action research takes place at the same time as the teaching practice, it enabled the researcher to build records of any methods and associated improvements which should support changes within educational settings (Thomas, 2013; Opie and Brown, 2019).

3.4 Research Paradigm

Three main taxonomies of paradigm are considered to relate to educational research; positivist, interpretivists and critical paradigms (Candy, 1989). However, stemming from the positivist and interpretivist paradigms is the pragmatic paradigm, which has been adopted for the purpose of this research. The pragmatic paradigm will be used for this research as it advocates the use of a mixed method research design, allowing for methodological mixes to support the researcher with answering their research question (Cameron, 2011; Kivunja and Kuyini, 2017). The pragmatic paradigm developed from arguments that the positivist approach does not enable the researcher to access the ‘truth’; or that interpretivist approach does not allow the researcher to determine social reality (Kivunja and Kuyini, 2017). The pragmatic approach is based on action research and allows for a pragmatic way to understand human behaviour and undertake further action (Cameron, 2011; Kivunja and Kuyini, 2017).

Kivunja and Kuyini (2017) suggest that an important connection exists between the paradigm and the methodology. It is essential that the research method enables the researcher to answer the question and the aim of the enquiry (Thomas, 2013; Opie and Brown, 2019). Due to the implications related to methodological choice the selection of an appropriate research methodology is a key step in the research process, as it affects how the research data is collected and analysed (Cresswell, 2003; Kivunja and Kuyini, 2017). This is supported by Cohen et al (2017) who state that the quality of any research ‘stands or falls’ by the appropriateness of the methodology.

The utilisation of mixed methods is recognised across many disciplines as a pragmatic research approach (Creswell, 2003; Alise and Teddie, 2010). Mixed methods research gives the researcher the capacity to intersect with other research methods, including action research (Ivankova and Wingo, 2018). A mixed method approach supports this research due to its methodological flexibility to ‘intersect or be meaningfully integrated with other research methods’ (Ivankova and Wingo, 2018). This will be undertaken through qualitative analysis of semi-structured interviews and quantitative analysis of the examination results from a five year period.

3.5 Data Collection

The initial raw data was extrapolated from the mock and final exams results to enable statistical analysis to be undertaken. This data will only be discussed within the research paper with regard to any discernible mark changes that occurred between the formative and summative assessments, but with no reference to specific students or marks. All data relating to the mock and final examination results are stored within the archives of the researchers institute in line with that institutes regulations and procedures.

With regard to student opinion, the initial data was collected through the module evaluation¹ and distribution of 150 questionnaires to students/graduates who completed levels 4, 5 and 6 within the researchers institute. The questionnaires featured attitude questioning using a mix of question types including; dichotomous, multiple choice, rating scale, likert scale and open-ended to enable statistical and comparative analysis to be undertaken amongst the sample group (Hart, 2005; Brotherton, 2015). Questionnaires enable the researcher to reach a wider population, but the questions are tightly structured and have little scope for answer development (Thomas, 2013). Open questions can be included on questionnaires to enable more in-depth replies, but responses to this type of question tend to be very low (Opie and Brown, 2019). In light of this, the questionnaires were followed by semi-structured interviews with respondents who indicated that they were willing to be interviewed. The semi-structured interviews focused on determining the students mindset related to numerical subjects, whether they felt the formative feedback provided on their mock examinations helped develop a deeper understanding of the topic, facilitated their revision planning or served no purpose.

Semi-structured interviews were also undertaken with academic staff members who deliver on the Business Management programmes within the researchers department. The reasoning behind this decision was to determine the use of Assessment for Learning and Developing Thinking practices within the researchers department. Provisional verbal confirmation from academic staff regarding their participation was received. The reasoning behind the use of semi-structured interviews for educational research purposes is the ability to develop deeper interaction between the interviewer and interviewees (Cohen and Manion, 2011). Thomas (2013) states that semi-

¹ All students at the researchers institution complete an anonymised module evaluation questionnaire following the completion of a module

structured interviews enable the researcher to develop pre-determined questions and follow these up with questions linked to the respondents' responses. This interview approach generates greater depth than other data collection methods as they enable the interviewer to elicit further information and enables thematic analysis to be undertaken (Thomas, 2013). Whereas structured interviews do not offer much scope for follow up questions and unstructured interviews have no pre-determined questions, and according to Thomas (2013) the interviewee should set the interview agenda.

3.6 Population and Sample

When developing a methodology, it is essential to decide upon an appropriate population sample, as appropriate sampling leads to proportionally more reliable results (Bartlett et al, 2001). It is important for the researcher to determine whether to use a sample or a whole population (Coghlan et al, 2019). For this research the sampling framework relates to students studying on the Business Management programmes within the researcher's department who undertook the compulsory level 4 accounting module. Students who were direct entrants to level 5 and 6 were not considered within the sampling framework as they did not study the module or participate in its associated formative and summative assessments.

Questionnaires were distributed to all students in the sample via their University email account with a link to Google Surveys. The recent graduates were also communicated to via student email, as the student email remains active for twelve months following graduation. The footer of the questionnaire included an invitation for students to be interviewed to determine their thoughts regarding whether the feedback given on their mock examinations helped develop a deeper understanding of the topic; facilitated their revision planning or served no purpose. The footer also included a notification that the first fifteen students who accept the offer would be interviewed. The follow up semi-structured interviews will give the researcher the opportunity to gain more depth on the questionnaire responses (Hart, 2005).

Some of the questions put to the interviewees followed a similar structure and wording to those put to the interviewees in pilot studies undertaken by the researcher in 2013 and 2015, to help determine if the results and associated responses are consistent. However, this research also focuses on the mindset of the participants; whether they felt that the feedback given on their mock

examinations helped develop a deeper understanding of the topic; facilitated their revision planning or served no purpose. Semi-structured interviews were also undertaken with ten academic staff members who deliver on the Business Management programmes to determine the use of Assessment for Learning and Developing Thinking practices within the researchers department.

3.7 Data and Analysis

The primary data collection and subsequent analysis focused on comparative analysis of the mock and summative examination results. The primary was analysed using Excel to enable the researcher to describe, summarise, search for patterns in the data and organise the data to enable ease of understanding (Steedle, 2017 *cited in* Wyse et al, 2017). The research of raw data from examination results, questionnaires and semi-structured interviews with students and academics enabled the researcher to analyse and identify overriding themes. The analysis of the mock and summative examinations identified that there were themes related to the benefits of feedback on mock examinations. Triangulation has been used to enable theory testing and analysis of the different research sources and subject populations (Turner et al, 2015). Combining qualitative related to the semi-structured interviews and quantitative methods related to the mock and summative examination results to enable the researcher to develop a comprehensive understanding of occurrences (Heale and Forbe, 2013; Turner et al, 2015).

3.8 Reliability and Viability

Valid research is research that is ‘acceptable to the research community based upon tried and tested research methods’ (Biggam, 2015). There are strengths and weaknesses in all research methods for data collection and analysis, therefore, researchers need to carefully consider the way they conduct and approach their research (Philips, 2014). It is important to ensure that the research method is aligned to the topic being studied in order for the results to be reliable and valid (Thomas, 2013).

Within any field of inquiry or research, replication is considered to be a central part of its development, as if the results cannot be repeated, the validity of the study may be questionable (Mackey and Gass, 2016). Action research facilitates the under taking of longitudinal research,

enabling results to be recorded over a period of time, and where necessary, based on those results, modification to the approach can be made (Biggam, 2015).

3.8.1 Limitations of the Research

A number of research limitations were identified by the researcher. Firstly, maturation, the timeframe between the sitting of the mock and summative examinations and completion of the questionnaire and interviews (Smith, 2017). The delay of completion could impact the reliability and validity of the results as some of the student participants undertook the examinations over four years ago (Smith, 2017).

There are also issues regarding unsupported assumptions that the respondents will have an opinion on the matters being researched; particularly as this is research based on what for some students is an unpopular module (Hart, 2005). There are also some limitations with questionnaires, particularly with regard to the structure of the questions. It was considered appropriate to include some multiple choice questions to enable the respondents to choose responses most aligned to their views. However, multiple choice questions due to their ambiguous structure, generally return somewhat crude statistical information (Hart, 2005). Furthermore, the number of responses was an issue. The sample was not as large as hoped, which means that the results cannot be generalised.

With regard to semi-structured interviews, there are a number of limitations to consider. Interviews are time consuming, multiple interviews need to be undertaken in order to identify any trends in opinion (Hennink et al, 2020). Respondents may refuse to answer questions, which in turn can affect the validity of the research as it centres upon opinions from students and academic staff within the researchers department (Lavrakas, 2008).

3.9 Research Ethics

When undertaking any form of research project, in particular insider² research, it is imperative that the researcher ensure all applicable ethical and credibility issues have been considered, assessed and appropriately covered (Smyth and Holian, 2008; Holian and Coghlan, 2013;

² Insider Research is a term used in reference to the role of the researcher when undertaking research within their own institution.

BERA, 2018; Coghlan, 2019). One of the points to consider is whether the study be undertaken at all (Philips, 2014). The research, particularly in an educational sense, should contribute toward the expansion of knowledge and improve practice (BERA, 2018).

Throughout the research process, it is imperative that the researcher considers ethics to ensure that professional guidelines, legal frameworks and moral codes are adhered to (BERA, 2018). The inclusion of an ethical approach to research can contribute to a solid starting point, the inclusion of appropriate and valid methods and the attainment of beneficial results and concrete conclusions (BERA, 2018). Khanlou and Peters (2005) highlight that there can be a number of practical and structural obstacles for academic practitioners using action research, particularly with regard to gaining ethical approval. It is important for there to be a distinction between the engagement in action research, and how the findings of the research are reported (Coghlan, 2019). When undertaking research within the researchers organisation, it is important to ensure that the research does not refer to peers and other participants in a defamatory manner (BERA, 2018; Coghlan, 2019)

With regard to questionnaires and interviews, there is an element of intrusion into the life of the respondents, linked to sensitivity of the questions or possible invasion of privacy (Cohen et al, 2017). It is important for the researcher to consider the rights of all participants. In light of this, respondents must fully consent to participate, as the issue of consent with regard to action research is of ethical importance (Smith, 2017). There must be transparency and open communication between the researcher and participants, and it is important that the researcher is empathetic to the viewpoint of others, even if these views are diametrically opposed to the researchers hypothesis (Cohen, et al, 2017).

With regard to interviews and semi-structured interviews there is an ethical dimension related to the interpersonal interaction between the interviewer and interviewee (Cohen and Manion, 2011; Cohen et al, 2017). There are specific areas related to ethics in using interviews; right to withdraw, providing feedback, confidentiality and informed consent and how the interviewer interprets the answers, particularly if the responses differ from the interviewers hypothesis (Cohen and Manion, 2011; Thomas, 2013; Smith, 2017). Therefore, it is important to explicitly state to all participants the reasons and anticipated benefits of the research (Thomas, 2013; BERA, 2018). The issue of consent is particularly important in action research, as the researcher requires openness and communication to ensure the participants and organisation are not represented in a poor way, especially as it is based on practice (Smith, 2017; BERA, 2018).

All participants had access to the data held on them, upon request throughout the research process and during the feedback session following the interviews. Within this final dissertation, nothing is traceable to any participants in order to maintain anonymity. To facilitate this, the BERA (2018) guidelines have been followed throughout the research, to ensure that all individuals either directly or indirectly involved in the research were treated fairly and sensitively.

Chapter 4. Findings

4.1 Presentation and Interpretation of the Data

4.1.1 Introduction

In this chapter, the research results from the action research outlined in Chapter 3 are presented and examined. The empirical data was collected from module evaluations and mock and summative examinations marks over a period of five academic years. Through analysis of the module evaluations, mock examination results, summative examination results, questionnaire and student interview data, a number of patterns emerged indicating that feedback, particularly with reference to the mock examination has been beneficial. The results of the semi-structured interviews with the researchers colleagues regarding the application of Assessment for Learning and Developing Thinking practices are also presented and discussed within this chapter.

As part of their teaching portfolio, the researcher has delivered and assessed a compulsory management accounting module to all level 4 students enrolled on business programmes in their department. In line with the professional exemptions criteria set out by the Association of Certified Chartered Accountants, the module is assessed via an examination (ACCA Global, 2020)³. The examination is a combination of theoretical and numerical calculations using a multiple choice question format. To prepare the learners for the summative examination, a mock examination is undertaken three weeks prior, and is an integral element of the module's scheme of work.

4.1.2 Mock and Summative Examinations

(i) Teaching Year 1

The first year that the researcher took over the module, in line with previous academic years, the students were provided with marks for their mock examination. In lectures there were a percentage of learners that had exhibited confidence issues with the numerical elements of the module which was depicted in their mock results with the lowest mark achieved being 22%.

³ The assessment method cannot be changed by the lecturer or their institution due to the exemptions aligned with the professional qualifications offered by the ACCA.

However, it should be noted that the majority of the students performed well in the mock examination, with an average mark of 54%. The average results for the mock and summative examination are presented in Figure. 1.

Figure 1 - Means and standard deviation of marks achieved on the mock and summative examinations.

Year 1 – marks provided on the mock examination.

	Mock Examination	Summative Examination Results of Students who undertook Mock Examination	Summative Examination of Students who did NOT undertake Mock	Summative Examination Whole Module Group
Average (Mean)	54	57	54	56
Standard Deviation	15.05	17.93	15.35	17.05

Despite revision sessions being structured to support the students prior to the summative exam, many of the low attainers were fixated on the poor mock results they had achieved in their mock and did not perform well in the summative examination, with some marks going down. However, it should also be noted that some students who had achieved mock results over 60% also saw a reduced mark for the summative examination. Following the summative exam the average for the module overall was 56%, but this was due in part to an increase in the marks of the better students. However, there was very little difference between the overall marks achieved in the mock and summative examination. Despite those who undertook the mock having seen the paper layout, there was only a 3% difference between the summative marks achieved by those who did the mock and those who did not (Figure. 1).

(i) Teaching Year 2

Following evaluation of the results achieved in year one and feedback from students in the module evaluation⁴, and research on beneficiary teaching methods, the teaching strategy for the module was amended. This involved moving away from the traditional chalk and talk lectures followed by activity based tutorials, to activity based seminars with participatory Q&A. This approach was applied to increase student engagement through the expansion of hands-on activities, which also enabled a more direct cumulative approach to the module learning to be undertaken (Jaijairam, 2012).

⁴ The module evaluation is a questionnaire completed by students following completion of a module.

Based on the benefits of feedback highlighted by Black and Wiliam (1998), the researcher also moved away from marks to the provision of feedback for the mock examinations. The students were notified of this approach at the start of the module and again prior to sitting the mock. They were also informed that they would have the opportunity to receive the mock marks following the summative examination in the post exam tutorial. It was imperative that the objectives of the mock examination and associated feedback were clearly explained to learners so they understood the benefits of utilising the guidance provided (Black and Wiliam, 1998; Shute, 2008).

The depth of the feedback provided on the mock was entirely contingent on the students mock solutions (appendix 8.1). A post mock feedback session was included within the timetabled revision sessions, whereby the individualised written feedback was distributed. Overall feedback was also provided to the group verbally based on the general observations noted from the mock exam answers and approaches. For example, reiterating that calculation workings should be included in the summative exam solutions, or that students needed to apply all the steps involved in each calculation and not take short cuts.

The revision then centred on the weaker topic areas highlighted within the mock examination answers. This brought about a positive change in the results between the two examinations, and the student mindset leading up to the summative examination was more confident. This was further highlighted in the module evaluation, with many students stating that they felt more confident going into the summative examination, due to the individualised feedback and guidance on their mock answers and associated workings. It should be noted that there were an increased number of accounting and business and finance students in this group which may also account for the increase in the mock examination. The averaged results for the mock and summative examination are presented in Figure. 2.

Figure 2 - Means and standard deviation of marks achieved on the mock and summative examinations.

Year 2 – feedback provided on the mock examination.

	Mock Examination	Summative Examination Results of Students who undertook Mock Examination	Summative Examination of Students who did NOT undertake Mock	Summative Examination Whole Module Group
Average (Mean)	63	71.65	55	62.51
Standard Deviation	17.07	14.01	16.21	17.26

Some students who sat the mock did receive lower marks in the summative examination, but it should be noted that they did not attend the post mock revision session, and thus, did not receive their feedback. However, overall it was evident that the feedback benefitted those students who found the module challenging as this group showed the greatest positive marks difference between the two examinations. Those students who achieved the higher marks in the mock either saw very little change in the results achieved in the summative examination, or achieved the largest decrease in marks.

(i) Teaching Year 3

Based on the evaluation of teaching year two and the evident increase in the summative examination results of the students who undertook the mock, feedback was again provided on the mock exam. The introduction of peer and self-evaluation were also applied at this juncture, whereby the learners themselves took control of the elements that needed to be covered within the revision sessions. This was undertaken to enable the students to develop revision sessions based on the individualised feedback provided on the mocks and encourage self-directed learning (Rostami and Khadjooi, 2010). The averaged results for the mock and summative examination are presented in Figure. 3.

Figure 3 - Means and standard deviation of marks achieved on the mock and summative examinations.

Year 3 – feedback provided on the mock examination.

	Mock Examination	Summative Examination Results of Students who undertook Mock Examination	Summative Examination of Students who did NOT undertake Mock	Summative Examination Whole Module Group
Average (Mean)	53.69	67	47.31	59
Standard Deviation	15.23	18.77	21.09	22.04

Another amendment was the emailing of the mock feedback to those students who were absent for the feedback session. This approach in part ensured that the feedback was received and subsequently acted upon. However, it is not within the remit of this dissertation to determine whether that was the case. The summative results achieved by those who undertook the mock compared to those who did not (see Figure 3), further supported the use of feedback over marks for the mocks. The feedback on the module evaluation further supported this hypothesis. There

were fewer accounting and business and finance students than in teaching year two which may account for the lower mock examination average.

(i) Teaching Year 4

Based on the results in years two and three, feedback was again provided on the mock examination. By this time, the researcher had developed a bank of feedback and modelling examples which enabled more in-depth feedback to be provided and reduced the time it took to create the individualised feedback. The mock mark average was 56% overall and there was a marked increase in the summative examination average to 63% based on the results of those students who sat both examinations. As part of the revision process, Kahoot⁵ was used to assess the students theoretical knowledge. This brought about a more relaxed atmosphere, and the module evaluation feedback supported the introduction of this revision method. This year also saw a reduction in the number of students whose performance worsened in the summative exam compared to their mock examination. However, the summative results for those who undertook the mock were still considerably higher than those who did not (Figure 4).

Figure 4 - Means and standard deviation of marks achieved on the mock and summative examinations.

Year 4 – feedback provided on the mock examination.

	Mock Examination	Summative Examination Results of Students who undertook Mock Examination	Summative Examination of Students who did NOT undertake Mock	Summative Examination Whole Module Group
Average (Mean)	56	76	63	71
Standard Deviation	22.89	15.98	16.19	17.34

(i) Teaching Year 5

The teaching moved online this year due to COVID 19 and the students were required to submit tasks via Turnitin⁶ at the close of each session to ensure that they were completing the tasks. Feedback and model answers were supplied for each submission. Each session was also recorded, which enabled the students to watch the sessions again if they wished to do so. Kahoot was used more throughout the teaching of the theoretical aspects to engage the students and this approach worked well.

⁵ Kahoot is a game based learning platform. Students can play as individuals or in teams.

⁶ In line with the Moodle (2020) VLE open learning source, Turnitin is the submission link used by the researchers institution for formative and summative assessments.

Unfortunately there were fewer participants for the mock examination due to COVID 19 and the researcher being unable to timetable the mock in the traditional manner. The mock was undertaken online and the students were required to submit their answers and workings via Turnitin. Nine students out of a cohort of thirty-three undertook the mock. The marks achieved by the students in the mock averaged 65%, although it should be noted that it was the stronger students from the module group who undertook the mock. Unfortunately, the weaker students in the student group who may have benefited from the feedback did not undertake mock examination. The averaged results for the mock and summative examination are presented in Figure. 5. All of students who undertook the mock achieved better marks in the summative examination.

Figure 5 - Means and standard deviation of marks achieved on the mock and summative examinations.

Year 5 – feedback provided on the mock examination.

	Mock Examination	Summative Examination Results of Students who undertook Mock Examination	Summative Examination of Students who did NOT undertake Mock)	Summative Examination Whole Module Group
Mean	65	79	51.42	59
Standard Deviation	13.44	7.30	16.92	19.52

Overall, the marks achieved in year five were pleasing, particularly in light of the challenges faced by the students. Unfortunately the researcher was unable to access the module evaluations completed by the students, as they were completed online and the results stored centrally.

4.1.3 Student Questionnaire

The purpose of the questionnaire was to determine the assessment preferences and mindset of the learners with regard to studying an accountancy module. It also sought to determine their thoughts with regard to feedback, with particular emphasis upon the feedback provided on the mock examination. The participation response was a 60/40 male to female ratio, with 75% of the respondents indicating that they were either studying at level⁷ 6 or were graduates. The other 25% of the respondents were a combination of students studying at levels 4 and 5.

⁷ The reference to the students level of study was based upon their level of study as of April 2020.

The respondents were questioned regarding their programme of study (Figure 6), reasons for choosing the programme (Figure 7) and whether the modules included on the programmes affected that decision (Figure 8). They were then questioned regarding any possible concerns they may have had with regard to studying an accounting module (Figure 9).

Figure 6 - Programme of Study

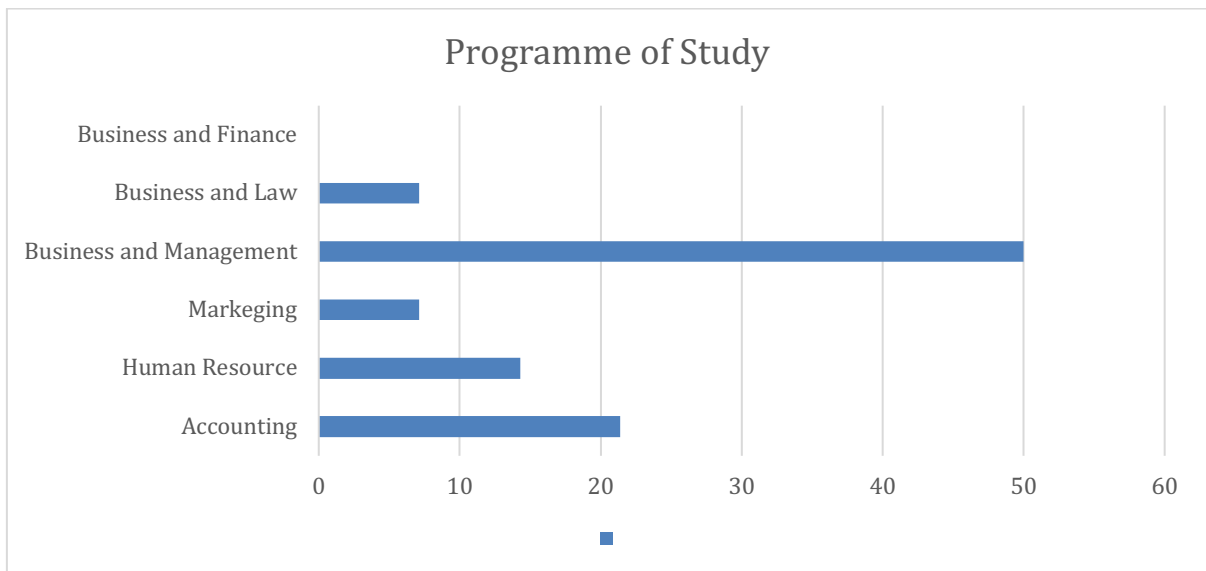


Figure 7 - Reason for Choosing Programme of study

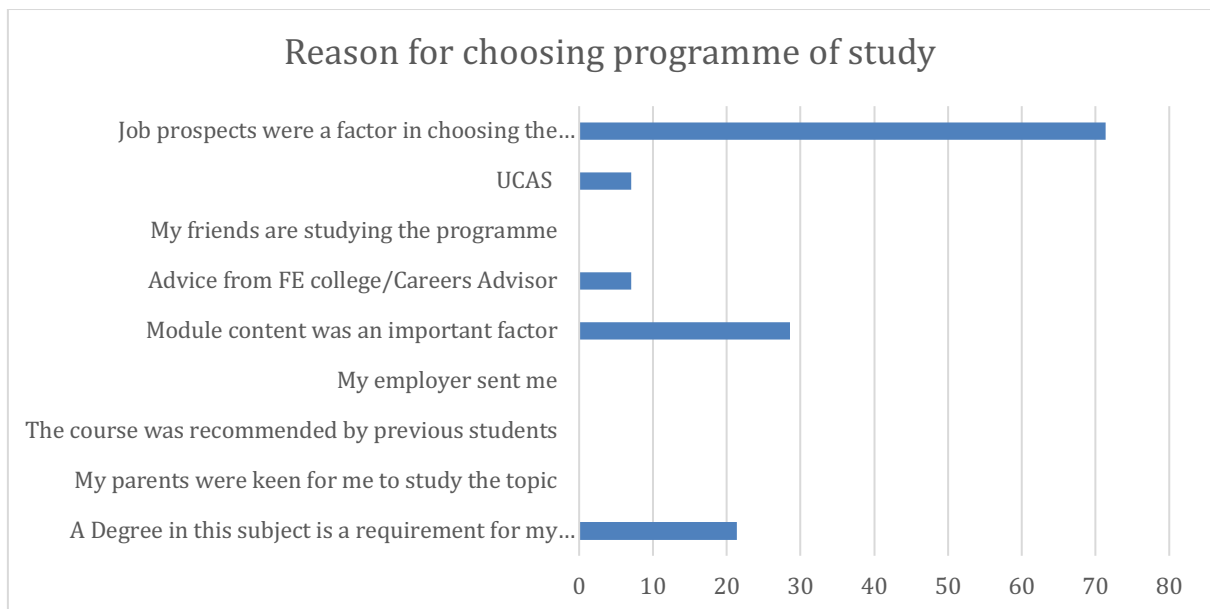


Figure 8 - Module link to Programme of Study

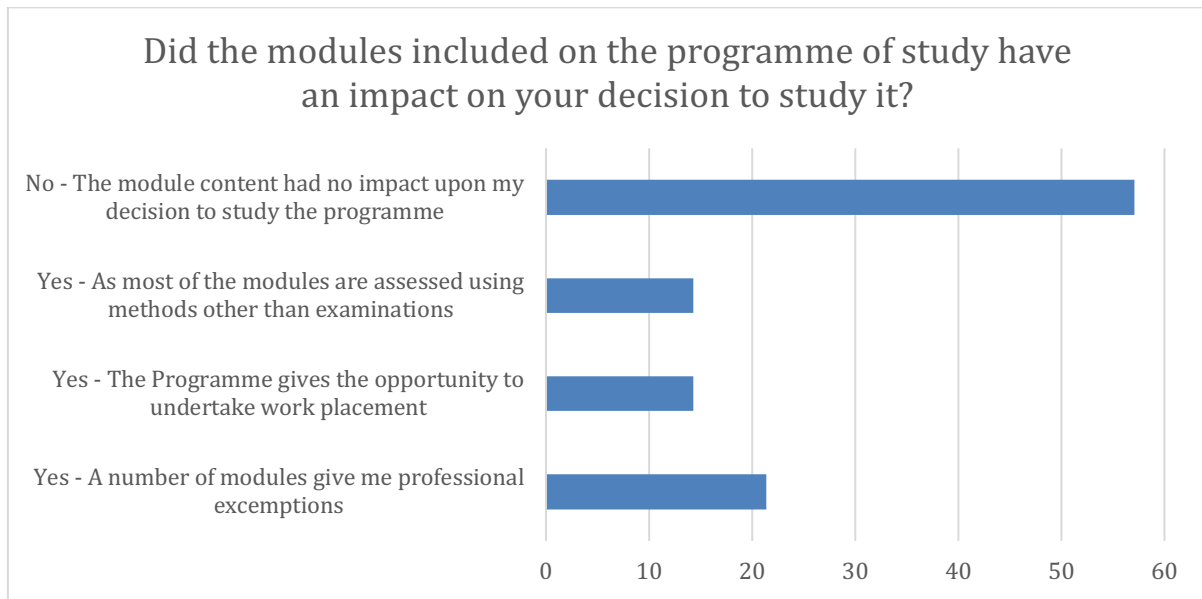
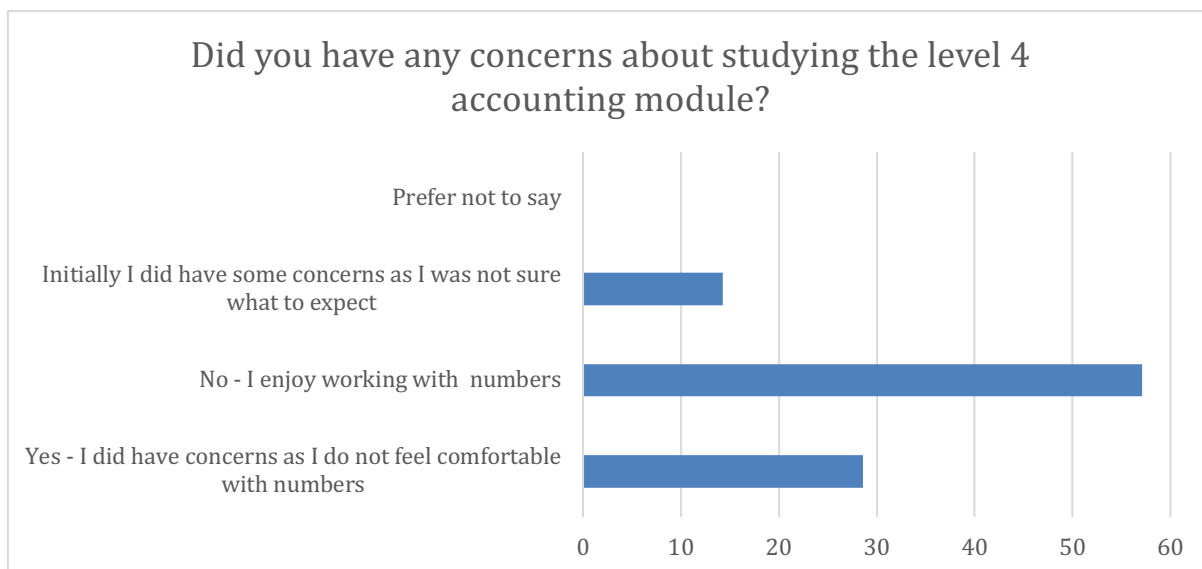
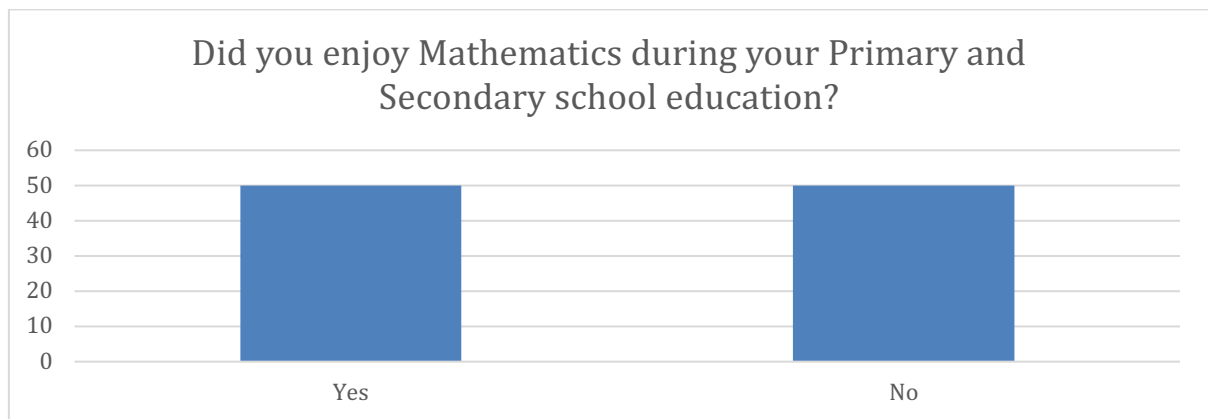


Figure 9 - Accounting Module



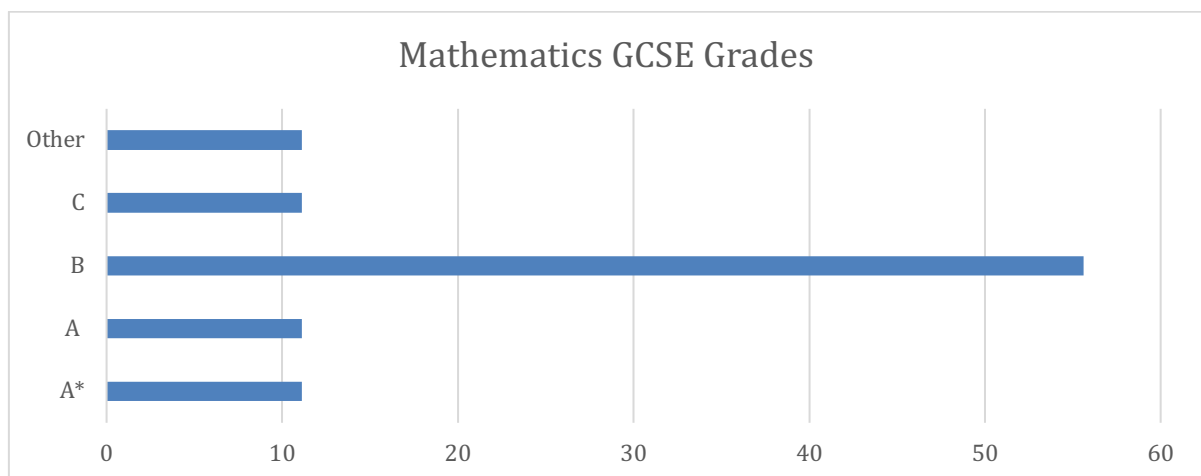
Research by Boaler (2016) indicated that many learners have concerns regarding the study of numeracy based modules as a result of their primary and secondary school education. In reference to this, the next set of questions focused on the learners relationship with mathematics. Regarding enjoyment of mathematics, the responses were equally weighted (Figure. 10).

Figure 10 - Mathematics Mindset

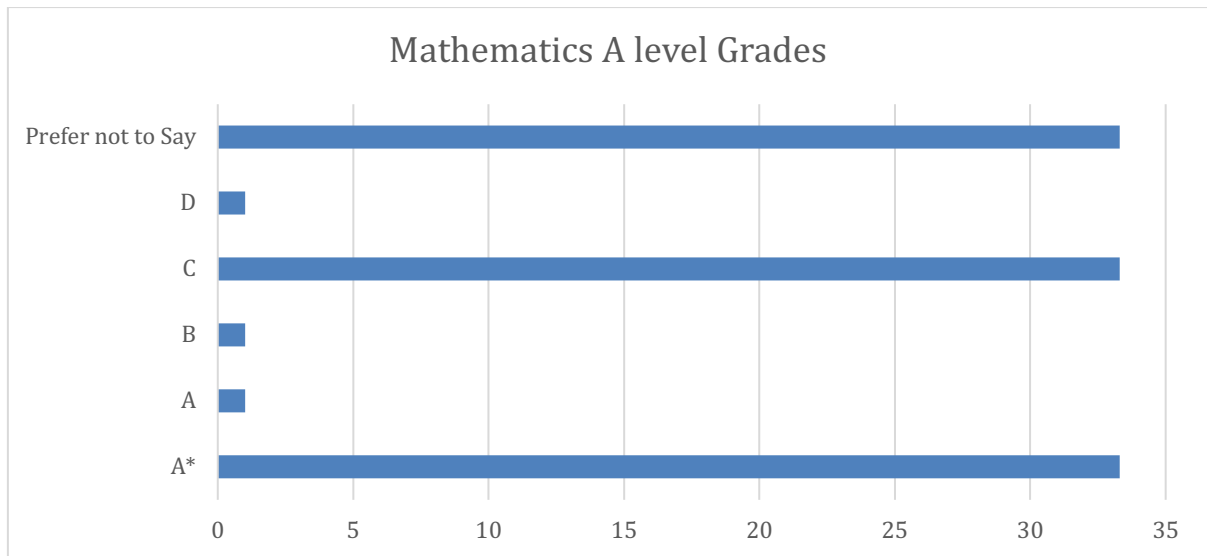
This was followed by an open question asking for them to clarify their reasons for enjoying/not enjoying mathematics. Those that enjoy mathematics, indicated that they like the patterns, quizzical elements and right or wrong responses achieved with mathematics. 'I don't know why; I just love numbers' [sic]. Those who did not like mathematics stated that it was confusing, and had too many rules that had not been clearly relayed to them. Or, that they had a poor teaching experience in primary and/or secondary school.

'In school I was made to feel stupid because I couldn't understand the concepts as quickly as some of my classmates. Eventually I convinced myself that I just couldn't do it and gave up' [sic].

The respondents were then questioned with regard to their attainment of mathematics qualifications. 64% indicated that they did achieve a GCSE in mathematics⁸ (Figure 11). With 21% of the respondents also indicating that they had an A level in mathematics (Figure 12).

Figure 11 - GCSE Mathematics Grades*Figure 12 - A Level Mathematics Grades*

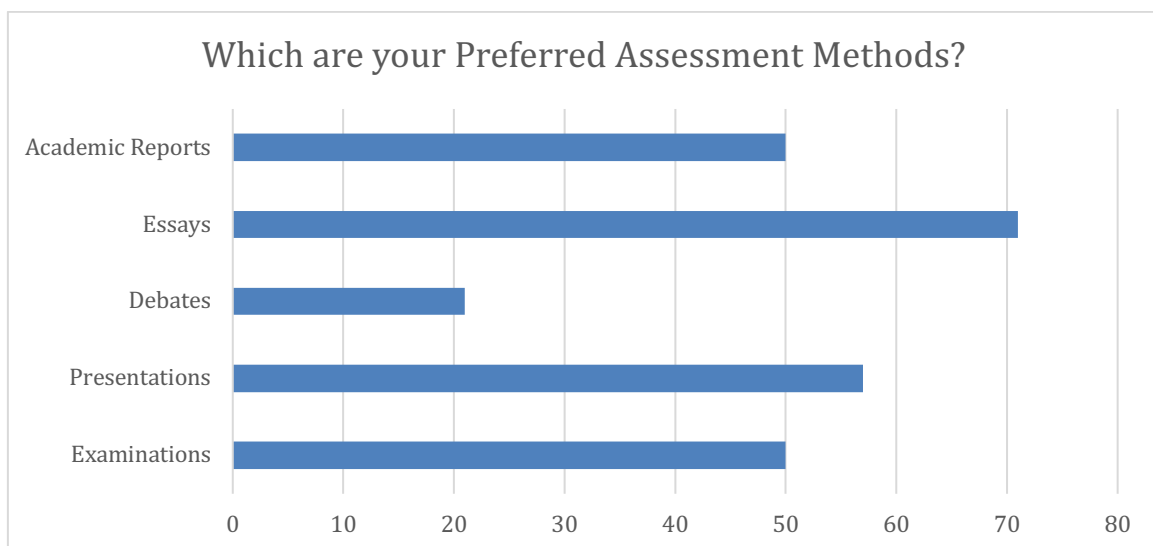
⁸ Despite the move to numbers for GCSE grades in 2017, the grades reflected in Figures 11 and 12 are depicted as letters, as the majority of the respondents received their qualifications in this format.



The grades achieved tend to indicate that the 64% learners had positive results in their GCSE mathematics. However, it is not within the remit of the results to indicate any challenges they may have faced in order to achieve these grades or their mindset with regards to mathematics.

The next set of questions focussed upon summative⁹ assessment preferences, to determine whether this had any reference to the accounting module assessment method. The respondents could choose up to three preferences (Figure 13).

Figure 13 - Assessment Method Preferences

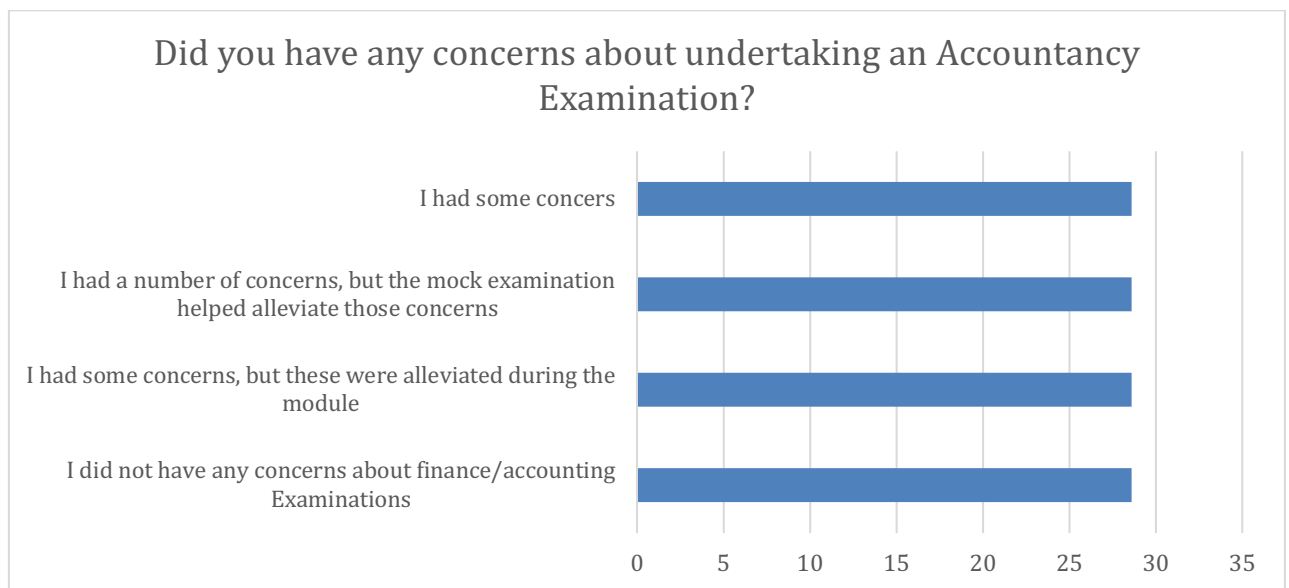


⁹ A definition of summative assessment was provided.

Examinations appeared to be as popular as academic reports, which was surprising. Previous research by Woodfield et al (2005) and Pitson (2013, 2015) had indicated that examinations tend to be the least preferred method.

The respondents were then asked whether they had any concerns about undertaking an accounting examination. There were varied responses to this question, but there are indications that a number of the respondents had initial concerns regarding the accounting examination (Figure 14).

Figure 14 - Accountancy Exam Mindset



A series of open questions focused on the role of feedback, to determine the level of importance that learners placed on feedback to aid them academically. Firstly, they were asked what the term feedback meant to them and the importance of feedback in supporting understanding and academic progression. The responses were very similar, including;

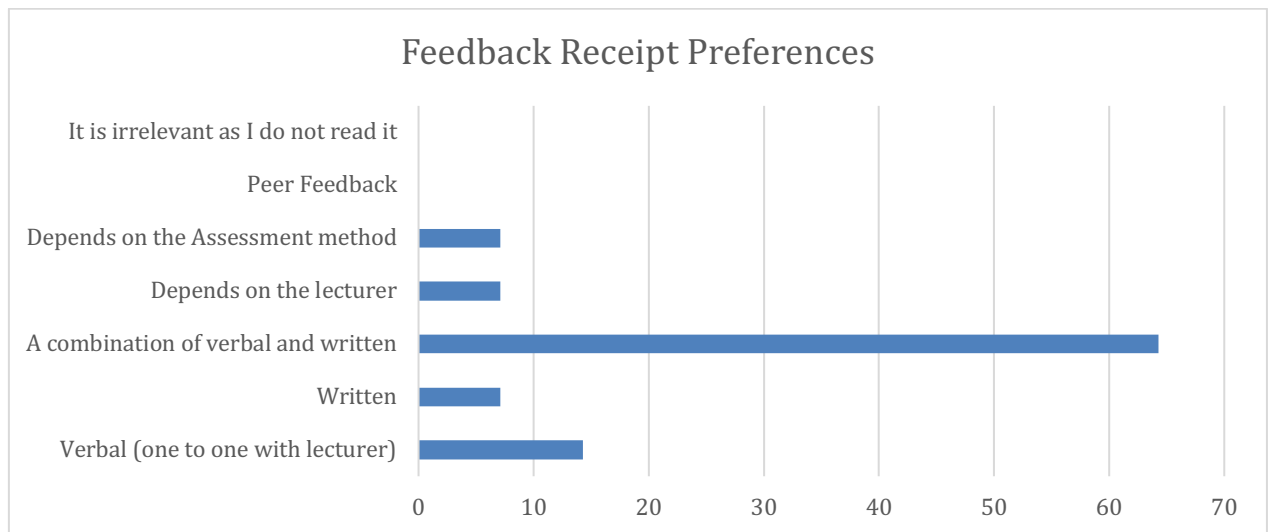
‘Valuable information to aid future work’ [sic],

‘very valuable in providing acknowledgements and information I could use to develop my work further’ [sic].

‘Very valuable to help understand where I went right and wrong, and to show how I can improve’ [sic]. ‘Feedback is valuable and I could not improve without it’[sic].

The next question asked which method of feedback they prefer to receive on their assignments. The majority indicated that they prefer a combination of verbal and written feedback (Figure. 15). They were then asked whether marks or written feedback show a true representation of their learning. The majority stated that the combination of marks and feedback showed a true representation of their learning, although some responded that it depends upon the structure of the feedback. All respondents stated that they utilise feedback to support their further assessments.

Figure 15 - Feedback Receipt Preferences

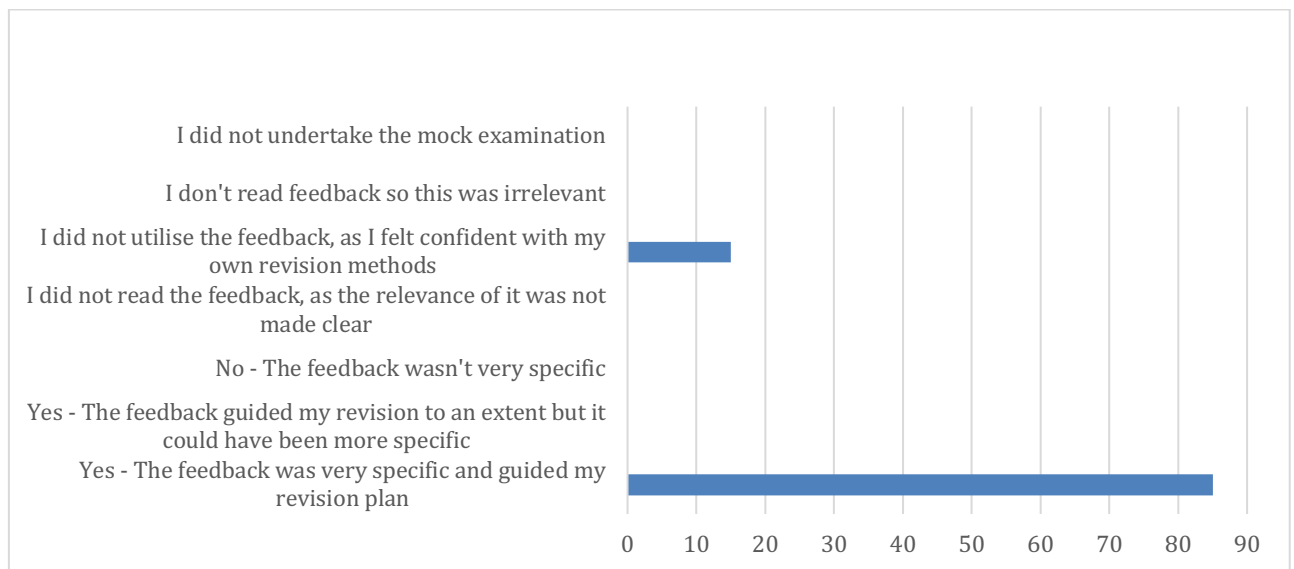


The level 4 accounting module includes continuous in-class formative assessment with verbal feedback provided throughout. The respondents were asked if they believed that the ongoing assessment and associated feedback benefitted their learning and understanding of the module. All responded that it did. In line with Jones (2005) and Hodgen and Wiliam (2006), they stated that continuous assessment enabled them to apply the concepts covered in class and gain a better understanding of the topic.

The respondents were then asked if they believe that mock examinations are beneficial to learner progression. The response was unanimous, with the respondents stating that mock examinations give students the opportunity to see the layout of the summative exam and understand how to answer the questions. There was agreement amongst the respondents that mock examinations can help the learner with their revision preparation and design. They were then questioned regarding the level 4 accounting module mock examination and the feedback provided and whether they used that feedback to aid their revision for the summative

examination. Around 85% replied that they did use the feedback, as it was very specific and guided their revision for the summative examination. 15% stated they did not utilise the feedback as they felt confident with their own revision approaches (Figure 16). There was no reference to whether this approach was successful or not.

Figure 16 - Mock Examination Feedback



They were then asked which methods they felt would be more beneficial than mock feedback to aid them with the summative examination. The responses were positive in favour of the mock feedback as an aid to preparing for the summative examination. One respondent did state that 'perhaps we could have revisited particular questions that were poorly answered, but overall I think the feedback was enough' [sic]. However, it should be noted that this approach is incorporated within the module revision sessions. It is not within the remit of this dissertation to state whether the respondent attended the revision sessions following their mock examination.

There were a number of fluctuations with the summative examination results, but these could be due to a number of factors; some students are more confident with numbers than others, the teaching strategy was amended throughout the five year period to suit the different learner groups. Consideration should also be made with regard to the fluctuations in the percentage of Accounting and Business and Finance students present in each group. Although, it should be noted that this particular cohort rarely accounted for more than 20% of the overall student numbers.

4.1.4 Student Interviews

Semi-structured interviews were conducted with fifteen students who studied the level 4 accounting module. A mixture of graduates, level 6 and level 4 students agreed to be interviewed. The questions focused on the assessment methods and feedback aligned to the accounting module. There were a number of commonalities between the student responses.

The interview began by asking what the interviewees found the most challenging aspect of accounting module. Around 50% stated that they found the module challenging in a good way, as it really got them to think and apply their knowledge in every session.

‘I enjoyed the accounting modules, but I can see why some students might not. Numbers aren’t for everyone; everybody has a favourite subject and a less favourable one. I found it challenging, like solving a puzzle [sic].

However, there were those who admitted that they did have some initial concerns.

‘The anticipation of studying it, as I don’t feel confident working with numbers [sic].

‘All of it, but in a good way, it got me thinking. I was surprised but I really did enjoy the module. The most challenging aspect was the second part of the module as there were so many different elements to it [sic].

‘The accounting module was the most beneficial module, as I learnt new skills. I was initially terrified of doing the module, but I really enjoyed it. My fear of mathematics stems from having a bad maths teacher in school, but this fear dissipated during the module’ [sic].

The interviewees were then asked if they felt the continuous assessments tasks were too frequent, or if it helped their understanding of the concepts covered in the module. There were commonalities with all of the responses;

‘This approach helped apply what was learnt and build on what was taught and linked to the content from the previous lesson’ [sic].

‘I loved the continuous assessments, particularly because for some elements we were working on it together in the class as a group. None of the other modules did that’ [sic].

‘I don’t think the assessment was overdone. I really liked the in-class assessments as they helped me develop an understanding of the concepts and apply them’ [sic].

The following question focused on the examination. The interviewees were asked for their thoughts regarding research that has indicated that many students believe that examinations are nothing more than a memory test and do not enhance the learning process (Woodfield et al, 2005). The majority were in agreement, with some stating;

‘I agree. Exams can overwhelm and cause some anxiety. I was terribly anxious about the exam, but the mock exam alleviated my anxiety considerably. It was still a challenge, but in a good way’ [sic].

Another stated, ‘I do agree to a certain extent. With exams there is a psychological process, where you cram to pass and then forget the information afterwards. Having said that, it does depend on the individual taking them’ [sic].

The interviewees were asked if they believe that the conditions set down within examinations allow for a true representation of learner ability to be shown. The majority stated that they felt that maybe at the time of the exam, but that with some subjects they do not really remember the information at a later point in time.

‘Not really, it’s a memory test, it doesn’t necessarily show your actual knowledge, as it is just rote learning so that the exam can be passed’. Also, I don’t think I would have been able to do it in two hours without the mock as a tester’ [sic].

In line with research by Pitson (2015), a number of the interviewees felt that there were benefits to examinations with regard to testing specific skills such as time management and being concise with responses. A number stated that some subjects were better assessed via examinations despite the added pressures associated with examinations.

‘With accounting, or parts of i.e. the calculations, examinations are the best method, but that would be entirely dependent upon which element of accounting is being looked at. For the theoretical elements I feel writing a report or essay would probably be more appropriate’ [sic].

They were then asked if they have noticed a change in the marks achieved in examinations when compared with other assessment methods whilst studying at university. The majority of responses indicated that they did better in written assignments such as essays and reports or presentations, as these methods were not so tightly bound by time constraints and really enabled them to think about the question prior to submitting. Also, essays and reports enabled in-depth research to be undertaken. Furthermore, throughout the process they have an opportunity to

speak to lecturers and get guidance. However around 25% of the respondents stated that they achieved better results in examinations.

‘The finance module and associated exams were my best module marks. Which surprised me, but I was really pleased. I really thought that I was going to struggle with this module as I have very little confidence working with numbers and doing exams’ [sic].

‘Another stated, ‘I had better results from examinations. I think doing the mock and knowing how the questions would be structured really helped’[sic].

‘I have always preferred exams and get better results in them. It is all over with within a short time frame. Written assignments seem endless to me’ [sic].

They were then asked if they are able to remember the content assessed in examinations in the long-term. In line with research by Ramsden (2003), Cambridge Assessment (2013) and Pitson (2013, 2015), the majority admitted that they could not remember much about the content they had been assessed on in the past.

The interviewees were asked whether the mock prompted them to begin the revision process earlier. There was some reticence with regard to this question as some of the interviewees did not want to admit that it did not prompt early revision. Half agreed that it did, as they wanted to take full advantage of the mock and the associated.

The questions then moved onto the role of feedback, and whether they believe is it necessary to provide written feedback to students on mock examination answers. A number of the respondents stated that the itemised mock feedback supported their understanding of the subject and aided their preparation for the summative examination.

‘I think so, yes – we get feedback on drafts for other types of assessment, so it seems appropriate that we would also get feedback on our mock exams. With regard to the mock I knew what type of questions would be included in the exam, it helped me see where errors are and undertake associated revision. Feedback over marks any day. A bad mock mark can be really demotivating especially if you already have a fear of numbers and/or examinations. I was really happy with the feedback provided, it was clear and aligned to my responses’ [sic].

‘If you get in the wrong mindset it can have an impact, feedback can help. Even just one line of ‘you’re on the right track can be valuable’. Feedback is invaluable to show where you went wrong and what you need to do to improve’ [sic].

‘Yes, feedback on anything is good, whether it is positive or negative. Even if you aren’t going to sit the same the subject again, the feedback can be an acknowledgement of what you have done or help with resits, or in some cases assessment on other modules’ [sic].

Finally, the interviewees were asked how they felt about not receiving their mock mark until after the summative examination. The response was unanimous that they were relieved not to have received the mock mark prior to the summative examination as it could have significantly affected their motivation.

‘Following the summative exam in which I achieved 74%, I was given my mock exam result which was 24%. If I had received that prior to the summative exam my whole mindset would have been ‘failure’. The feedback on the mock not only gave me guidance, but it also motivated me because I knew what I needed to do to succeed’ [sic].

4.1.5 Academic Staff Interviews

Ten academic staff members from with the researcher’s faculty were interviewed to determine the use of Assessment for Learning and Developing Thinking practices. 50% of the interviewees confirmed they had heard of both concepts, although 60% of these admitted that they did not know all of the concepts related to them. In consideration of this, the concepts were explained to the interviewees to ensure their understanding.

The interviewees were initially asked if they share the aims and objectives of the programmes and modules they deliver with learners. It should be noted that the researcher’s institution sets down baseline standards which stipulates that the aims and objectives of each module and associated assessments must be provided via the VLE and module handbooks.

The interviewees all stated that they follow the baseline standards across all of the modules they deliver. However, one interviewee admitted that they do not provide a handbook, ‘as they appear to be clumpy and the students didn’t really read them’ [sic]. The majority of the interviewees also stated that the aims and objectives of each lecture are included on the first slide at the start of the session.

The interviewees were asked if they believe that on-going formative assessment benefits student learning, or whether they felt summative assessment is a better indicator. In line with Black and Wiliam (1998) and Chappuis (2005), all agreed that formative assessment is fundamental in indicating student understanding. with one respondent stating ‘irrespective of student ability I feel that undertaking formative assessment and giving/receiving feedback is highly beneficial for students and their progression’[sic].

All of the interviewees stated that formative assessment is an ongoing practice in their modules, and activities are undertaken in each session to enable the learners to apply the concepts covered in lectures. Different strategies were applied by the respondents including the use of technology such as Kahoot, Q&A, case studies, discussions and debates. One interviewee stated that they use Kahoot as a group game.

‘following the session, students can follow a link in Kahoot and play against their original attempt to see if their knowledge has improved or become embedded [sic].

All of the interviewees stated that students are encouraged to ask questions within lectures, with some stating that learners are reassured that ‘there is no such thing as a stupid question’ [sic]. It was agreed by over half of the interviewees that questions and two way dialogue help to encourage the learner groups to work together, aids with motivation and enables lecturers to determine if the students are engaged with and understand the lecture/module content. One of interviewee stated that for the most part, formative assessment and questioning gives learners a sense of where they are, which is one of the benefits of formative assessment, particularly in the lecture room.

There was agreement with the majority of the interviewees that some students unfortunately do disengage with some formative practices, conversations and discussions.

‘To counteract this, the approach I use is a mixture of putting out questions and waiting for volunteers to answer, but also asking specific students specific questions’. This approach is particularly useful for those students taking full advantage of the ‘pillar factor’, whereby they hide behind objects in the lecture hall in order to avoid questions [sic].

There was agreement amongst all respondents that feedback on draft submissions was offered. However, each respondent delivered it differently. For the most part, the feedback was

provided in face-to-face timetabled meetings which occurred around a week prior to submission, whereby the students bring printed copies of their work. Others supply feedback via email or a draft link via Turnitin.

All interviewees agreed that this was a University recommendation, and not something that they would necessarily offer otherwise, as they have found that many students do not read the draft feedback provided. There was also agreement that those students who took up the offer were the more able, or at least the more engaged students. All agreed that those students who would have benefitted most from receiving feedback tended not to submit drafts or seek out feedback on their work. One respondent stated that ‘if the students choose to take advantage, then I provide it. The uptake depends on the year group. Usually around 50% at level 6, the percentage drops as the years go down [sic].

Around 60% of the interviewees admitted that much of the feedback they provided focused on grammar, punctuation and presentation of the work as well as emphasis on the application and approach to answering the assignment question. They also admitted that it was very time intensive and it was evident in the subsequent summative submissions that a number of the students were not using the feedback to improve the final work.

‘It was as if they were submitting the draft to comply or tick a box, rather than to receive guidance on their approach, develop or gain a better understanding’ [sic].

One of the respondents stated that they provide feedback verbally as; ‘the groups can be somewhat large so it would be timely to undertake individualised feedback. Also, assignment specific sessions related to feedback eat into the opportunity to actually deliver content. At university, the students shouldn’t really need individualised feedback on drafts’ [sic].

‘Another respondent stated; ‘I moved away from writing or typing up the feedback, as it doesn’t change the approach applied by some the students in the final submission. A number of students have admitted that they do not bother reading the feedback’ [sic].

‘It’s a difficult one, there are some students who will read it and ask questions, but these are the ones who are already doing well. So, feedback should be done so that they can review but it does feel like a waste of time for those who don’t use it’. ‘It’s really important that the students can actually understand the feedback, it needs to be worded appropriately’ [sic].

Around 25% of the interviewees stated that face-to-face draft feedback has brought about better results than written feedback, as the learners have the opportunity to ask questions, which is particularly important if the learners are not entirely clear on what they need to do.

Another interviewee stated ‘it can be very demotivating for students if the feedback can’t be understood because the feedback isn’t structured properly or they misunderstand the intent. Otherwise, how the students apply the feedback can actually make the work worse than the original draft, it is how they interpret the work’ [sic].

The interviewees were asked if they apply modelling in their teaching, formative assessment and summative feedback. Over 75% stated that they use modelling within their teaching, to enable learners to see how a particular strategy or theory should be applied and where necessary as part of the feedback on formative assessments. The majority of them also stated that the inclusion of modelling through ‘a dummy version of the layout’ [sic], helps with the structure of the students summative assessments. Although one admitted that not all students follow the examples provided on modelling samples. However, another respondent stated that with numeracy-based work there has to be a model answer.

When asked if they encourage self or peer assessment and feedback, all agreed that it is an integral part of their teaching.

‘The students can develop their understanding through the assessment of each other or themselves. Although, this approach works better with some groups more than others. Class size can be a factor, the smaller the class number the more successful and flexible this practice is. It also depends upon the personality, mindset or attitude of those within the group, a case of ‘not what is said, but how it is said’ or how it is perceived. Therefore, appropriate language is important and where possible, tailored to the individual to ensure that misconception is kept to a minimum. It is also important to set guidelines to ensure that criticism is put forward in a constructive manner’ [sic].

The interviewees indicated their use of different approaches to facilitate peer assessment, included debates and quizzes.

‘A lot of the activities are group based and it is positively encouraged for the students to assess each other, even if it is just a debate. They get the opportunity to learn from each other and on occasion can become competitive – in a positive way – they thrive on this’ [sic].

Self-reflection is another aspect that each of the interviewees included as part of their teaching and assessment strategies.

‘I talk through self-reflection, and indicate how important it is to self-reflect and look at the feedback provided. I encourage them to see what they did, what they need to do and how they are going to do better.’ [sic]

The interviewees were asked if they indicate what was done well; where there is room for improvement; what steps the learners need to take to improve in their formative and summative feedback. In line with Black and Wiliam (1998), Hattie (2005) and Petty (2020), all agreed that they did apply these methods as they are crucial in supporting learner progression. However, each of them also stated that there are challenges, particularly if there is nothing positive to say. Each stated that language is key, so they avoid overly criticizing, and where the work may be of a weak standard.

They were further questioned regarding the use of sandwich feedback. There was some cynicism with regard to this approach. A number indicated that it can be difficult to find good in a bad piece of work. They all agreed that it is wrong to give positive information just for the sake of it, as there is a danger of giving false hope. Diplomacy is more appropriate, giving constructive criticism and being honest about where they are, what they need to do and what needs to be undertaken to get there.

The interviewees were asked if believe there is too much emphasis on giving draft feedback in Higher Education. This brought about mixed responses. They all agreed that it has become an expectation, and ‘some students turn up with very little work and want me to tell them what to do, whereas others want feedback on large tomes and expect feedback on every aspect’ [sic]. All of the interviewees felt that in the past decade student expectations had changed, possibly in line with the increase in student fees, and now learners expect more. These increased expectations include some students expecting lecturers to tell them what to do via feedback. There was concern that feedback could end up being the work of the lecturer rather than the student, for example, a reproduction of what the lecturers are telling them to do. Or, that the students will not really develop an understanding of the topic in the long run because they are not entirely thinking for themselves.

The interview questions then moved onto assessment feedback, with particular emphasis on examinations. Half of those interviewed stated that examinations do not form part of the assessment methods for the modules they deliver and assess. However, those that do assess modules through examinations had different approaches to feeding back to students prior to them undertaking summative examinations. Two of the respondents stated that they did not offer mock examinations as time was an issue, and ‘they certainly did not have the time to develop and write individualised feedback’ [sic]. Instead, all revision questions are undertaken in timetabled revision sessions and were structured similarly to the summative exam with a standard answer provided. This enabled the learners to know how the summative examinations are structured and how to answer the questions appropriately in a supportive environment.

One interviewee stated that they set mock examinations to give the students an idea of the structure of the summative examination questions and potentially how to answer it.

‘The students mark their own. Following the mock I go through the answers on the board. A percentage mark is not allocated, so I don’t know if there is a change in the overall marks assigned to the mock and summative exams. The examinations are based upon physiology, so the answers are either correct or incorrect. In theory the students can get an idea of whether they have passed or not by mapping their answers to the model answer, but not by what percentage, as they don’t know how many marks are assigned to each question’ [sic].

‘Feedback is provided to the group overall based on the answers provided in the mock. This approach highlights where they need to do the work and also enables a Q&A session. It is hoped that this approach deepened the learners understanding of the subject and enables them to be successful in the summative exams. The feedback from the students is positive. I believe that knowing the percentage mark could potentially be very demotivating [sic].

Chapter 6. Summary and Conclusion

The major findings of this research have indicated that the provision of feedback on mock examinations is beneficiary for learners. The biggest increase in student marks is evident in the summative examination results achieve by the students who undertook both the mock and received the individualised feedback. For the students a key concept was enabling them to read the feedback, ask questions and utilise the guidance in their exam preparation and revision practice. This approach enabled learners to act upon feedback provided to develop their understanding (Wiliam, 2011). It was essential that the students recognize the benefits of feedback from their taught classes, in order to encourage them to actively seek out all feedback that is offered to them based on the mock exams (Black et al, 2013; Pitson, 2016).

The interviews with colleagues from the researcher's department indicated that AfL and Developing Thinking are practiced and are key components of their teaching practice. Part of this application is as a direct result of guidelines set down by the researcher's institution, the Higher Education Academy (2013) guidelines and recommended teaching practices (Bloom, 1956; Black and Wiliam, 1998). Afl and Developing thinking are applied firstly, through the distribution and regular reference to the module/learning aims and objectives. Secondly, through continuous critical reflection by each academic on their practice and looking at different ways to improve their pedagogy to support student development. Thirdly, through the provision of verbal and written feedback. Finally, the inclusion of peer and self-assessment strategies within in their classrooms. This supports the supposition that AfL practices should be the benchmark standard for teaching in Higher Education, as the methods help to move away from rigid 'chalk and talk' sessions to encourage two-way dialogue between the teacher and the learners (Black and Wiliam, 1998; McGregor, 2007; Brookhart, 2019). Ensuring formative assessment is utilised as assessment for learning, as opposed to assessment of learning (Black and Wiliam 1998).

With regard to feedback on mock examinations, only one academic made reference to undertaking the practice, but added that the feedback is supplied by students through the role of peer support. This method of feedback delivery is beneficiary as it takes away the learner's role as passive participants and moves them forward, creating active participants who take more

responsibility for their learning and actively accept challenges (Black et al, 2013; McGregor, 2007).

It is important that learners become more involved in their learning, and this can be achieved through self-evaluation and challenging themselves (Cambridge-community, 2020). Furthermore, learners need to develop methods whereby they begin to think more actively and critically, considering 'where they are now, where they are going and how to get there' and utilise the feedback for this purpose (Cambridge-community, 2020). This is particularly important in Higher Education as graduates will be joining the job market, and employers consider these skills as essential (Jobs.ac.uk, 2019). This approach could help to turn learners from having a fixed mindset to that of growth mindset approach to learning, particularly with regard to numerically based subjects (Boaler, 2016). Furthermore, the ability to become active participants is particularly important in Higher Education, as the capacity for learning independently is a prerequisite (Petty, 2020). Therefore, giving learners appropriate tools for self-evaluation is paramount.

It was clear from the responses that both students and academics place a considerable amount of importance on the role of feedback in aiding academic progression. Although, negative connotations regarding time and the amount of extra work involved in creating individualised feedback on mock examinations was a recurring theme amongst the researchers colleagues. Black et al (2013) concur that the method of written feedback is time consuming. However, academics could create a 'bank' of applicable feedback, guidance notes and model answers that would only require some adaptation to ensure it is applicable and individualised for each learner (Black et al, 2013).

There were a number of limitations to the research due to the limited or aged academic research on the role of Assessment for Learning and Developing Thinking within Higher Education. Much of the literature is aligned to primary and secondary education. However, this did help with the understanding related to the impact of lower level education can have upon adult learners and their mind set, particularly in relation to mathematics.

It would have been beneficial for the student interviews and questionnaires to have been undertaken periodically following the mock and final examinations over the five year period. In some cases it has been more than three years since the students undertook the examinations,

and the information was not completely fresh in their minds. However, the module evaluations have been beneficiary, as they contained student opinions received immediately following the module completion. Although it should be noted that they did not include questions specific to the module itself or the mock examination and associated feedback, but rather, more general details about the overall learning experience. That being said, the process has been beneficial for the researcher's teaching practice, as the introduction of the feedback on the mocks has given a deeper understanding of the role and benefits of feedback and how it facilitates learner progression and more importantly their understanding.

The researcher hopes to continue to develop their teaching practice to help change the mindset of the learners so that they move away from a fixed mindset of disliking numeracy based modules and move to a place where they feel confident and potentially enjoy working with numbers. Effective teaching requires reflection of practices undertaken in the classroom and amendment and changing of teaching strategies if others do not work (Hattie, 2009). It is essential that the teacher knows and understands when learning has taken place within the classroom and not rely solely on the summative results (Hattie, 2009). Therefore, educators need to understand the basic concepts of what learning is, in order to develop appropriate engaging classroom activities and assessments (Pritchard, 2017). Learning is not something that is done to learners, but rather it is something that learners do to themselves as a result of engagement, experiences and reflection (Queensu.ca, 2020).

6.1 Recommendations

The findings have revealed that the introduction of feedback on mock examinations is beneficiary for learners. In light of these research findings, the following recommendations are made:

- It is recommended where possible, that written or verbal feedback be provided for students on mock examinations, to support revision practices for summative examinations. To facilitate this it would be beneficial for the teaching staff to have a repository of feedback statements and modelling examples, specific to the examination which can be adapted for individual learners (Black et al, 2013). In line with guidance from Hodgen and Wiliam (2006) and Race (2007) the feedback

should include positive language, whilst being critical and honest so that learners know what to aim for.

- It could be beneficial to provide feedback on mock financial examinations at levels 5 and 6 to determine if the process is beneficial at all levels. This could be particularly beneficial for non-accounting students enrolled on compulsory accounting modules. This should be followed by further research to determine if providing feedback on mock examinations works conclusively within Higher Education, by researching practices undertaken at institutions other than the researchers. Questionnaires and one-to-one interviews with learners and academics at other institutions could facilitate this.
- Continued critical reflection and evaluation of teaching methods, strategies and assessment methods to ensure appropriate approaches are undertaken for the benefit of the learners.

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9. Appendices

9.1 Mock Examination Feedback Examples

Examples of feedback provided by the researcher to students who had completed the accountancy module mock examination.

9.1.1 Fundamental Feedback

You calculated the majority of the mock examination correctly. There were only two incorrect answers.

Question 4 - A gas bill for an organisation: is a semi-variable cost – as there is a standing charge plus charge per unit of gas used.

Question 30 which related to marginal costing. The correct answer was D – Based on your correct calculation for question 29, there is no under-or-over-absorption of overheads.

9.1.2 Moderate Feedback

As part of your revision you need to focus on the following (and include the methods on your exam notes).

- Different types of costs (use the example covered in the first lecture which includes examples of fixed cost, semi-variable costs etc. and the different activities within an organisation related to these different cost types).
- Practice the methods you apply to calculate average weighted costs. Remember, each time the stores receive units the unit cost needs to be recalculated. i.e.

First step - calculate the number of units in stores + number of units received.

Second step - total cost of the units in stores + total cost of the units received.

Third step - divide the total costs by the number of units

- You have calculated most of the apportionment and absorption questions appropriately. However, take care to ensure that you use an appropriate basis of apportionment.

For example, if calculating Insurance of equipment apportioned to Department 1 you need to use the book value of equipment to calculate this, not the floor space as the question focuses on equipment within the building, not the building itself.

- You need to look at the theory aligned to over and under absorption. Consider what the affects will be if management miscalculate these figures.

Your exam supporting notes should include the methods and examples for the questions that you feel least confident in calculating.

Finally, always show your workings. Firstly, when reading through your answers you can trace your approach to check that you have calculated correctly. Also, it is easier to advise you on your methods if I can see how you calculated. Ensure that you show your calculations on the exam.

9.1.2 Comprehensive Feedback

As part of your revision you need to focus on the following (and include the methods on your exam notes).

Overhead Absorption Calculation Method

The following data are to be used for Questions 1 and 2

Budgeted labour hours	8,000
Budgeted overheads	£137,600
Actual Labour Hours	7,900
Actual overheads	£134,000

1. Based on the data given above, what is the labour hour overhead absorption rate?

To calculate the Overhead Absorption Rate (OAR), you need to divide the Budgeted Overheads figure (given in the question) by the budgeted labour hours figure (given in the question).

This will give you the labour hour overhead absorption rate. i.e.

$$\begin{aligned}\text{OAR} &= \frac{137,600 \text{ (BUDGETED OVERHEADS)}}{8,000 \text{ (BUDGETED LABOUR HOURS)}} && \text{(underline indicates divide)} \\ &= £17.20 \text{ OAR}\end{aligned}$$

- A. £17.50 per hour
- B. £17.20 per hour
- C. £18.44 per hour
- D. £18.76 per hour

2. Based on the data given above, what is the amount of overhead under/over absorbed?

This question requires you to look at the budgeted overheads and budgeted labour hours, and compare them to the actual overhead cost and labour hours to determine if the company has over or under absorbed its costs.

$$\begin{aligned}\text{Overhead absorbed} &= 7,900 \times 17.20 = 135,880 \text{ (Actual labour hours (from question) x OAR from answer 1)} \\ \text{Actual overhead} &= 134,000 \text{ (from the question)}\end{aligned}$$

Subtract the actual overhead figure from the overhead absorbed figure to determine whether the overheads have been under or over absorbed =. $135,880 - 134,000 = 1,880$ over absorbed.

- A. 1,880 under absorbed
- B. 2,529 over-absorbed
- C. 1,880 over-absorbed**
- D. 2,529 under-absorbed

3. Callie normally works 35 hours a week and is paid £11.60 per hour. In the current week she has worked 48 hours, 5 of which were idle.

The company's customer has requested that the production be completed as soon as possible and has stipulated in the contract that they will cover any overtime payments. Overtime on this basis will be paid at time and a half.

What were her gross wages and how would these be broken down into direct and indirect Labour Costs?

Apply the following method to aid you with calculating this question.

To determine the Gross Wages, start by calculating the Basic Wage (total hours worked x hour rate)

Next, calculate the overtime premium (number of overtime hours x hour rate)

Next stage, calculate the direct wages (wages that can be attributed to production). Start by multiplying the direct hours (48 are total hours, 5 were idle so the direct wages were 43) by the hourly rate.

Calculation Method

Gross Wages

Basic Wage	48 hrs x £11.60	556.80
Overtime Premium	13 x £11.60	<u>75.40</u>
Total		632.20 (basic wage + overtime premium figure)

Direct Wages

Basic Wages for Productive Hours.	43 x £11.60	498.80
Overtime Premium (calculated in first step)		<u>75.40</u>
		574.20

Indirect Wages (idle time)

Basic Wage for Idle time	5 x £11.60	58.00
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- Different types of costs (use the example covered in the first lecture which includes examples of fixed cost, semi-variable costs etc. and the different activities related to them).

- Practice the methods you apply to calculate average weighted costs. Remember, each time the stores receive units the unit cost needs to be recalculated. i.e.

First step - calculate the number of units in stores + number of units received.

Second step - total cost of the units in stores + total cost of the units received.

Third step - divide the total costs by the number of units

- You have calculated most of the apportionment and absorption questions really well. However, take care to ensure that you use an appropriate basis of apportionment.

For example, if calculating Insurance of equipment apportioned to Department 1 you need to use the book value of equipment to calculate this, not the floor space as the question focuses on equipment within the building, not the building itself.

- You need to look at the theory aligned to over and under absorption. Consider what the affects will be if management miscalculate these figures.

Your exam supporting notes should include the methods and examples for the questions that you feel least confident in calculating.

Finally, always show your workings, as it is easier to advise you on your methods if I can see how you calculated. Ensure that you show your calculations on the exam.

9.6 Ethics Form

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: “creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”. As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the “principal researcher”.

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

Full Name:	Sian Marie Pitson				
Tick all boxes which apply:					
Member of staff:	☒	Student:	☒	Honorary research fellow:	☐
Faculty/School/Centre:	Yr Athrofa				
Campus:	Waterfront Campus				
E-mail address:	smpitson.102267@student.uwtsd.ac.uk				
Contact Telephone Number:	07578 272787				
For students:					
Student Number:	P102267	Undergraduate	☐		
Programme of Study:	MA Education	Taught Postgraduate	☒		
Director of Studies/Supervisor:	Catherine Morgan	Research	☐		

SECTION B: Approval for Research Activity

Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)		YES	☒	NO	☐
					Date
If Yes, please indicate source of approval (and date where known):	Research Degrees Committee		☐		
	Faculty Research Committee		☐		
	Other (write in) Approval given in principal by Supervisor Catherine Morgan		☒	12/08/19	

Approval in principle **must** be obtained from the relevant source prior to seeking ethical approval.

SECTION C: External Ethical Guidance Materials

Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.	
BERA Guidelines 2018	☒
UWTSD University Regulations Postgraduate Student Guide (Taught Degrees) 2018	☒
UWTSD Research Data Management Policy 2017	☒

SECTION D: External Collaborative Research Activity

Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
If Yes, please provide the name of the external organisation and name and contact details for the main contact person:				
Institution				
Contact person name				
Contact person e-mail address				

Where research activity is carried out in collaboration with an external organisation

Does this organisation have its own ethics approval system?	YES	☐	NO	☐
If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

Indicative title:	The Role of Feedback in Aiding Learner Progression		
Proposed start date	5 th September 2019	Proposed end date:	30 th September 2019
Purpose of research activity (including aims and objectives)			

Outline the purpose, aims and objectives of the research activity, including key research questions. Show briefly how existing research has informed the proposed activity and explain what the research activity will add and how it addresses an area of importance. (Maximum 300 words)

The issues for investigation relate to the benefits of formative feedback upon learner progression, with focus upon Assessment for Learning (AFL) and Developing Thinking. The research will also consider the justification for future development of Assessment for Learning and Developing Thinking principles within her teaching practice, and consider the implications for Higher Education.

The researcher is a higher education lecturer who teaches an accounting module which is compulsory for all level 4 students studying on several Business programmes at her institution. The use of examinations as an assessment method in the accounting modules at the researcher's institution are laid down by the ACCA. This requirement is in order for those students studying on the accounting degree to achieve exemptions from their professional ACCA accreditation.

In recent years, it has become evident to the researcher that some learners had a negative fixed mindset regarding their ability to study numeracy-based subjects successfully. Numerous studies have examined the concept of learner mindset and attainment which indicate that mindset plays an integral role in learner success, and that appropriate intervention can bring about more positive results (Sriram, 2014).

Research by Dweck (2006) has indicated that the giving of marks as a method of feedback can result in a sense of failure for learners, particularly as low grades can demotivate the learner and can fail to inform the student how they can improve. Conversely, written feedback, if structured appropriately and focused on the learner can elicit improvement and progression (Butler, 1998).

Effective teaching includes critical reflection of practice, this is important because some practices undertaken by teachers may be effective in the short term, but fail to enable effective learning. The role and benefits of feedback have been researched and discussed extensively by educationalists and authors (Black and Wiliam, Dweck), with regard to primary and secondary education. The research undertaken by these sources produced empirical evidence highlighting

the substantial benefits AFL and Developing Thinking can have for learners and their progression.

In light of the beneficiary evidence of formative feedback, in 2015 the researcher moved away from the traditional method of giving of marks on mock examinations, and introduced the practice of supplying formative feedback on examinations. This approach was applied to enable the students to receive individualised structured feedback which included guidance and examples showing the student how they could improve.

Following the introduction of this approach, it was noted by the researcher that there was a discernible increase in the marks achieved by the learners in their summative examination. As a result, the researcher wishes to question the learners to determine if the results were as a consequence of the feedback.

The main research questions seek to determine:

- How do the four elements of Assessment for Learning fit into Higher Education finance modules?
- To consider whether specific formative feedback on Mock examinations enables learners to identify their strengths and weaknesses of the subject, in order for them to align their revision to specific areas?
- Does the type/structure of feedback given make a difference to the results obtained by learners?

Proposed methods

Provide a brief summary of all the methods that **may** be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. (Maximum 600 words)

With regard to student opinion, the initial data will be collected through the distribution of 150 questionnaires to students/graduates who have recently completed levels 4, 5 and 6. The questionnaires will feature attitude questioning using a mix of Closed and Open-ended questions.

The questionnaires will be followed by semi-structured interviews with respondents who indicate that they are willing to be interviewed. This participation will be determined via a statement at the foot of the questionnaire, which will include an offer for students to be interviewed concerning their thoughts regarding whether the formative feedback given on their mock examinations helped develop a deeper understanding of the topic, facilitated their revision planning or served no purpose.

The researcher also proposes to use existing data from the mock and final exams. The data within the mock and final examinations will be extrapolated for statistical analysis, and will only be discussed within the research paper with regard to any discernible mark changes that occurred between the formative and summative assessments, but with no reference to specific marks or students. All data relating to the mock and final examination results is stored within the University archives in line with University regulations and procedure.

Semi-structured interviews will also be undertaken with academic staff members who deliver on the Business Management programmes to determine the use of Assessment for Learning and Developing Thinking practices within the Institute of Management and Health. Provisional verbal confirmation from academic staff regarding their participation has been received. Further consent will be sought via written consent prior to their undertaking of the semi-structured interviews.

Location of research activity Identify all locations where research activity will take place.
University of Wales Trinity Saint David Institute of Management and Health Swansea Business School
Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural sensitivities or vulnerabilities of participants.
(this box should expand as you type)

SECTION F: Scope of Research Activity

Will the research activity include:	YES	NO
Use of a questionnaire or similar research instrument?	☒	☐
Use of interviews?	☒	☐
Use of diaries?	☐	☒
Participant observation with their knowledge?	☐	☒
Participant observation without their knowledge?	☐	☒
Use of video or audio recording?	☐	☒
Access to personal or confidential information without the participants' specific consent?	☐	☒
Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
Investigation of participants involved in illegal activities?	☐	☒
Use of procedures that involve deception?	☐	☒
Administration of any substance, agent or placebo?	☐	☒
Working with live vertebrate animals?	☐	☒
Other primary data collection methods, please explain in this box Other primary data collection methods will include figures from three consecutive years of the level 4 finance module mock and final examinations. The data within these examinations will be extrapolated for statistical analysis, and will only be discussed within the research paper with regard to any changes that occurred between the formative and summative assessments, with no reference to actual marks. All data relating to the mock and final examination results is stored within the University archives in line with University regulations and procedures.	☒	☐

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

Who are the intended participants:	YES	NO
Students or staff at the University?	☒	☐
Adults (over the age of 18 and competent to give consent)?	☒	☐
Vulnerable adults?	☐	☒
Children under 18?	☐	☒
Prisoners?	☐	☒
Young offenders?	☐	☒
Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
People engaged in illegal activities?	☐	☒
Others (please identify):	☐	☒

Participant numbers and source

Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?

The sampling framework relates to around 150 students studying on the Business Management programmes who have recently completed levels 4, 5 and 6. Students who are direct entrants to level 5 and 6 will not be considered within the sampling framework as they did not participate in the module or its associated assessments.

All of the participants are undergraduate and graduate students aged eighteen years and over.

Questionnaires will be distributed to all students in the sample via their University email account with a link to Google Surveys. The recent graduates will also be communicated to via student email, as it remains active for twelve months following graduation.

The foot of the questionnaire will include an invitation for students to be interviewed to determine their thoughts regarding whether the feedback given on their mock examinations helped develop a deeper understanding of the topic; facilitated their revision planning or served no purpose. The footer will also include a notification that the first 15 students who accept the offer will be interviewed. An acceptance deadline of September 9th 2019 at 5pm be specified on the questionnaire.

Semi-structured interviews will also be undertaken with the ten academic staff members who deliver on the Business Management programmes to determine the use of Assessment for Learning and Developing Thinking practices within the Institute of Management and Health.

Information for participants:	YES	NO	N/A
Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
Will you tell participants that their participation is voluntary?	☒	☐	☐
Will you obtain written consent for participation?	☒	☐	☐
Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒
Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
If NO to any of above questions, please give an explanation			
(this box should expand as you type)			

Information for participants:	YES	NO	N/A
Will participants be paid?	☐	☒	☐
Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
If YES to any question, please provide full details			
(this box should expand as you type)			

SECTION H: Anticipated Risks

Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.
If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.
Full risk assessment completed and appended?
Yes No ☒
Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information
As with all research, there is an element of risk to the participants, researcher and the institutions/persons involved. The research will be undertaken at my current place of employment and, therefore, the research poses a risk to the participants as I am known to them in my role as their lecturer/colleague. For that reason, there may be a risk of them feeling obliged to participate in the research. Furthermore, due to the nature of the topic being investigated, they may feel awkward discussing such issues. The aim of the research will be explained to the participants via a written information sheet and for those agreeing to interview, also verbally. Participants will be assured that names and other identifying features will not be included at any time during the study. They will also be informed that, for the duration of the research process, all of the raw research data will be stored securely in a locked

filing cabinet within the Business Campus. Following formal confirmation from the University that the Dissertation has achieved the requirements to pass, the secure physical destruction of the raw research data will take place using the University's confidential disposal service.

The interview participants will sign a consent form. If a signature is not obtained, they will not participate. The participants will be informed that they may withdraw at any time and that data pertaining to them will be destroyed using the University's confidential disposal service, and removed from the research study should they wish to withdraw their consent.

The Researcher will be the only person to have access to the raw data, although participants will have access to data held on them upon request and during the feedback session.

During the interview, both student and staff participants will have a safe word, which if used will result in the termination of the interview and all data pertaining to them will then be destroyed and removed from the research study.

BERA (2018) guidelines will be adhered to throughout the study.

If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities

(this box should expand as you type)

Risks to investigator

For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest

The participants in the research are students and colleagues of the researcher and therefore this potentially poses a risk to the researcher. Due to this close relationship, the participants may feel obliged to participate or may answer the questions in the manner they believe the researcher wants the questions answered. This could affect the validity of the research, as the responses will not truly represent what the students/colleagues experienced/believe.

Due to my role as lecturer and the close relationship with students, there is a risk of me being accused of showing favouritism for one student over another. For example, if I interviewed one student and not another, and the first student had received higher marks than the second, the second student could potentially accuse me of favouring the first.

To minimise the risk of an accusation of favouritism, the invitation for students to be interviewed will be included on the questionnaire stipulating that the first 15 students who accept the interview offer will be interviewed. An acceptance deadline of September 9th 2019 at 5pm will be specified.

At all times during the research process, the participants will be made aware of the change in the nature of my role from lecturer/colleague to researcher, and reminded that participation is optional and with regard to the questionnaire anonymous.

Once the analysis of the data from the interviews has been completed, the participants will be invited to read through my analysis and provide feedback. If at this time they feel that they wish to withdraw, they will be able to do so and all raw data aligned to them will be destroyed and removed from the study.

BERA 2011 guidelines will be adhered to throughout the study.

University/institutional risks

For example: adverse publicity, financial loss, data protection

As with all research, there is an element of risk to the University and/or Institutions involved. However, every effort will be made in order to maintain the high standing of UWTSD and the Institutes of Management and Health and Yr Athrofa. The researcher will work under the guidance of UWTSD guidelines, regulations and procedures, and follow the BERA 2018 guidelines throughout the research. The subject matter of student assessment is a confidential matter and any findings related to poor practice might be of concern to UWTSD. However, by utilising UWTSD guidelines, regulations and procedures, this risk will be minimised.

The names of the participants and the University will not be mentioned at any point during the research process. All raw data will be kept securely within a locked filing cabinet and password protected. Within the final report, nothing will be traceable to any individuals or participants.

Provisional verbal consent for student participation has been given by the Assistant Dean (Academic and Resources) at Swansea Business Campus UWTSD. Participant consent will be sought via written consent prior to their undertaking of the questionnaires and interviews.

Adverse outcomes

List measures put in place to limit any adverse effects or outcomes of research activity where appropriate. Include any emergency protocols.

In the unlikely event of observing any behaviour that contravenes the University's Code of Practice, a written report which complies with UWTSD guidelines, regulations and procedures will be given to the dissertation supervisor.

Disclosure and Barring Service

If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.

Has a DBS certificate been obtained?

YES

☐

NO

☐

N/A

☒

SECTION I: Feedback, Consent and Confidentiality

Feedback

What feedback will be provided to participants, how will this be done and when?

Upon completion of the case study, the participating students will have the opportunity to read through my notes of their individual responses, and given the option of supplying feedback on my analysis of their responses. This will enable respondent validation to be undertaken.

Informed consent

Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded.

A questionnaire participation email will be forwarded to all students within the sample framework. Student email will be used as a contact method for all undergraduate students and graduates as student email is accessible for graduates for twelve months following their graduation. The email will inform the students of the reasons for the research and stipulate that participation is entirely voluntary. A questionnaire consent form will be included on the first page of the questionnaire.

A link to the questionnaire on Google Surveys will be included at the foot of the email.

Those students who consent to participate in the interview will be supplied with an information sheet related to the research, and asked to read and sign an interview consent form.

In line with the BERA guidelines, the students will provide written consent and will be free to withdraw from the study at any time. Withdrawal from the study may be communicated by either verbal or written consent (face to face, telephone, letter or email).

Additional written consent has been sought from the Assistant Dean (Academic and Resources) at Swansea Business School UWTSD, as all students except for the graduates are registered as students at the University. Contact with both students and graduates will be via their student email. The student email for graduates remains active for twelve months following graduation.

As the student details and no specific reference to them or their examinations is discussed in the research, permission from the students to extrapolate data from the exams is not required. Written

consent has been sought from the Assistant Dean (Academic and Resources) Swansea Business School UWTSD, as all submissions are the property of the University.

Confidentiality / Anonymity

Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.

The names of neither the students/participants or University be will be mentioned within the research at any time, as participation in the questionnaire and semi-structured interviews is entirely confidential. Similarly, the names of the interviewees will not used, rather each interviewee will be given the moniker 'student' followed by a numerical indicator (i.e. Student 1).

Raw data will be kept securely and password protected within a locked cupboard at UWTSD Swansea Business Campus. Nothing in the final report will be traceable to the University, Institute or any participants in terms of location or any other distinctive matter.

All examination data including the mock exam papers are stored in the University archives in line with University regulations and procedure. Information relating to marks and grades is entirely confidential and anonymous and no link to individual participants by name or to individual marks will be referred to at any part of the research. The exam will be discussed only with regard to any changes that occurred between the formative and summative assessments, with no reference to actual marks.

As the student details and no specific reference to them or their examinations is discussed in the research, permission from the students to extrapolate data from the exams is not required. Written consent has been sought from the Assistant Dean (Academic and Resources) Swansea Business School UWTSD, as all submissions are the property of the University.

SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

	YES	NO
Does the research activity involve personal data (as defined by the Data Protection Act)? <i>"personal data" means data which relate to a living individual who can be identified—</i> <i>(a) from those data, or</i> <i>(b) from those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual.</i>	☐	☒
If YES, provide a description of the data and explain why this data needs to be collected: (this box should expand as you type)		
Does it involve sensitive personal data (as defined by the Data Protection Act)? <i>"Sensitive personal data" means personal data consisting of information as to –</i> <i>(a) the racial or ethnic origin of the data subject,</i> <i>(b) his political opinions,</i> <i>(c) his religious beliefs or other beliefs of a similar nature,</i> <i>(d) whether he is a member of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992),</i> <i>(e) his physical or mental health or condition,</i> <i>(f) his sexual life,</i> <i>(g) the commission or alleged commission by him of any offence, or</i> <i>(h) any proceedings for any offence committed or alleged to have been committed by him, the disposal of such proceedings or the sentence of any court in such proceedings.</i>	☐	☒
If YES, provide a description of the data and explain why this data needs to be collected: (this box should expand as you type)		
Will the research activity involve storing personal data on one of the following:	YES	NO
Manual files (i.e. in paper form)?	☐	☒
University computers?	☐	☒
Private company computers?	☐	☒
Home or other personal computers?	☐	☒
Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☐	☒
"Cloud" storage or websites?	☐	☒
Other – specify:	☐	☒
For all stored data, explain the measures in place to ensure data confidentiality, including details of password protection, encryption and anonymisation: In line with UWTSD Research Data Management Policy, all data (e.g.; transcripts from questionnaires and interviews) will be kept under lock and key in a secure office (only used by the		

Researcher) at the Swansea Business Campus of UWTSD. All data will be password protected and anonymised.

The summative and formative examination papers are stored within the University's archives. Written consent has been sought from the Assistant Dean (Academic and Resources) at Swansea Business School UWTSD. As all submissions are the property of the University, student permission is not required.

Will the research activity involve any of the following activities:	YES	NO
Electronic transfer of data in any form?	☐	☒
Sharing of data with others at the University?	☐	☒
Sharing of data with other organisations?	☐	☒
Export of data outside the European Union or importing of data from outside the UK?	☐	☒
Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
Publication of data that might allow identification of individuals?	☐	☒
Use of data management system?	☐	☒
Data archiving?	☒	☐

If YES to any question, please provide full details, explaining how this will be conducted in accordance with the Data Protection Act (and/or any international equivalent):

In line with UWTSD Research Data Management Policy, all data (e.g. transcripts from questionnaires and interviews) will be kept under lock and key in a secure office (only used by the Researcher) at the Swansea Business Campus of UWTSD. All data will be password protected and anonymised.

List all who will have access to the data generated by the research activity:

Only the researcher, dissertation supervisor and the dissertation marker will have access to the data generated by the research activity.

List who will have control of, and act as custodian(s) for, data generated by the research activity:

Only the researcher will have control of, and act as custodian for the data generated by the research.

Give details of data storage arrangements, including where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.

In line with UWTSD Research Data Management Policy, all data (e.g. transcripts from questionnaires and interviews) will be kept under lock and key in a secure office (only used by the Researcher) at the Swansea Business Campus of UWTSD. All data will be password protected and anonymised.

SECTION K: Declaration

The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants.

In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's [Research Ethics and Integrity Code of Practice](#)

Signature of applicant:

Sian Marie Pitson

Date: 28th August
2019

For students:

Director of Studies/Supervisor:	
Signature:	
Date:	

For staff:

Head of School/Assistant Dean:	
Signature:	
Date:	

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (and have NOT completed Section H of this form) (where appropriate)
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Head of School.

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name.

You will be informed of the outcome of your claim by email; therefore **it is important that you check your University and personal email accounts regularly.**

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

Questionnaire Participant Information Sheet – Students
Project Title: The Role of Feedback in Aiding Learner Progression

Dear Participant:

My name is Sian Marie Pitson and I am studying at Yr Athrofa in the Institute of Education and Humanities.

I would like to invite you to participate in my research project. Attached to this email is a link to a questionnaire, the answers to which will help me to assess the perceptions of level 4, 5 and 6 students enrolled on a number of Business courses who studied and undertook the assessment related to the level 4 finance module. The purpose of the questionnaire is to help conduct research regarding The Role of Feedback in Aiding Learner Progression, as I believe the students opinions will be extremely helpful to me and further research in the field of feedback and its link to student progression.

All questionnaires will be kept strictly confidential to the researcher involved and at **NO** time will individual responses be released to the general public. This gives you a chance to express your views on assessment feedback in a confidential and anonymous forum and still be able to make a difference. It should be noted that the research results may be used within an academic journal article or conference paper, but no reference to individual participants will be included.

- Your participation in this study is completely voluntary so you can withdraw from the questionnaire at any stage.
- Be assured, that if you choose not to participate, there will be no impact upon your grades.
- If you agree to participate, you will be consenting to the research results being shared within the faculty, although at no time will staff have access to individually identifiable data.
- The marks obtained in the mock exam will remain confidential and not aligned to any individual student in the findings. Only the candidate involved and the researcher will know the marks achieved in the mock examination.
- The mock exam marks will be stored within a password protected computer within the Institute of Management and Health as per the Institute Policy.
- The researcher will ensure that all research follows University guidance on research data management – available on <http://www.uwtsd.ac.uk/library/research-data-management/> and the regulations highlighted in the University Regulations Undergraduate Student Guide Sept 2018 concerning the distribution of student marks and grades.

After careful and precise analysis of the data obtained from the questionnaire, I will be happy to provide you with a copy of the findings at your request. The results of this questionnaire will hopefully enhance my understanding of assessment feedback and will be stored securely in my office (password protected).

I thank you in advance for your time and participation. If any questions do arise, feel free to contact me at your convenience.

Yours sincerely

Sian Marie Pitson
Management and Finance Lecturer
University of Wales Trinity Saint David
Waterfront Campus
Swansea

Participant Identification Number: P102267

Interview CONSENT FORM – Students

PROJECT TITLE: The Role of Feedback in Aiding Learner Progression

Name of Researcher: Sian Marie Pitson

**Please
initial
box**

1. I confirm that I have read and understand the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

☐

3. I understand that any information given by me may be used in future reports, articles or presentations by the research team.

☐

4. I understand that my name will not appear in any reports, articles or presentations.

☐

5. I agree to take part in the above study.

☐

Name of Participant

Date

Signature

Researcher

Date

Signature

You may decline to participate in this study. You may end your participation in this study at any time. If you decide to remain anonymous, maintaining your anonymity will be a priority and every practical precaution will be taken to disguise your identity. If you prefer anonymity, there will not be any identifying information on audiotapes or transcripts of this or any interview. No-one will hear any audiotapes or see any transcripts without your prior consent. All materials generated from this or any interview will remain confidential.

When completed, please return in the envelope provided (if applicable). One copy will be given to the participant and the original will be kept by and held securely and password protected in the file of the research team at:

**Room 221
Institute of Management and Health
University of Wales Trinity Saint David
Powell Street
Swansea
SA1 1NE**

NAME & ADDRESS OF RESEARCHER:

Sian Marie Pitson
Management and Finance Lecturer
University of Wales Trinity Saint David
Waterfront Campus
Swansea