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Welsh-language Scaffolding:

A Strategy for Undergraduate Teaching

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Abstract

Cardiff Metropolitan University is a post-1992 university which offers undergraduate degree programmes wherein students can elect to study Welsh-medium modules. Focussing on the BA (Hons) Business and Management programme, the research aimed to develop a systematic strategy for language development within contents-based learning, trialling a range of bilingual teaching methods. Based on the review of the literature, a mathematics-based Welsh-medium Finance module was identified as having a strong rationale for trialling a bilingual teaching intervention. This was due to the linguistic background of the students and existing research on language use in bilinguals undertaking mental calculations. The trial formed part of a wider language scaffolding strategy which aimed to support, build confidence and develop Welsh-language skills over the study. The research employed a mixed-method approach, based on a teaching intervention with students on five undergraduate degree programmes. Feedback on the intervention was garnered through an online questionnaire, face-to-face focus groups with students, structured interviews with staff and a statistical analysis of Welsh-medium students' average module mark achievement over a four-year period. The results demonstrated a strong correlation between bilingual teaching methods and improved module marks across all language profiles. The results identify a strong positive response in student satisfaction levels and student retention, although staff contributor responses identified negative issues with learning material design and perceived impact upon student language use. Based on these results, the research recommends a systematic and structured language scaffolding strategy for BA (Hons) Business and Management to be implemented to support students with a wide range of Welsh-language skills to be able to engage in Welsh-medium education in Higher Education. The contents-based approach to language scaffolding is relevant across Welsh-medium teaching and could be applied to programmes which include international students studying through a second language as a structured mechanism for language improvement.

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List of Abbreviations

Academic Year (AY)

Authentic Inquiry Research (AIR)

Business and Management (BAMS)

Cardiff Metropolitan University (Cardiff Met)

Cardiff School of Management (CSM)

Cardiff School of Sport and Health (CSSHS)

Coleg Cymraeg Cenedlaethol (CCC)

Content and Language integrated Learning (CLIL)

Content-based Language Teaching (CBLT)

English Ascendant (EA)

First Language (L1)

Focus Group One (FG1-2019)

Focus group Three (FG3-2019)

Focus Group Two (FG2-2019)

Further Education (FE)

Higher Education (HE)

Higher Education Funding Council for Wales (HEFCW)

Level Four (L4)

Level Five (L5)

Level Six (L6)

Lifelong Learning Wales Records (LLWR)

Marketing Management (MM)

National Student Survey (NSS)

Other Language (LX)

Questions and Answers (Q&A)

Second Language (L2)

Third Language (L3)

Tourism, Hospitality and Events Management (THE)

Transitional bilingual education (TBE)

Two-way immersion programmes (TWI)

Universities and Colleges Admissions Service (UCAS)

Welsh Ascendant (WA)

Welsh Government (WG)

Welsh Joint Education Council (WJEC)

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One: Brief Overview of the Thesis

Welsh-medium (WM) provision in Higher Education forms part of the Welsh Government's (WG) vision for creating a thriving Welsh language in Wales (Statistics for Wales, 2016). However, the way in which this is implemented in universities across Wales is dependent on each institution's aim and objectives. *A Living Language: A Language for Living – Welsh Language Strategy 2012-17* (WG, 2011) set out to ensure that people in Wales were afforded the opportunity to use Welsh in all aspects of their day-to-day lives.

How this is implemented within degree programmes at Welsh universities differs according to each university's policies and strategic planning. In 2010, the WG WM Education Strategy set out the critical role education would take in increasing the number of fluent Welsh speakers in Wales and in ensuring that all learners are afforded the opportunity to use their Welsh-language skills to their full potential and encourage linguistic progression at each phase of education, including Higher Education (HE). In addition to providing educational opportunities, the WG has a target of "one million Welsh speakers by 2050 and sees education and linguistic progression as a key means of achieving this" (Davies, 2017: 1).

The initial research proposal had the working title: *Making the most of Wenglish: Using translanguaging, code-switching and code-scaffolding to maximize learning efficacy for Welsh/English bilingual students studying WM business modules.* Code-switching and translanguaging have been a constant theme throughout the research, however, focusing solely on code-switching and translanguaging was too narrow a field. As Wei (2001) argued, language profiles of bilinguals are complex and unique to the individual, as such focusing on how individuals code-switched was of little use in an applied change management context.

The pilot project focused on the experiences of learners engaged in Welsh-medium (WM) modules, including their engagement with Welsh-language support classes and qualifications. The conclusion of this pilot was that the majority of students were not motivated to study Welsh-language skills as

standalone short courses or as embedded credit-bearing modules or any variant thereof. They were motivated to improve their Welsh-language skills and were open to increased feedback in their formative and summative assessments. During a conference discussion in 2017, the following question was posed, '…[so] what do these students want?' to which the only response offered was 'a magic wand'. Research into bilingual teaching methods gave rise to the potential for an alternative approach to language skill development, language scaffolding (Bakhtin, 1981; Carstens, 2016).

One of the pilot project's main findings was that student language profiles were varied across cohorts and offering provision which maximised learning efficacy across such differing language profiles was complex and hard to achieve, reflective of Carstens' (2016) studies with South African universities. The research identified potential for trialling a language scaffolding strategy within a bilingual teaching strategy in L4 modules to support student language development and confidence in the application of their Welsh-language skills.

The findings, in conjunction with feedback from the Coleg Cymraeg Cenedlaethol (CCC), were the catalyst for the development of the WM L4 module 'Cyllid ar gyfer Rheolwyr', a compulsory module in all three departments: Business and Management (BAMS), Marketing Management (MM), and Tourism, Hospitality and Events Management (THE). This module was the focus of the L4 bilingual teaching intervention and its efficacy in supporting students through studying in the medium of Welsh. Furthermore, the trailing of a bilingual teaching method formed part of a programme-wide Welsh-language scaffolding strategy, which aims to support learning efficacy and language skill development within the existing modules of the BA (Hons) Business and Management in the Cardiff School of Management (CSM).

Chapter Two focusses on the context and literature which underpin the research rationale including the existing provision in CSM, the nature of the WM provision and its definition in the context of the CCC and HEFCW funding. The nature of bilingual teaching methodologies is discussed with an international and national perspective with consideration being given to teaching practices in a broad range of subjects. Rhys (2000) and Thomas *et al.* (2018) discussed the factors which

influence bilingual teaching methodologies in a Welsh context and the characteristics of a bilingualism in Wales; although focused more on younger year education, their observations can be directly applied to HE students. These factors then directly influence the type of bilingual provision required and how this meets the needs of the students and of external stakeholders such as WG and the CCC.

The Chapter discusses the linguistic profile and language of WM students in HE and the complex issues which arise from a two-way immersion programme. Applying Green (1986)'s three levels of language activation, the chapter discusses the complexity of language activation within a two-way immersive programme and the potential teaching methods which can be applied in these contexts.

Finally, the Chapter discusses the research of Dewaele (2007) which was derived from Dewaele and Pavlenko (2001)'s study of language and emotions; however, Dewaele (2007) focussed on the language use of bilinguals and multilinguals in processing complex mathematical calculations. The use of a bilinguals L1 language to process complex mathematical calculations, also supported by Tamamaki (2003), underpinned the rationale of the study which aimed to formalise a bilingual teaching strategy including the trial of a bilingual teaching intervention for a mathematics-based module at L4.

Chapter Three defines the methodology and data collection methods for the thesis and outlines the application of an 'authentic inquiry research' (AIR) method (Alexakos, 2015) which was used within the teaching intervention. The decision to apply the AIR approach was to minimise the potential of negative effects of any interventions, focussing on student well-being and satisfaction. The application of Deno (2005)'s IDEAL model in the design process ensured that consideration was given to identifying and defining the problem and exploring solutions and analysing the effect.

Following the pilot project, it was decided to keep the data collection simple to avoid 'research fatigue' (Clarke, 2008) as such three elements of research were applied; intervention with participant feedback, statistical analysis of recruitment

and retention, and analysis of final module mark achievement. Thus, a mixed method was applied to increase reliability through the triangulation of data (Saunders *et al.,* 2016).

The research was conducted with a purposive sample (Saunders *et al.,* 2016) of CSM Welsh medium students and lecturing staff to garner the perspective of both learner and teacher. The feedback data from students and staff were collected via an online questionnaire, face-to-face focus groups and e-structured interviews (Freebody, 2003). The aim of the data collection methods was to generate both quantitative data from the questionnaires, which would inform the design and provide contrast for the face-to-face focus groups. The inclusion of the staff e-structured interviews aimed to provide an alternative viewpoint taking into consideration some of the complexities of planning and delivering bilingual teaching strategies.

The findings were analysed in terms of what Ipsos MORI (2009) considers as indicators of success; student satisfaction, recruitment, retention and achievement being part of these indicators. The research adhered to both the BERA (2011) Guidelines for Educational Research and Cardiff Met ethical approval policy (see Appendix A: Ethical Approval). In addition to this, further consideration was given to the complex nature of 'insider research' (Coghlan and Brannick, 2005) and the relationship of the researcher with the language being researched (Wei, 2001).

Chapter Four presents the results of the data using a range of tables, statistics and direct quotes form participants.

The data from the student questionnaire was used to frame the context for the focus groups, and to proffer honesty and openness from the student contributors. This minimised the influence of 'groupthink' (Janis, 1972) and the pressure to conform (Asch, 1951) which can occur in group interview situations. Focus groups were sound-recorded and transcribed for analysis. The data from both the focus groups and the structured interviews were then analysed thematically as foundational qualitative analysis (Braun and Clarke, 2013) which offered a systematic and flexible approach to the data analysis. Finally, the module mark

analysis used module grades submitted to the CSM Exam Boards from academic year (AY) 2015-16 through to AY 2018-19. The data were analysed using a basic mean average comparison year-on-year. These data were then profiled into Welsh Ascendant (WA) and English Ascendant (EA) profiles, and the profiles compared to mean average mark achieved on Welsh Medium (WM) and English Medium (EM) modules to identify any changes across the differing profiles.

Chapter Five offers insight into the relevance and impact of the research on the implemented change in the BA (Hons) Business and Management degree in CSM. The chapter offers discussion of the findings, with regards to the academic literature and how this is applied in the context of CSM BA (Hons) Business and Management programme. This forms the basis of the rationale for a language scaffolding strategy which facilities students' language development whilst gradually removing support as students' language skills improve (Carstens, 2016). This section discusses the rationale for the Welsh-medium modules within the BA (Hons) Business and Management programme linking these to both literature and primary research results and making corresponding recommendations.

Chapter Six is a reflective review of the research process, ethical considerations, potential future avenues of research and a reflective and reflexive overview of the research process and learning. This review applies Rolfe *et al.* (2001) 'What, So What and Now What' approach to analyse the journey of the research and identify potential future actions and potential future research opportunities.

This research project is borne of a long-held researcher belief that students' needs are central to curriculum development and teaching-strategy application. As a consequence of the CCC funding, WM provision focused on increasing the number of WM modules available per annum (CCC, 2017), however, there had been no formal guidance for WM teaching strategies. The study investigates the students' needs in terms of 'how' the modules can be delivered for learning efficacy, rather than 'how much' is delivered through the medium of Welsh. The in-depth study of student engagement, satisfaction and achievement over a period of four years, coupled with the evaluation of Welsh-medium teaching strategies, provides a strong base for future curriculum developments.

Chapter Two: Literature Review and Study Rationale

The establishment of the Coleg Cymraeg Cenedlaethol (CCC) in 2011 was "an important step in the continued development of WM higher education" (WG, 2013: 30). The publication of the CCC's first Academic Plan in 2012 included plans for student recruitment, provision, resources and staffing (WG, 2013). These plans set targets for specific universities and pump-primed the provision through fully-funded five-year lecturing posts (CCC, 2017). This system of funding individual posts was reviewed in 2017-18, and in June 2018 the CCC announced a new mechanism for allocating funding based on provision within subject areas (CCC, 2017). According to Davies (2017), providing subject grants would lead to stronger strategic leadership, by employing a formulaic approach of priority subject, number of credits offered in Welsh and number of learners enrolled on WM modules to allocate funds to Welsh universities. This quantitative approach of measuring 'how much' WM provision Welsh universities were offering, formed the basis of funding allocations. Little attention has been paid to 'how' provision is offered, and whether these courses meet the aims of the WM Education Strategy (WG, 2010) and *A Living Language: A Language for Living – Welsh Language Strategy 2012-17* (WG, 2011) in producing workers whom are able to work bilingually in the workforce in Wales (WG, 2010).

2.1 Welsh-medium provision in the Cardiff School of Management

Cardiff Metropolitan University (Cardiff Met) is a post-1992 university, offering a range of courses in areas such as Management, Education, Health, Sport and Education, accredited by over 50 professional bodies (CMU, 2018a). The University offers undergraduate degree programmes wherein students can elect to study modules (n) through the medium of Welsh in Education (3), Sport (8) and Business (16) with a minimum offering of 10 credits per year up to 100 credits per year on the BSc (Hons) Astudiaethau Chwaraeon ac Addysg Gorfforol Dwyieithog (CMU, 2018b). Cardiff Met is in a transitional period with regards to CCC funding. The Cardiff School of Sport and Health Sciences (CSSHS) has already transitioned to the new subject-based funding mechanism (Sport), while the funding for the remaining Cardiff School of Management (CSM) staff member on the CCC staffing plan ended on 31st August 2019.

The WM provision in CSM sits within the Department of Business and Management. Delivery of WM modules occurs across Business and Management, Marketing, Strategy, Tourism, Hospitality, Events and Foundation programmes. Table 2.1 denotes the level of provision offered from 2014-15 to 2018-19 across the three main subject areas of BAMS, MM and THE.

Table 2.1: WM credits offered in CSM from 2014-15 to 2018-19

Academic Year	Level	Business & Management	Tourism, Hospitality and Events	Marketing Management
14/15	4	40 credits	40 credits	30 credits
	5	40 credits	10 credits	20 credits
	6	No Provision	No Provision	No Provision
15/16	4	40 credits	40 credits	30 credits
	5	40 credits	30 credits	40 credits
	6	40 credits	40 credits	40 credits
16/17	4	50 credits	30 credits	50 credits
	5	40 credits	30 credits	40 credits
	6	40 credits	40 credits	40 credits
17/18	4	40 credits	30 credits	40 credits
	5	60 credits	50 credits	40 credits
	6	60 credits	40 credits	40 credits
18/19	4	60 credits	50 credits	60 credits
	5	60 credits	50 credits	40 credits
	6	60 credits	40 credits	40 credits

Overall WM credits available to CSM students has increased from 180 in AY 2014-15 to 460 in AY 2018-19 (see Appendix B for full breakdown of WM modules in CSM). Moreover, BAMS offered students the opportunity to study up to 50% of their degree programme through the medium of Welsh. The WM provision has developed in each curriculum area, from offering between 10 and 40 credits in AY 2014-15 to offering a minimum of 40 credits in AY 2018-19.

Bilingual and WM education in Wales is defined by a range of approaches implemented at all levels of education. The Lifelong Learning Wales Records (LLWR) is the vehicle for data collection by the Welsh Government, which underpins post-16 educational provision (WG, 2018a). The LLWR is the means of planning, monitoring, quality assurance and funding of post-16 education in Wales and also provides the main source of data provision for statistical analysis on post-16 (non-HE) learning in Wales (WG, 2018a). Bilingual and WM provision

data are collected on all post-16 education through the Learning Activity fields LA25 and LA26. It is important to note that the LLWR records the language provision of individuals rather than cohorts, and as such, the whole range of codes below (Table 2.2) may be applied to a single cohort of learners in a bilingual classroom.

Table 2.2: Definitions of the various types of WM learning in post-16 education in Wales (Welsh Government, 2018a)

LLWR Code	Definition
E1	The default Entry and is applied when recording English Only provision. The student may receive incidental Welsh such as greetings or single word feedback, but this minimal bilingual activity does not change the record field of the learner.
B3	Applied when recording a small amount of Welsh-medium learning where it is a minor part of the activity and the assessments of the individual are in English.
B2	Applied to significant Welsh-medium learning where Welsh has been used in many, but not necessarily all, parts of the learning activity. These learners will have been mainly assessed in English but may also have some assessments in Welsh.
B1	Applied when the learning context has been bilingual with at least 50% of the assessments completed in Welsh. The provider can use any appropriate teaching methodology to achieve this.
C1	Applies to 100% Welsh-medium education where all available assessments are completed in Welsh.

WG (2018a) defined the parameters of bilingual provision in FE creating five alternative approaches to WM provision recording on the LLWR. It can be argued that in the early years of the WM provision in CSM, the BA (Hons) Business and Management provision was a mixture of E1 and C1 modules, where students would either complete modules in English or opt to complete modules in Welsh. Recent developments and changes in staff attitudes towards the bilingual nature of provision, coupled with students choosing to study in Welsh but complete work

in English has lent itself to increasingly B1/B2 provision. Baynham *et al.* (2007) defined learners whose language skills are inconsistent as having a 'spiky' profile.

A 'spiky' profile can be applied to individuals where an individual's language ability varies, for example, when presenting work, they may have well-developed spoken Welsh language skills but when creating visual aids, may have weak writing skills, poor spelling and/or poor grammar. Conversely, students can present with well-developed written Welsh language skills but are reluctant or unwilling to engage in speaking Welsh in the classroom. This variance in language skill levels is evident within individuals across subject areas and topics. Those individuals who have continued to develop Welsh language skills throughout their Level 3 studies will have continued to develop terminology in specific topics, however in other topics, their language skills tend to be 'frozen' at the point which they ceased learning the topic in Welsh. This is most evident in students who during post-16 studies moved into the EM Education system (i.e. they chose to attend EM 6th form or FE College) and as such their language skills are less developed than those who continued their post-16 education through the medium of Welsh. As such, students enrolling on WM modules at CSM can have a varied profile of Welsh language skills including variances in their spoken Welsh, written Welsh, knowledge of specific terminology and grammar. These varying language skills are 'unique' to each individual and form the individual's 'spiky' language skills profile.

The 'spiky' profile also applies across the whole cohort, whereby the individuals within a cohort have a wide range of language skills and abilities. Within a single cohort, individuals can present with a range of strengths and weaknesses across the range of language skills. This can range from recessive bilingual as defined by Wei (2001) as those feeling difficulty in expressing themselves due to lack of use, to students whose language skills are well-developed in all areas. Therefore, for the purposes of the research, the term 'spiky' profile was applied to the language skills of the whole cohort as this constitutes all individuals within a cohort with consideration for each individual's own personal language profile.

The option to choose either Welsh or English language for assessment is essential for parity with those studying on English-medium (EM) modules who

have the option to submit assessments in Welsh (CMU, 2017). It is therefore important to offer students learning through the medium of Welsh the option of submitting assessments in English, thus creating an increased need for a more B1 approach. Although LA26 demonstrates how Welsh provision is recorded on the LLWR, this field also only applied to post-16 non-HE educational courses. It is LA25 which records the proportion of learning activity delivered through the medium of Welsh, which is a mandatory field for Higher Education Funding Council for Wales (HEFCW)-funded learners. There is a fundamental difference in the two fields, namely, that of recording the nature of the assessment language (LA26) and the recording of the delivery language (LA25). In Cardiff Met the focus is on the delivery language, students can submit work in either Welsh or English, but are still recorded as bilingual if enrolled on WM modules.

This definition of bilingual education within the context of the organisation sets the scene for further discussion of bilingualism in a classroom setting within the organisation. The following section will consider existing approaches to bilingual teaching methodologies. Further discussion of the nature of bilingualism and bilingualism in education can be found in Appendix DOC8002 WRIT1.

2.2 Bilingual teaching methodologies in Wales and beyond

Before discussing pedagogical approaches to teaching WM modules in the CSM, it is essential to understand the linguistic nature of the provision, including the linguistic profile of the students and the aims of WM provision. The development of WM Higher Education (HE) provision comes from the WM Education Strategy (WG, 2010) and *A Living Language: A Language for Living – Welsh Language Strategy 2012-17* (WG, 2011) which aims to increase opportunity for students to study in Welsh and the numbers of workers able to work bilingually in the workforce in Wales. As such, WM provision in the CSM began with the concept of providing WM opportunities for learners to be able to study carbon copies of EM modules throughout their undergraduate degree pathway.

At its inception (AY 2013-14), the average number of WM students per module was three. The pedagogical approach was one of direct translation of resources and mirroring EM delivery patterns, contents and activities. The teaching team

also developed bilingual teaching strategies to support WM students with their terminology (in both Welsh and English). These approaches led to the addition of English terms being added to WM slides and handouts to support learning efficacy and students' ability to transfer their knowledge to EM discussion with monolingual English-speaking peers. As student numbers increased an additional phenomenon occurred, the linguistic profile of the classes became increasingly spiky with students demonstrating different levels in listening, speaking, reading and writing in Welsh (Baynham *et al.*, 2007). As the students' linguistic profiles changed, the WM teaching team questioned whether teaching solely through the medium of Welsh was offering all students appropriate opportunities re learning efficacy.

It was these experiences which led to the WM teaching team's acknowledging the need for more research into bilingual approaches to classroom delivery. The team identified the need for further understanding of bilingual teaching strategies to enhance their knowledge and practices. Thomas *et al.* (2018) discussed the need for training and skills development of staff teaching bilingually which is supported by Fitzpatrick *et al.* (2018: 59) who stated that, "the effectiveness of any [bilingual teaching] method or approach is less influential than the skill and competence of the teacher delivering it". Carstens (2016) identified the challenges of teaching at university to linguistically diverse student groups. The study applied a scaffolding framework derived from the work of Van Lier (2004) and Walqui (2006) to support the contents-learning and language development of university students in South African Universities. This framework incorporated concepts of curriculum design, procedures of activities and collaborative interaction for support, as the basis of language scaffolding learning at HE level. It is essential when developing a language scaffolding plan that it is designed into the curriculum with set procedures for activities, and lecturers are supported with training and development to ensure effective application of such techniques.

In this way, the use of the term 'Language Scaffolding' deviates from the generally accepted use of the term as defined within language acquisition teaching. For the purposes of the research, 'Language Scaffolding' refers to a framework of curriculum design at levels four, five and six which incorporates a systematic shift from bilingual teaching strategies (L4) to a progressively dual-immersive

approach for WM delivery (L5 and L6), adapted from the work of Van Lier (2004) and Walqui (2006). As such, it is defined as the use of English language to support content learning efficacy in WM modules, the use of which is reduced as the student progresses through the degree programme.

2.2.1 Factors influencing bilingual teaching approaches

Commissioned by the Welsh Joint Education Committee (WJEC), Rhys (2000) developed a range of strategies for bilingual teaching in post-16 classrooms. The study gives a broad oversight of the considerations of bilingual provision and the range of options available in given situations. Although the study was based on a Further Education (FE) project, aspects of the research can be applied here.

Rhys (2000) noted that learning and teaching is a dynamic process and bilingualism adds an additional dynamic. He discussed a range of situation and language profiles which have influence on bilingualism in classroom delivery, including the notable dynamic found in the CSM where 100% of the WM students learn in both Welsh and English. This is evidenced by students opting to study between 10 and 60 credits through the medium of Welsh, and the remainder through the medium of English (for a combined total of 120 credits). In this context, the design of the programme lends itself to a two-way immersion design (Christian, 1996) rather than a bilingual classroom setting. Such a design forms the basis of the research, owing to its efficacy in supporting student learning.

Rhys (2000) identified the following factors which influence the application of bilingual teaching methods:

- Students' attitude to the language;
- The attitude of other lecturers, especially the teaching team, towards bilingual instruction;
- The nature of the support, including notes, resources and preparation time;
- The teaching methods themselves including formal lecture and group working
- The linguistic situation in the classroom;

Such methods stress equal opportunity for students to follow the course materials. Rhys (2000) saw a need to develop some learners' English-language skills, while other learners would need to develop their Welsh-language skills to create proficiency in both languages to an acceptable employability standard.

This approach of dual-language proficiency would apply directly to the *Welsh Language Strategy 2012-17* (WG, 2011) as it would support these students in using Welsh in all aspects of their day-to-day lives.

Thomas (2015) set out three aspects of planning for a bilingual classroom: understanding the needs of the students, identifying the best teaching methods and providing the best learning experience. Thomas (2015) identified that bilinguals tended to have unique characteristics including their patterns of code-switching or lexical borrowing, the borrowing of language patterns and rules, and the potential for delayed language acquisition. Paradis and Genesee (1996) found that these differences in bilingual and monolingual language development were most obvious in the lexical banking of vocabulary and less obvious in grammar development and argued that vocabulary development issues persisted longer than problems with grammar.

While the above research focused on primary-school children, it is worth noting that WM students develop both their Welsh and English vocabulary while studying at the University. Many terms are alien to them on enrolment, but this is true of most undergraduate students. It could be argued that one's language skills are frozen at the point or level at which one stops learning and/or using a language. As such, students who stopped learning through the medium of Welsh at 16 years old will naturally have a less developed Welsh language vocabulary than one who has studied Advanced Level qualifications through the medium of Welsh, as these studies would develop vocabulary at a higher academic level. Thomas (2015) stated that these issues affect students' perceptions of bilingualism and their relationship with their lesser-used language. This causes negative perceptions of their lesser-used language and can negatively impact upon their confidence and willingness to use it. It is for the University to provide appropriate opportunities for bilingual learning to enhance the student experience.

Thomas (2015) defined the complex nature of bilingual teaching in Wales as a student having cognitive understanding of both Welsh and English languages, aural input from lectures in Welsh, visual input in Welsh and/or English from reading, production in speech in Welsh and writing in Welsh or English, which

becomes a natural translanguaging environment. In practice, language issues are even more complex as students often respond verbally in English and code-switching by both staff and students is a reality in the classroom (Fennema-Bloom, 2009; Musk, 2010; Canagarajah, 2011; Bahous *et al.*, 2014; Cahyani *et al.*, 2016). This leads to a more complex translanguaging situation, where intrasentential and intersentential code-switching can happen naturally and without being part of a planned pedagogical strategy of code-scaffolding.

The aim here is to design a Welsh-language scaffolding strategy for BA (Hons) Business and Management that meets the needs of the entire student cohort, having considered the spiky linguistic profiles and differing needs of individuals. It is not possible to achieve a one-size-fits-all end. The aim is to design a Welsh-medium/bilingual programme which benefits all students through providing a range of opportunities and teaching approaches.

2.3 Defining the overarching approach to Welsh-medium modules

Before considering classroom pedagogy, it is essential to clarify and define the overarching approach of the CSM's WM provision. It is necessary to discuss the alternative approaches to bilingual education and the contexts in which these are applied.

2.3.1 Transitional bilingual education

Transitional bilingual education (TBE) accounts for the majority of funded bilingual programmes in the USA (Freeman, 2004) and are designed to support students with limited English-language skills to transition to English mainstream education. Ruiz (1984) characterized TBE as perceiving the students' lack of the target language as a problem to be overcome. The programmes are designed to allow students to achieve academic language proficiency (Cummings, 2001) as soon as possible, resulting in their speedy transfer to mainstream (usually English) education. This type of education supports subtractive bilingualism as defined by Wei (2001: 7) as "second language acquired at the expense of the aptitudes already acquired in the first language". The CMS provision is not designed to transition students to either Welsh or English as their main academic language; rather, it serves to develop an additive bilingual approach (Wei, 2001)

allowing students to take advantage of all classroom opportunities and build their use of academic language and discourse (Cummings, 1989). It is important to allow choice in the language of learning and afford students opportunities to study through the media of Welsh and English. Hence, TBE has never been, nor will it ever be, the intention of the CSM's WM provision.

2.3.2 Two-way immersion programmes (TWI)

Freeman (2004) defined TWI as programmes which provide content instruction through two target languages to both L1 English speakers and speakers of another language. The aim is to create bilingual and biliterate learners, allowing students to achieve academically through both languages. Although this definition does fit the overall focus of the CSM's WM provision, Lindholm-Leary (2001) argued that the focus is on providing language development for all students. Re the CSM, not all students are engaged in WM modules, only those students who meet the recruitment criteria (Cummings, 2001) in Welsh may opt to take these modules.

While the CSM provision does not fit perfectly under this definition, those students who have opted for WM modules are offered a range of options similar to 90:10 and 50:50 models in the USA. Students are taught in ratios of L1 to target language (L1:Target). The 90:10 model is more common in early elementary grades with the 50:50 model being more prevalent in upper grades (Freeman, 2004). As students' linguistic skills progress, the programme is designed to provide more content through the target language, hence the movement from 90:10 to 50:50. In the CSM, students reading for the BA (Hons) Business and Management can choose their ratio of study, based on 120 credits per year, from the following: 20:100 (16.6% in Welsh), 40:80 (33.3%) or 60:60 (50%).

Lindholm-Leary (2001) argued that well-implemented and well-designed TWI programmes enable students to develop expertise in two languages (oral and written) and to develop better intercultural relations and understanding. The ability to speak and write in both languages meets the aims of the WG (2011)'s *Welsh Language Strategy 2012-17* by offering WM education at HE level and thus producing bilingual and biliterate graduates in readiness for employment in a bilingual Wales.

Simply teaching in both languages is not enough to produce bilingual and biliterate graduates. The students enrolling on WM modules were highly motivated to learn through the medium of Welsh, however, as the numbers increased the spiky profile of language ability created the need for a re-evaluation of the ways in which the University offered the TWI programme. Such a profile created the challenge of teaching content while also developing the students' terminology, grammar, speaking and writing skills. It became apparent that the CSM's WM provision should develop strategies for linguistic development to support all students, whatever their ability, on the WM modules. Thus, consideration was given to content-based language teaching (CBLT) and content and language integrated learning (CLIL) approaches.

2.3.3 Content-based language teaching (CBLT)

Met (1998) defined CBLT as a range of settings on a continuum from 'content-driven' programmes which result in 'immersive' strategies to 'language-driven' programmes which result in language classes with additional content (see Figure 2.1).
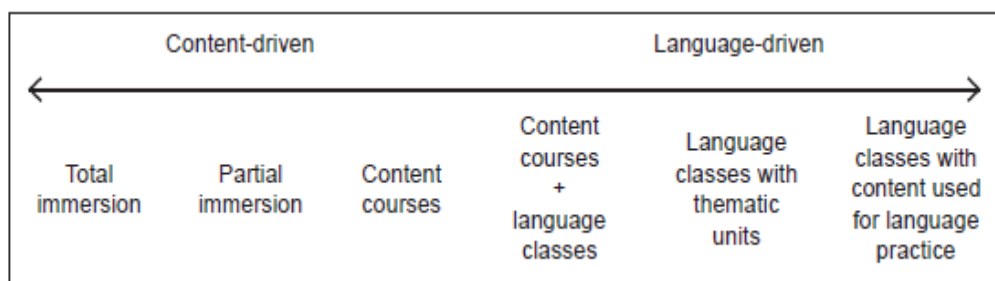
Figure 2.1: Range of CBLT settings (adapted from Met, 1998: 41)

Met (1998) argued that CBLT tended to be more prevalent in bilingual communities whilst CLIL applies where education aims to develop English languages skills. Wesche (2001: 1) argued that these contexts had commonalities as "both involve learners struggling to master academic concepts and skills through a language in which they have limited proficiency, while at the same time striving to improve that proficiency".

In Wales, Baker (1993: 15) described the linguistic profile of a Welsh school as containing "a mixture of first-language Welsh pupils, relatively fluent second-language Welsh speakers, plus those whose out-of-school language is English". As such, it can be argued that the students who are of limited proficiency and whose 'out-of-school language' is not the language in which they learn, are being taught in a total immersion setting (Lyster and Ballinger, 2011). Wei (2001) argued that balanced bilingualism, where the individual was equally strong or 'balanced' in two or more languages was extremely rare.

Applying Lyster and Ballinger (2011)'s concept of total immersion to the CSM, it can be argued that all WM students are being taught in a total immersion situation. However, taking Wei (2001) into account, that balanced bilingualism is rare, and Baker (1993), that home language and social language are indicators of an individual's language profile, it can be argued that some Welsh-speaking students are being immersed in English (in the EM modules) and some English-speaking students are being immersed in Welsh (in the WM modules). In this context, little attention is afforded to the WM learners who are studying through the medium of English as their English-language skills are such that they produce English as proficiently as a native speaker in social situations. Yet, in classroom situations, it can be argued that learners have a preferred language of learning; the language in which they process academic issues and ideas, whatever the medium of instruction.

In Appendix DOC8002 WRIT1 the concepts of Green (1986)'s three levels of language activation were applied to the learners studying through the medium of Welsh in CSM. Applying the concept of selected language (chosen to control speech), active language (active language for processing), and dormant language (stored in the memory but not used in processing) use in EM and WM studies, demonstrated the complexity of the language processing active in WM students.
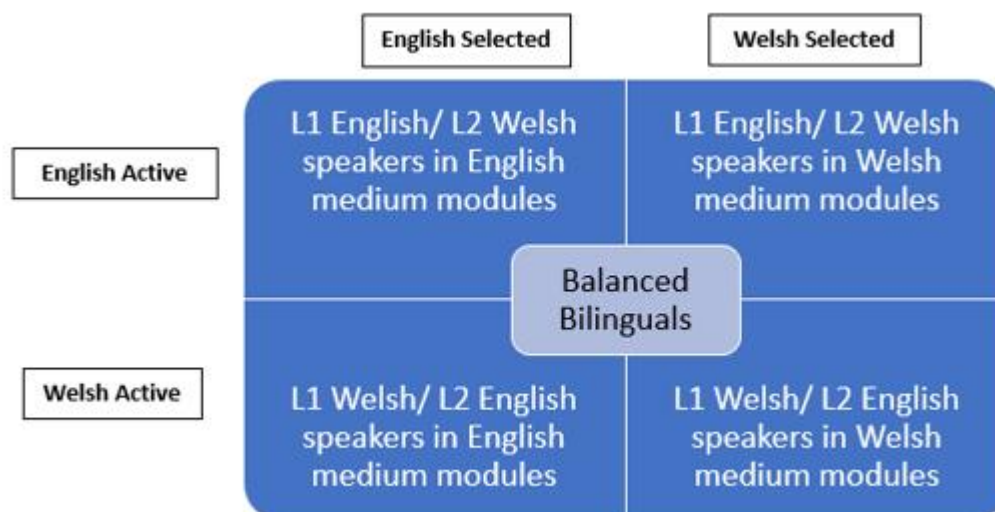
Figure 2.2: Matrix of language activation in CSM WM students

In EM modules, those with L1 English are likely to have both active and selected language of English; they will be thinking and producing in English. This is reflected in the WM modules for L1 Welsh speakers where they are likely to be both active and selected in Welsh. However, where L1 English students are undertaking WM modules, it could be argued that they will have English active (thinking and processing in English) and Welsh selected (selecting to produce in Welsh). This is also conversely true of L1 Welsh speakers undertaking EM modules. This is less of an issue in WM modules, as lecturers are proficient in both languages, thus allowing the student to use either language for production, including intrasentential code-switching, intersentential code-switching (Fennema-Bloom, 2009), code-borrowing and monolingual English production.

The same is not applicable to Welsh L1 students studying EM modules. With a small percentage of CSM staff being proficient in Welsh, movement between the languages is rarely possible for L1 Welsh speakers in EM modules. These students are required to trans-language or translate their thinking to English in order to answer questions and engage in the learning. This is often challenging for learners, especially in subjects where specific terminology has been previously learned in Welsh only and therefore finding the correct vocabulary can be a slow retrieval process.

When applying the model to WM students studying in a dual-immersive setting, such as CSM, the range of variances within a single cohort can be complex. In general, it could be argued that a L1 Welsh speaker studying a WM module would function as 'Welsh Active' and 'Welsh Selected'. Furthermore, it could be assumed that the same student would function as 'Welsh Active' and 'English Selected' within an EM module. However, these assumptions simplify a complex situation, as language activation can be dependent on the subject matter in hand. For example, a bilingual student may be 'Welsh Active' and 'Welsh Selected' in WM module A, but becomes 'English Active' and 'Welsh Selected' in WM module B. This is dependent on the topic of the module, their academic history, personal experiences and linguistic profile. Dewaele (2007) suggested that this phenomenon was regularly seen when performing complex cognitive processes and, as such, bilinguals may have varying patterns of language activation and language selection depending on the subject matter. A 'Balanced Bilingual' as defined by Wei (2001) may be able to adapt their language activation and language selection to meet the linguistic requirements of the class setting, however, as defined by Wei (2001) balanced bilingualism is a rare phenomenon and as such planning for variances in student language activation and selection within teaching groups, is an important consideration when planning WM teaching and learning.

Appendix DOC8002 WRIT1 offers further discussion of Levelt (1989)'s Speech Production Model for speech production and De Bot (2000)'s adaption thereof, for bilingual speakers. EM lecturers should be made aware of such issues and make reasonable allowances for delayed responses from L1 Welsh speakers in the same way in which allowances are made for international students whose L1 is not English.

Met (1998) argued that different approaches lead to differing attention to the language balance seen in CLIL-based strategies. Later, Wesche (2001: 1) argued that both CLIL and CBLT aim to teach content while also improving language proficiency. Thomas *et al*. (2018) stated that there is little application of CLIL in Wales. As such, total immersion, has very little focus on the learning of language skills, focusing more on the teaching of content through language. This approach is a closer fit to the aims and teaching methods of the CSM. Little

consideration has been given to the complexities of WM students learning through the medium of English and therefore the support and consideration for teaching methods deployed. This is beyond the scope of this research but is noted as an area for further development.

2.4 Bilingual teaching methods and strategies

Thomas (2015) defined the nature of the bilingual teaching at HE level in Wales as a student having cognitive understanding of both Welsh and English languages, aural input from lectures in Welsh, visual input in Welsh and/or English from reading, production in speech in Welsh and writing in Welsh or English, which becomes a natural translanguaging environment. In practice, language issues are more complex than those defined by Thomas (2015), as students often respond verbally in English and code-switching by both staff and students is a reality in the classroom (Fennema-Bloom, 2009; Musk, 2010; Canagarajah, 2011a; Bahous *et al.*, 2014; Cahyani *et al.*, 2016) which leads to a more complex translanguaging situation, where intrasentential and intersentential code-switching can happen without planning and as part of a planned pedagogical strategy (code-scaffolding).

2.4.1 Translanguaging

Translanguaging (Williams, 1994) is a natural and important element of a bilingual classroom. Mazak and Herbas-Donoso (2015) identified the use of translanguaging in a bilingual (Spanish/English) science classroom in Puerto Rico and noted that the application of translanguaging gave wider access to the academic community and texts which were not easily available in Spanish. This is directly relevant to WM teaching in Business and Management as few texts and articles are available in Welsh at the present time which means that lecturers are reliant on either translanguaging as a pedagogical approach to resource use, or translating resources, which is both time-consuming and beyond their remit. As such, translanguaging is a widely-used teaching strategy applied in the Welsh/English bilingual classroom.

Thomas *et al.* (2018) stated that translanguaging works well in Wales, particularly in contexts where students are proficient in both Welsh and English. The addition of English educational material provides a wider range of possibilities for access to academic resources and initiates opportunity for translanguaging. It is important to acknowledge that translanguaging allows students access to a wider academic community and supports their use of these resources, creates 'space' allowing bilingual students to process information in more than one language, affords students opportunities to make sense of new information in their social and cultural paradigms and acknowledges the benefits of code-switching in maximising learning efficacy. Yet, it is important not impose a one-size-fits-all approach as we should not presume to know the rationale for any individual student's linguistic choice.

Kong and Hoare (2011) posed the following question: "'how do you teach a subject using a language of instruction only partially understood without simplifying the curriculum?" They found that applying language scaffolding techniques made it possible to fuse language and content. Below consideration is given to different techniques which can be applied within the CSM to ensure content learning efficacy. It deals with bilingual teaching approaches appropriate to the immersive nature of WM higher education, thus focusing on approaches to bilingual teaching methods and adapting approaches for specific subjects. Further discussion on translanguaging and code-scaffolding can be found in Appendix DOC8002 WRIT1.

2.4.2 Task-based learning

According to Thomas *et al.* (2018), task-based learning is where the learners have the responsibility for the completion of a task moving away from traditional teacher-centric approaches to independent task-based learning. Willis (1996) argued that learners who took part in meaningful interactions learned better. In terms of language development, Ellis (2003) found that students who carried out task-based learning in their target language were more likely to apply those language skills to their everyday lives. BAMS courses are designed to include task-based learning opportunities through the 'Business in Action' module at L5 and through the independent research modules at L6. The WM teaching team developed its version, 'Busnes ar Waith' in 2017, which aimed to engage students

in a consultancy (problem-solving) task working with a local business which operates through the medium of Welsh. WM students could now engage in consultancy tasks that had real-world context, experience and language application. The inclusion of task-based learning as an element of a Welsh-language scaffolding strategy ensures that WM students are given opportunities to use and experience real-world activities through the medium of Welsh.

2.4.3 Designing bilingual resources

Sgiliaith was established in 2001 and provides nationally-recognised professional development training in bilingual teaching strategies and Welsh-language provision and awareness for practitioners in the post-14 education sector (Davies, 2017). Sgiliaith emanated from the Allweddiaith project and was financed by Fforwm, ELWa and the Welsh Language Board (Welsh Assembly Government, 2002). They have developed a range of courses to support bilingual teaching methods, including how to teach bilingually using both languages within one classroom.

An adaptation of the Welsh Language Commissioner Bilingual Design Guide (2014), Sgiliaith has adapted and developed the guide to apply the bilingual strategies to classroom teaching and learning. Sgiliaith (2018a) focused on the design of visual aids, such as slides but note that not all materials are required to be translated, they recommend the translation of core materials such as key terms, theory, questionnaires, tests and presentations. Image 2.1 is an example of a Sgiliaith (2018a) recommendation.

Image 2.1: Designing bilingual resources (Sgiliaith, 2018a: timestamped 1:20)

Sgiliaith (2018a) advised that not all resources should be translated and items such as textbooks, articles, websites and newspapers should remain in English with translanguaging being applied as a bilingual teaching strategy or accessed in Welsh through Welsh-language resources such as BBC Cymru and *Gwerddon*. In addition to PowerPoints, Sgiliaith (2018b) recommends that bilingual handouts are produced using a similar 'side-by-side' approach (see Image 2.2).
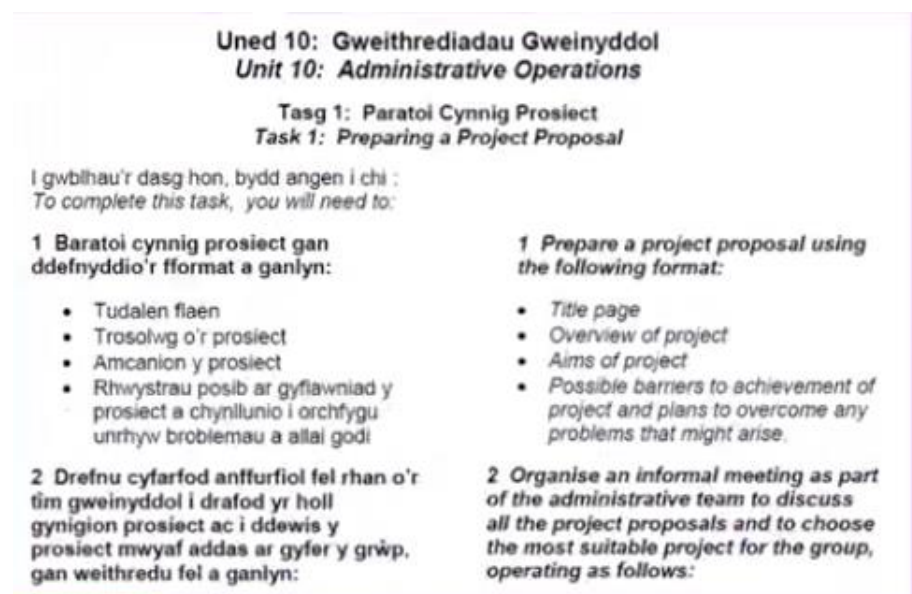
Image 2.2: Designing bilingual resources (Sgiliaith, 2018a: timestamped 2:03)

Sgiliaith (2018b) also advises on the use of language in classroom teaching, suggesting that spoken Welsh should be used before English and that students be encouraged to use Welsh with each other. In this way, it argues that students are given opportunities to use the language of their choice and a firm opportunity to use the Welsh language is presented. Additionally, Sgiliaith (2018b) argued that this delivery ensures that all students understand the main teaching points, class momentum is maintained as it promotes language development though translanguaging and there is increased contact for all learners.

Sgiliaith (2018b) bases its approach on a classroom which has both bilingual (Welsh/English) and monolingual English speakers as a way to integrate and allow access to Welsh-language opportunities in situations where viability of WM classes may be compromised by low numbers. The situation in the CSM is such that only Welsh speakers enrol on WM modules which reduces the need for a fully bilingual approach in the design of resources and delivery. This approach may be applied in early language scaffolding strategies where confidence building and terminology development is the initial focus, which can be withdrawn later in the module/programme to facilitate more independent use of Welsh. The use of this technique would need careful planning and a clear rationale as to when and where it would be applied and subsequently removed as part of a language scaffolding strategy.

2.4.4 Adapting approaches for specific subjects

This section focuses on student linguistic choice, especially for mental calculation. Dewaele (2007) investigated language choice in multilingual adults performing complex cognitive processes such as mental calculations. These processes were tested to establish a baseline of first Language (L1), second language (L2) or other language (LX) in making mental calculations. Dewaele identified the factors which influence an individual's choice for making mental calculations. A cross-section of 1,454 multilingual adults from various socio-cultural and ethnic backgrounds and linguistic abilities participated. Dewaele sought to identify linguistic choice when making mental calculations and to determine the factors which influence multilinguals' choice of language when conducting said calculations.

The focus was on the potential shift in preference from L1 to LX for mental calculation. The research was originally conducted by Dewaele and Pavlenko, (2001) via an online questionnaire with 35 open-ended and closed-ended questions aimed at multilinguals and their use of language in different emotional situations. The original data collected by Dewaele and Pavlenko, (2001) were used by Dewaele (2007) to focus on mental calculations by analysing language application in mental mathematic calculations. The analysis was conducted through correlation analysis and followed by standard multiple regression analysis. This procedure allowed a prediction of the independent variables. The research found that multilinguals on average preferred to use their L1 for mental calculations either all the time or frequently. They also concluded that L2 was used sometimes and third language (L3) used rarely for mental calculations. Further analysis of open questions identified qualitative issues including participants who self-evaluate linguistic skills as high in their LX but have "absolute and total inability to calculate anything in… (LX)" (ibid.: 363) and others who demonstrate full multi-competency in their dominant languages (ibid.) in which case their linguistic preferences for making mental calculations are based upon 'who else is around and where I am'.

Dewaele (2007) findings support the hypothesis that mental calculations are usually made in a participant's L1. It is noted that this may stem from their L1 being the language of instruction for the arithmetic operations (Tamamaki, 2003). Despite these findings, the research also concludes that mental calculations do not only occur in L1 but can also be made in LX with 3% of participants even stating that they never use their L1 for mental calculation.

This corroborates Wei (2001)'s theory of language subtraction where one language can replace another in functionality where the original L1 language is formally replaced socially and academically by the LX. It is noted that such a sizeable group creates participants who go against the general trends and thus use their LX frequently for mental calculation, the preference for L1 thus is a reflection of averages.

Schüler-Meyer et al. (2019) considered to what degree multilingual students profited from bilingual teaching approaches when they lack in technical register

in their L1 and/or L2. Applying a mixed-method approach using repeated analysis of variance, Schüler-Meyer *et al.* (2019) trialled interventions with German/Turkish students at Grade 7 (11-12 years of age) in German schools where the participants had no prior formal mathematics education in Turkish. Students in the intervention groups were found to have significantly higher learning gains than the control-group students. It is noted that planned language interventions were applied which required time and effort from staff to overcome language barriers, especially in the academic register of mathematical terminology/vocabulary. The research demonstrated the applied benefits of bilingual teaching in a complex cognitive-processing setting. This supports Dewaele (2007)'s work and although these participants were younger than CSM students, many of the barriers such as lack of terminology/vocabulary are relevant.

Above findings inform thinking re how to apply bilingual teaching methods in all subjects across the CSM. For the L4 module Finance for Manager, further consideration is needed re student profiles and linguistic backgrounds, including in which language they have previously studied mathematics. Understanding how bilinguals process complex mental calculations, and in which language they are likely to undertake mental calculations in a classroom setting, informs the approach to bilingual teaching in this module and the insight of these research papers will directly inform the design and implementation of the module.

2.5 Rationale and purpose of study

Since the introduction of the WM provision in the CSM in 2014, enrolments have increased annually, creating an increasingly spiky within-year linguistic profile. Consequently, research in appropriate bilingual teaching methods and possible changes to the overall approach to bilingual teaching strategies identified a range of appropriate interventions to trial with groups.

The study rationale is to formalise and structure the way in which bilingual teaching methods are applied across WM modules in the CSM, taking into account the spiky profile of students' language skills, the outputs intended by the *Welsh Language Strategy 2012-17* (WG, 2011) and the Cymraeg 2050 Strategic

Plan (WG, 2017) to create graduates willing to apply for employment in a bilingual workplace. The literature informs the study's purpose as it focuses on interventions in the Academic Year 2018-19 where new approaches to bilingual teaching strategies and language scaffolding are trialled with CSM students in the subject areas of Business, Marketing, Tourism, Hospitality and Events Management.

Research Aim

To formalise the application of bilingual teaching strategies on Welsh-medium / dual-immersive undergraduate degree programmes in the CSM.

Research Objectives
- To trial bilingual teaching methods through applied teaching interventions;
- To garner participant feedback on their experiences of various bilingual teaching strategies and analyse their effect on learning efficacy;
- To produce a model for the use of translanguaging and code-scaffolding which considers student preferences within WM modules on appropriate three-year undergraduate degree programmes in the CSM;
- To design a Welsh-language scaffolding strategy for BA (Hons) Business and Management for implementation in September 2019.

The study's aim and objectives were informed by the literature including consideration of wholly-bilingual teaching in specific topics where mental calculations were required (L4 Finance and Accounting modules), translanguaging approaches at all levels and language scaffolding which results in reduced English-language resources at L5 and L6, including options to undertake independent study in Welsh including Dissertation, Marketing Planning or Business Planning.

This staggered approach to language scaffolding at each academic level, coupled with a more developed bilingual approach at L4 to engage students by providing language development support which might lead to increased student satisfaction for those enrolled on WM modules, are the primary foci of the final project.

Chapter Three: Methodology for Final Project

The pilot study applied a pragmatic approach (Saunders *et al.*, 2016) to describe a flexible and reflexive approach to data collection and the application of research methods (see Appendix DOC8003 WRIT1). The findings suggested conducting an analysis on code-switching in assessment tasks, including examination papers and assignments for the final project (Appendix DOC8003 WRIT2 Section 6.1b). Although data have been collected and initial analysis conducted, the validation of a new WM module provided an opportunity to develop a new teaching approach, better suited to the original aim and objectives (see Appendix DOC7001 WRIT1). It was determined that research on code-switching in WM modules is beyond the scope of this thesis, but future research into the area of code-switching in written language production would be an important addition to an ever-growing body of knowledge.

The pilot project also confirmed the potential for research into a WM pathway and/or standalone modules to allow for the contextualisation of Welsh issues alongside Welsh-language development within the structure of the BA Business and Management (see Appendix DOC8003 WRIT2 Sections 6.1d and 6.2a). A proposal was submitted to the CSM Senior Management Team as part of the programme review in 2018. Although the concept of a 'Busnes yng Nghymru / Business in Wales' pathway has been agreed in principle, concerns over staffing, an issue outside this researcher's control, meant that this did not progress to the validation panel in 2018.

The potential for future development of a WM pathway has been agreed in principle once staffing issues have been resolved. Hence, it was decided to focus the final project on the development of a Welsh-language scaffolding strategy incorporating bilingual teaching strategies to be implemented within the BA (Hons) Business and Management. The trial focus was the conversion of an existing EM module, 'Finance for Managers', which was to be taught on the WM programme for the first time in 2018-19. The trialling of the bilingual teaching methods within the BAMS context (Appendix DOC8003 WRIT2 Section 6.2b) focused on a target sample of CSM students only (Appendix DOC8003 WRIT2

Section 6.1a), using teaching interventions through an authentic inquiry research approach (Alexakos, 2015).

3.1 Authentic inquiry research (AIR)

Alexakos (2015) describes AIR as a multi-logical approach to research in education. It goes against the more traditional views and approaches to research within the field of business and management by applying pragmatic research philosophies (Saunders *et al.*, 2016). The concept of AIR has been developed to create theories and practices which can be directly applied to improve the quality of provision in teaching and learning, by moving knowledge in the field away from mainstream conventions and applying appropriate methodologies for today's classroom (Alexakos, 2015). AIR centrally places the well-being and emotional health of students in the research context and, although teaching and learning of content remains important to both students and teachers to ensure successful student attainment, student well-being and satisfaction are increasingly important to UK universities. These aspects of student experience are measured, monitored and marketed through the annual National Student Survey (NSS) and used both on the Universities and Colleges Admissions Service (UCAS) webpages and within the Teaching Excellence Framework (TEF) (Ipsos MORI, 2019). This monitoring and publication of student satisfaction rates increases the need for the consideration of student satisfaction, well-being, enjoyment and engagement in planning at HE course-design level. It was important for this study to make considerations for this, along with ensuring cognitive knowledge gained in modules.

The rationale for adopting an AIR approach derives from its "holistic and recursive nature" (Alexakos, 2015: 22) whereby results, interventions and refinements can be implemented during the research, and thus, form part of the research. This was particularly important to the research methodology as trialling new bilingual teaching techniques, which had never previously been applied in this organisational context, required a flexible and adaptable approach which was reactive to both staff and student feedback throughout the academic year. Attempting a radical change using a more traditional approach whereby final

results would be required before changes implemented, could have unpredictable long-term impact on the students.

The focus of AIR is participant-centric and interpretive with elements of action research whereby findings generate new questions which become cycles or research 'spirals' (Kemmis, 2009) which generate new interpretations, new questions and thus, change the research in the process (Alexakos, 2015). This research approach was adopted for the final project, but there are elements of said approach in the pilot project phase.

3.1.1 Ethical Considerations

Ethical considerations made in the pilot project were still applicable in the final project. Further discussion of ethical considerations can be found in Appendix DOC8003 WRIT1. Research adhered to both BERA (2011) Guidelines for Educational Research and the University's regulations. The issue of 'insider research' (Wei, 2001; Coghlan and Brannick, 2005) remained a major consideration re project design. Arguably, undertaking research within one's own organisation, which also involves those one teaches, is problematic but such an approach should be encouraged.

According to Alexakos (2015), epistemology can be described as the origins, relationships, and limits of knowledge and knowledge systems. Understanding these pre-determined influences and how they impact upon the underpinning research assumptions is essential to the authenticity and reliability of AIR-based research, giving context to the social situation. Ontology further considers the nature of this reality, taking into account individuals' personal belief systems, which is extended in AIR to include multiple realities, unique to an individual's socially-constructed reality. Axiology considers to what extent our values are important and how much impact they have on our interpretation of our reality and to what degree we value these beliefs.

Appendix DOC8003 WRIT1 includes a brief autoethnographic discussion of this researcher's ontology and epistemology. This provides clarity re the values and context of the research, and to facilitate authenticity and reliability. Wei (2001) argued that this is especially important to research in a bilingual context as the

researcher's relationship with the language of research can heavily influence outcomes.

Kincheloe (2011) argued that teacher knowledge is more epistemological than skills based as researching issues which include moral, values and power goes beyond 'how' subjects are taught to informing 'critical professional practices'. In WM education, this is especially relevant as a lecturer's epistemological standpoint directly impacts upon their acceptance, or rejection, of bilingual teaching methods. It is only with sound, robust and proven research that attitudes, and beliefs of educators can potentially be changed to adopt bilingual approaches to teaching and learning in HE.

3.2 Research design and data collection

The pilot project identified an issue with student participant 'research fatigue' (Clarke, 2008). Thus, the final research design was constructed to minimise intrusive data collection. The research design takes into account the reduction in frequency and volume of questionnaires, a reduction in volume of focus groups and the removal of individual face-to-face structured interviews of staff contributors. All of which is designed to minimise issues with low returns, reduced participation and overburden of individuals, as identified as problematic in the pilot project (Appendix DOC8003 WRIT1). Table 3.1 outlines the plan for the final project.

Element / Timing	Intervention	Data Collection	Participants
Element one September 2018 to April 2019	Intervention: Trialling of bilingual resources and teaching methods	Ongoing feedback from participants and post-course feedback using questionnaire	• Researcher • 28 x Level four students
Element two May / June 2019	Intervention: formal feedback on bilingual teaching methods intervention	Focus Groups Structured Interviews	• 28 x Level four students • 10 x level five students • 3 x Business Lecturers
Element three June 2019	Comparison of recruitment, retention and successful completion against previous years	Documentary / statistical research	• Researcher using the Cardiff Met Quality assurance system

Table 3.1: Outline plan for final project

3.2.1 Element one: Designing the intervention

Creating problem-solving teams in education is a way of resolving academic and social issues within schools within a curriculum-based measurement or response to an intervention framework (Deno, 2005). Initial problem-solving plans considered traditional models of change in a business context, including Weiss' (2011) OBTAIN model which looked to outline, breakdown, analyse, imagine and notify the change concepts while testing the theory and managing stakeholders.

While the above framework is applicable for general change management, it was felt that it lacked the necessary focus for an educational context. Applying Deno (2005)'s IDEAL model for education (see Appendix C) was deemed more appropriate as it focuses on looking for the effects of the intervention, and therefore its impacts, upon the participants and students.

Planning for the next academic year usually takes places over the summer months prior to September matriculation. It involves data collection from module reviews, external-examiner feedback and programme-team meetings. The pilot project identified that first-year WM students had felt disadvantaged in the mathematics-based modules, having learned mathematics through the medium of Welsh. This was reflected in a focus-group discussion wherein FG2D (2017) stated that:

> *'Mae'n anodd i gael y balans rhwng y rhai sy'n siarad Cymraeg a rai sy' ddim yn siarad Cymraeg, fel yn pynciau eraill ti gallu stryglan, fi cofio yn blwyddyn cyntaf yn Finance o'n i wedi gwneud mathemateg yn y Gymraeg ers i mi bod yn plentyn, i mynd wedyn i wneud yn Saesneg roedd yn completely random i drosglwyddo i'r Saesneg.'*

As there are mixed groups of bilingual and monolingual (non-Welsh-speaking) students, it is hard to get a balance between the languages. FG2D had struggled to transfer to learning mathematics-based subjects in English. It is noted within the transcript that there was a consensus of agreement and thus, it was decided to develop the L4 Finance for Managers module as a WM module.

There was potential for teaching a bilingual module in finance through a dual-language resource approach. The team agreed to trial this technique in two WM

(BAMS) modules, 'Cyflwyniad i Farchnata' and 'Cyflwyniad i Reoli Adnoddau Dynol'. It was decided not to trial the bilingual teaching methods on THE modules, 'Rheoli Pobl a Sefydliadau' and 'Cynllunio Datblygu Personol' which incorporate WM (dual-immersion approach) delivery. This approach created a control group for monitoring the impact of a bilingual teaching method. The intervention was conducted by three members of staff, reducing the influence of any individual lecturer's teaching skills on the findings.

Following the guidelines for developing bilingual resources (Sgiliaith, 2018a), the team agreed the following for the production of bilingual presentations:

- the Welsh title positioned first, followed by the English version;
- a side-by-side approach to slide design with Welsh on the left and English on the right;
- different colour fonts and/or italics to differentiate between the languages;
- font sizes and format to be the same between the languages, wherever possible;
- Graphs, charts and diagrams to be bilingual wherever possible or Welsh first then English if a bilingual version was not available.

An example of the slide design is shown below:
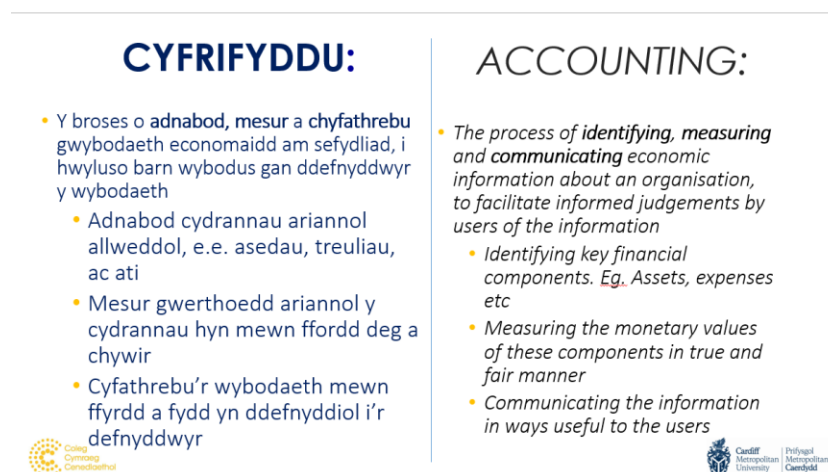
Image 2.3: An example of the bilingual-slide design

There were two considerations. First, the amount of content as space on the slide was being reduced by 50% and second, producing bilingual slides would be time-consuming. Part of the researcher time was allocated to developing the resources for the intervention.

Welsh would be the main language spoken, with the move to spoken English where content was complex or if students would also benefit from hearing the information in English. This decision was based on two principles. First, that the students undertaking a WM module would all be Welsh speakers and therefore have a 'critical mass' (Derbie, 2014) of Welsh-language skills, enabling them to follow the general class instruction in Welsh. Second, to avoid repetition of information in both languages, thus maximising student engagement and minimise information fatigue.

The use of translanguaging would be planned where appropriate, dependent on materials available and students' confidence levels, with bilingual resources initially being supplied so students could choose their translanguaging approach (either English to Welsh, or Welsh to English). Later in the academic year, language choice for translanguaging activities was lecturer-led, either to aid language-skills development or in response to resource availability. In the module 'Cyllid ar gyfer Rheolwyr', translanguaging techniques were applied at least three times per Term, with resources being supplied bilingually initially, moving to monolingually later in the module, thus applying a code-scaffolding or language scaffolding approach to the bilingual delivery (Fennema-Bloom, 2009).

Alexakos' (2016) AIR approach requires participants to engage fully in the process, thus becoming co-researchers. It was impossible to adhere fully to this as interventions were used with first-year students on L4 modules and asking newly-enrolled students to partake in high-level research on arrival might have overwhelmed such novice learners. Students were informed of the research after a few weeks and understood their role. To describe their commitment to the study as co-researchers would be an exaggeration of their participation.

As in the pilot project, Qualtrics (2018) software was used for the questionnaire and included the use of differing question types, including Likert scales (Saunders *et al.,* 2016) and both open and closed questions to encourage completion (see Appendix DOC8003 WRIT1). Qualtrics-based questionnaires allowed the researcher to gain anonymous participant feedback; classroom-based feedback,

although useful, might have been affected by groupthink (Janis, 1972) and there would be potential for conformity to group pressures (Asch, 1951).

The research proposal identified the use of a single questionnaire to avoid 'research fatigue' (Clarke, 2008), its use was justified by the prior agreement of the participants to participate in an online questionnaire, in-lieu of a face-to-face focus group (see Appendix DOC8003 WRIT1). Questionnaires were distributed to the 15 L4 students who failed to participate in the pre-arranged focus groups (8/15 responses). This response rate, added to the original focus group, gives an overall response of 73.07% for the L4 student groups and those who were directly involved with the intervention. Although slightly lower than anticipated, this response rate sits well within the acceptable levels of response set by the researcher.

The questionnaire responses were not as in-depth as those in the focus groups wherein there was opportunity for further exploration of answers and for participants to respond to each other. However, this data-collection method allows for data triangulation (Wiersma, 1995) by using alternative data-collection techniques and comparing results. It also reduced the possibility of 'groupthink' (Janis, 1972) or the potential for peer pressure to influence results as the questionnaire was completed individually and anonymously.

3.2.2 Element two
Element two of the research took a more formal approach to data collection for post-intervention evaluation. Data for the final evaluation were collected through focus groups and e-structured interviews. The former were conducted with student participants and the latter with internal staff members.

3.2.2.1 Focus groups and contingency planning
The focus groups were non-standardised one-to-many groups in the form of a set of semi-structured questions which supported the collection of explanatory and evaluative data (Saunders *et al.,* 2016).

The initial research plan was to conduct focus groups with the following purposive samples using a census approach (Saunders *et al.*, 2016):

1. BA Business and Management and BA Marketing Management, Level 4 WM Students. Target sample 100% of 16 students;
2. BA International Tourism, BA International Hospitality and BA Events Management, Level 4 WM Students. Target sample 100% of 11 students;
3. BA Business and Management, Level 5 WM Students. Target sample 100% of 10 students.

Based on the pilot findings (see Appendix DOC8003 WRIT2) the purposive sampling of CSM students was intentionally restricted to these specific groups as to not dilute or skew findings by including research with students who had not undertaken CSM WM modules.

The data collection coincided with compulsory examinations to ensure that students were available and that all teaching on modules had been concluded. According to Dillman *et al.* (2014), context and timing affects qualitative data collection and, as such, organising focus groups which are not negatively perceived by participants to impact upon their assessments is essential. In this way, Focus Group One (FG1-2019) and Focus Group Three (FG3-2019) were successfully conducted with turnouts of 68.75% (11/16) and 90.90% (10/11) respectively.

Although FG1-2019 turnout was lower than anticipated, it is worth noting that 68.75% is within planned acceptable participation levels (Cohen *et al.*, 2007). Of the five non-participating students, attendance levels were less than 20% in the 'Finance for Managers' module making the sample size representative of the majority of students who had substantial experience of the module. The turnout for FG2-2019 was 18% (2/11). Subsequently, this focus group was cancelled, with participants agreeing to complete an open-question questionnaire instead.

The above decision was made based on Dillman *et al.* (2014)'s arguments for context and timings, as participants could engage at their convenience. It was also decided that the open-question questionnaire would follow the same questions as the semi-structured interview which was originally planned.

3.2.2.2 Structured interviews

For a broader perspective re the CSM's WM provision, two e-structured interviews with WM lecturers were conducted. The term structured interview identifies data collection which is highly formalised using standard questions (Saunders *et al*., 2016). Traditionally, structured interviews are conducted face-to-face with pre-coded answers with an element of social interaction. Here, the term 'e-structured interview' applies to the use of online, structured, open questions via Qualtrics. While the use of Qualtrics software refers often to questionnaires or surveys (Saunders *et al.,* 2016), it could be argued that questionnaires are a data-collection method which asks people to respond to the same set of questions in a pre-determined order (deVaus, 2014). Here, participants were asked to respond to a bespoke set of questions. As such, the research defines this as an e-structured interview (Freebody, 2003). The participants were sent links to Welsh and English versions, using the Qualtrics translation facility.

3.2.2 Element three

The research focused on documentary analysis of statistical data held on the University's student system which compared year-on-year statistics of WM modules, specifically:

- Enrolment statistics on WM Modules;
- Retention Statistics on WM modules;
- Statistical analysis of the successful completion by WM students on both WM modules and comparing 'Cyllid ar gyfer Rheolwyr' module statistics against EM delivery over the three previous years.

These statistics have been used to compare the recruitment, retention and successful completion of and by WM students over the past three years. Data comparison was made using the focus-group analysis to corroborate or contradict the qualitative data analysis. This was conducted in a sensitive manner, ensuring the anonymity of those involved (Saunders *et al.,*2016).

3.3 Data analyses

This section discusses the techniques employed in the data analyses.

3.3.1 End-of-year questionnaire

The questionnaire was administered to identify response variance re linguistic profile using Wei (2001)'s bilingual categories. The questions used in the pilot were used again as the outcomes were successful re linguistic profiling (see Appendix DOC8003 WRIT2).

The questionnaire data were used to identify trends and issues which informed the design of the focus groups which, in turn, informed the final themes of the discussion. The questionnaires were analysed through the use of the language profiling and analysing the responses using tabulation of statistics, graphs and charts.

3.3.2 Focus groups and structured interviews

Focus groups were sound-recorded and transcribed for analysis. Interview transcripts were not only 'verbatim' (see Appendix D for example of verbatim transcript) but included context and expression (Saunders *et al.,* 2016). The data from both the focus groups and the structured interviews were then analysed thematically as foundational qualitative analysis (Braun and Clarke, 2006) which offered a systematic and flexible approach to the data analysis. To undertake thematic analysis, the data were coded to identify the themes and trends in line with the research approach and questions (Saunders *et al.,* 2016). With an inductive approach, it was not possible to pre-empt the exact coding used, however, these codes were data codes and 'in vivo' (Saunders *et al.,* 2016) as they would be the codes used by participants who were not aware of, or did not 'naturally' use, terms from existing theory and literature or 'a priori' codes (Saunders *et al.,* 2016). Thereafter, data were presented appropriately using a mixture of quotes, tables and graphs, which described the inter-relational nature of the participants experiences, attitudes and opinions.

3.3.3 Statistical Analysis

Both the recruitment and retention analysis and the Module Mark analysis applied a year-on-year comparison to analyse the changes over a four-year period. Recruitment and retention analysed the recruitment figures against retention figures and whether changes occurred in the recruitment and retention of students on Welsh-medium modules between AY 15/16 and AY 18/19. Although this analysis cannot determine a causal relationship between the intervention and recruitment and retention, it can identify a change in trend, of which the intervention may be a factor.

The module mark analysis used data from Cardiff Met's student system (QLSV4 Production) using the overall module grades submitted to the CSM Exam Boards for each corresponding year. Module marks are verified by a second member of staff and by the external examiner. (See Appendices E, F, G and H for anonymised raw data.) As such, the data are reliable and verified through the Cardiff Met Quality Assurance systems. The data were analysed using a basic mean average comparison year-on-year. This data were then profiled into Welsh Ascendant (WA) and English Ascendant (EA) profiles and these profiles were then compared to mean average mark achieved on Welsh Medium (WM) and English Medium (EM) modules to identify any changes across the differing profiles. The aim of this analysis was to identify a potential causal relationship between the bilingual teaching methodology and any changes to module mark achievement.

The limitation of the word count restricted the level of analysis within the main body of the thesis; as such, the mean, median and mode were analysed through box and whisker charts in Appendix I to increase depth of analysis and identify whether the analysis impacted upon the results. The outcomes were similar and supported the mean mark analysis.

3.4 Limitations

The AIR approach may be limited by the very nature of the research itself. To undertake a truly participative-focused study, participants need to understand their role within the research and be willing to engage fully. An AIR approach was

used in three WM modules at L4 on the BA (Hons) Business and Management, and the BA (Hons) Marketing Management, with one module shared with the BA (Hons) International Tourism Management, BA (Hons) International Hospitality Management, and BA (Hons) Events Management.

THE students had two separate modules of monolingual WM education as a control group, with previously-piloted approaches to language support. All L4 WM students had experience of the bilingual teaching methods. THE groups also experienced monolingual teaching in other modules whereas Business and Management, and Marketing Management trialled the bilingual teaching method in their other two WM modules.

This alternative approach for the two sets of participants was not explicitly explained to each group, as to create a feeling of normalising both approaches. All participants were informed of the trialling of the new approach in the module 'Cyllid ar gyfer Rheolwyr' and regular feedback encouraged. Alternative approaches, including changes to slide design, use of translanguaging and changes to handout structure were trialled with the group and regular participant feedback was sought. Arguably, this was not a truly AIR participative-based approach; rather, a practical application of the philosophies which underpin the AIR approach.

Additional limitations include the 'spiky' language profile. The research sought a 'one-size-fits-all' answer to bilingual teaching. It is recognised that a 'spiky' language profile, by its nature, makes such an approach potentially elusive and impractical. The research aimed at understanding individuals' needs based on differing linguistic backgrounds and profiles. It was hoped to develop teaching strategies which would be adaptable to meet such needs. It was not expected that all participants would respond positively to the trailed approach.

The sample size and participant characteristics create limitations. The researcher was not naïve to think a participation rate of 100% was achievable. Saunders *et al.* (2016)'s suggestion that using a judgment-sampling approach that could go as low as 40% participation was noted. Here, a benchmark of 60% participation was applied. The nature of the participants and their linguistic profiles and

background also created specific limitations, as findings are only relevant to CSM students and their respective programmes. There is potential for further extrapolation to other WM HE modules.

The final project moved away from the pilot project's pragmatic approach (Saunders *et al.,* 2016) to an AIR approach (Alexakos, 2016) as the latter approach is grounded in educational research which is relevant to the context of the change process. The AIR approach creates flexibility, adapting to participant feedback from the teaching intervention process. This was essential to the trial of a completely new approach to WM education in CSM modules, as poor feedback would have required further change or termination.

Intervention was planned for a single module, however, the willingness of additional lecturers to trial the bilingual approach allowed for the expansion of the trial into non-mathematics-based subjects. Having three lecturers trial the approach increased the reliability and validity of the intervention and helped to negate the influence of a single lecturer's teaching style on participants' feedback and opinions.

The final data collection (post-intervention) included a language-profiling questionnaire, focus groups and interviews. Observations were omitted from the final project, owing to their failure to produce reliable and useful data in the pilot project. The final project employed informal data-collection methods, namely, post-intervention session with participants.

While observation of student engagement might be a useful research technique, it would have been far too complex to administer. It might have required an external researcher to attend sessions, which could have had a detrimental effect on the classroom dynamics. Thus, feedback was sought through more informal, less obtrusive methods. Reflecting on the pilot project, it was decided to simplify the final project. The key pilot reflection was that data collection had been overly complex and problematic. Research participant fatigue had been an issue. The final project eradicated such issues by employing a simplified and unobtrusive research design.

Chapter Four: Results for Final Project

The final project was designed as a teaching intervention using an AIR approach (Alexakos, 2016). Regular feedback was received from students and staff involved in trialling the bilingual teaching methods. Informal feedback was used to design delivery methods and choice of resource in terms of language choice for participants and to agree approaches to teaching bilingually between staff participants and main researcher. Formal data were collected through four methods, student-participant questionnaire; student-participant focus groups, staff-participant structured interviews and statistical analysis of recruitment, retention and module achievement. It is noted that the limitation of word count for the thesis restricted the data analysis to mean average analysis, however, further analysis and raw data are available in the appendices.

4.1 The intervention

The aim of this approach was to trial a teaching intervention which supported learning efficacy while ensuring that the balance between the use and provision of Welsh language, and the support and provision of English resources was maintained for whole-group benefits. Feedback was sought through informal discussions with students, e-mails from student participants and through sticky-note activities.

The final project focuses on the concept of a bilingual teaching method as part of a language scaffolding strategy. Sgiliaith (2018a) and Welsh Language Commissioner (2014) bilingual resources influenced its design. Adaptions were made based on student feedback.

4.1.1 Student questionnaire

The questionnaire was sent to those students studying 40 or more WM credits at L4 and L5 only (see Pilot Project re NSS research fatigue). While below the expected response rate (Cohen *et al.*, 2007), 57.1% (20/35) provided a cohort majority. The questionnaire was anonymous, dividing the participants into their respective cohorts was not possible.

It is acknowledged that the data might be overly representative of a single cohort or year group, but this was minimised by the subsequent data collection; focus groups were divided into year groups, and subjects and re-examined in depth many of the themes.

The first sets of questions were used to profile language, providing a 10-10 split of Welsh Ascendant (WA) and English Ascendant (EA) participants (Wei, 2001). Using a Likert scale (Saunders *et al.,* 2016) respondents were then asked to rate their experience of various WM teaching methods (see Graph 4.1 below).

Student response to various bilingual and Welsh medium teaching methods, 2018/19
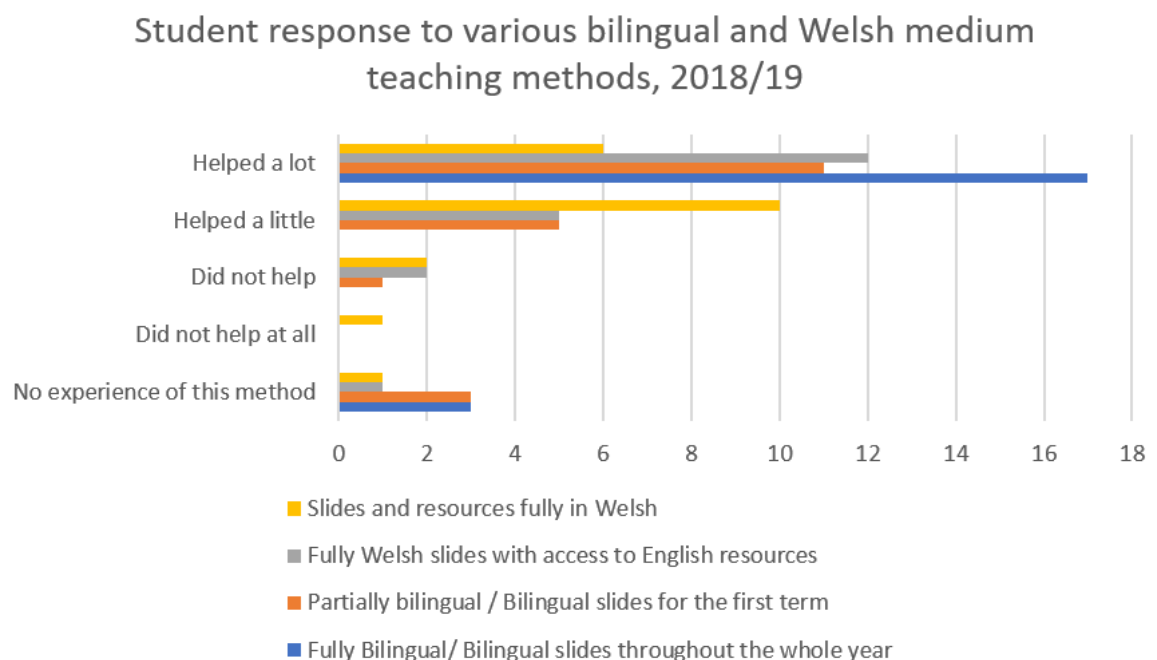
Graph 4.1: Student response to various bilingual and WM teaching methods 2018-19

Seventeen of the 20 participants felt that the fully bilingual teaching method had helped a lot, with the remaining 15% reporting that they had no experience of this teaching method. Twelve participants (60%) also reported that the use of fully Welsh slides with access to English resources 'helped a lot', with 55% of participants reporting that partially-bilingual approach had 'helped a lot'.

Only 30% felt that fully WM slides and resources had 'helped a lot', with 50% of students feeling that fully WM slides and resources had only 'helped a little'. It is interesting to note that no participants reported that the fully bilingual provision

had 'helped a little', 'did not help' or 'did not help at all'. The response was overwhelmingly positive for the fully bilingual teaching method, with negative responses limited to six. Of the 20 participants, five (25%) found monolingual WM delivery either not helpful or not at all helpful and one (5%) found bilingual resources 'did not help'.

The Likert Scale question was then followed by an open question to allow some qualitative development. Students were asked to describe the style of teaching which had been of most benefit. Thirteen (of 17) commented on their 'preferred language of learning', with eight specifically identifying bilingual teaching as being beneficial to them. Participant responses included:

> *'Having completely bilingual teaching/slides, helping me to understand the work better by having the opportunity to read the work in English and or Welsh, if I didn't understand it properly'*
> Anonymous

and

> *'I have enjoyed doing finance in bilingual because I have always done maths in English therefore it's helped me learn the new terms in Welsh and in English'*
> Anonymous

These responses support the rationale for bilingual provision, especially in the mathematics-based finance module. The concept of specific language preference for mental maths calculations (Tamamaki, 1993; Dewalae, 2015) can be seen in the second statement above. Although a bilingual student, previous education in mathematics, and thus any processing of mental mathematical calculation, is likely to be conducted in English; the bilingual nature of the teaching improves development of terminology in both languages.

The open question produced a higher positive response to monolingual WM delivery with English resources with four (of 13) responses (30.7%) specifically noting a preference for WM delivery. Two negative comments were made re the impact of bilingual teaching methods on Welsh-language skills, with one participant stating that:

> *'I feel my Welsh could improve a lot and having bilingual slide allows me to focus on English too much'*
> Anonymous

In conjunction with pilot responses (that some students' Welsh-language skills had worsened since studying at university), this comment should be taken into consideration when devising a language scaffolding strategy. It is important to ensure that any strategy implemented in the CSM is not over-reliant on the use of the English language and that WM students are afforded opportuity to improve their Welsh-language skills as well as ensuring learning efficacy of the academic subjects.

The questionnaire asked about individual motivations for continuing to study in Welsh, and of the 20 participants only two (10%) noted the CCC scholarship as the motivator for WM study. This is notably different to pilot responses where the majority had stated that the additional funding was a main motivator for choosing WM modules.

Table 4.1: Student responses to open question on motivations to study through the medium of Welsh

Theme	Response rate (n=20)	Response rate (%)
Maintain a connection with Welsh heritage	1	5
Maintain or improve Welsh language skills	3	15
Improved employment opportunities	2	10
Scholarship	2	10
Preferred language of learning	7	35
Academic recognition for WM study	1	5
Contribution to the protection of the Welsh language	3	15
Quality of teaching and learning	1	5

The range of answers demonstrated that motivations for WM study within the cohort range from altruistic attitudes of protecting of the Welsh language and culture (20%) to more self-centred approaches of scholarship funding, improved employment opportunities and preferred language for learning (80%). Of these the highest response rate of 35% was for the 'preferred language of learning' with responses including:

> *'Dod yn fwy haws i wneud y gwaith i gymharu a'r Saesneg'*

> *'I enjoy speaking Welsh and work better through the medium of Welsh'*

> *'I feel more at ease when communicating through Welsh.'*

Although 20% of responses demonstrate an interest in a language- and culture-centred rationale for WM study, it is in fact more self-centric rationales (80%) which create genuine motivations for WM study.

Further analysis suggests there exists strong support for the bilingual teaching methods, especially in the 'Cyllid ar gyfer Rheolwyr' module which was a mathematics-based subject. It also demonstrated a significant level of support for monolingual WM teaching, both within and without EM resource support. This requires consideration when constructing a language scaffolding strategy, ensuring it incorporates a wide range of language opportunities for students with differing language profiles. This was further investigated through the focus groups.

4.1.2 Focus groups

The focus groups were conducted following the conclusion of all teaching and assessment. The initial questions allowed for the participants, and thus their contributions to be linguistically profiled into WA or EA, as appropriate. The contributions were than coded and thematically analysed. From the data, two main themes are discussed below: benefits and drawbacks of teaching bilingually and improvements to the degree programmes.

4.1.3 Benefits and drawbacks of teaching bilingually

Twenty-four comments were coded under 'benefits of bilingual teaching' with contributions from all three focus groups, and three comments on the drawback of bilingual teaching methods from a single source; FG3-2019. The comparison analysis graphic (Appendix J) demonstrates that 13 contributors from FG1-2019, FG2-2019 and FG3-2019 made positive comments on the benefits of the bilingual teaching method, in comparison to two contributors from FG3-2019 who made both positive and negative comments, and finally one contributor from FG3-2019 who made a negative comment and no positive comments about bilingual teaching methods. This is relevant as FG3-2019 were comprised of THE students who formed the control group and had been taught on both fully bilingual and fully monolingual Welsh modules. Some comments:

'Bilingual teaching has been very useful. Sometimes I don't understand some Welsh words because I never use them at home, therefore I have found it easy to switch and look at the English version'

<div align="right">*FG19 3c*</div>

'I really liked the bilingual teaching method because if we did not understand a calculation or word in Welsh, we could see it in English. I would make notes in Welsh but some small ones in English to help me understand as I did maths through English in school. Overall this method of teaching was a positive experience'

<div align="right">*FG19 3d*</div>

Two participants from FG1-2019 were returning to university after considerable time out of the education system. Initially, they lacked confidence in their Welsh-language skills on returning to WM education and were uncertain of whether to attempt WM modules. Their response to the bilingual teaching methods demonstrates the benefits of this teaching method for those lacking confidence in their language skills, as demonstrated below:

'Amdana i, roedd e'n siawns i 'sort of' dod nol mewn i'r iaith Gymraeg, oherwydd ers ysgol roedd e pum mlynedd o dim siarad gair o Cymraeg felly gan cael y ddwy iaith, roedd e'n haws i fi codi hyder ond wedyn wnes i ffeindio hanner ffordd trwy'r flwyddyn doedd dim angen edrych ar y Saesneg.'

<div align="right">FG19-1j</div>

'Dechreuais i strugglo pan roedd e jyst yn y Cymraeg achos o ni'n cael y ddau mewn yr un sleid achos o ni gallu darllen yn y Cymraeg a yna darllen trwy'r Saesneg a oeddwn ni'n dechrau adnabod y geiriau yn well. Ond pryd pan oedd e jyst yn y Cymraeg oedd e yn cymryd mwy o amser i'w prosesi fe yn fy mhen o be ma fe'n dweud achos dwi angen cyfieithu o fe mewn i'r Saesneg ond ar ôl sbel bydda fo'n 'not too bad'.

<div align="right">FG19-1k</div>

Both refer to lack of confidence to engage. The bilingual teaching method offered an opportunity to return to WM education without the fear of failure. FG19-1k had felt somewhat 'rusty' but a return to WM education and being part of the WM modules has significantly improved Welsh-language skills, as demonstrated below:

'...pan dechreuais i 'ma yn y Prifysgol, dwi meddwl bod fi ddim yn gallu dysgu trwy'r Cymraeg eto achos bod e mor 'rusty', ond ers dechrau bod mewn grwp Cymraeg fel hyn, dwi'n credu bod safon fy Gymraeg wedi 'increased' mor llawer.

<div align="right">FG19-1k</div>

The theme of linguistic choice, the ability to move between the two languages and opportunity to build confidence in using Welsh academically continues

throughout the 24 comments. It can be argued that the bilingual teaching methods have been a positive experience across all programmes and all language profiles. The three negative comments are presented:

'Can get confusing at times, but helpful most of the times'

FG19-3b

'A negative to this was that there have been times where I haven't remembered the Welsh word for something and only the English, but there is leniency and understanding in these situations, relieving a lot of pressure from having to practice 'perfect' Welsh.'

FG19-3e

'It does help a lot at the start to have slides in both languages, however, I do use the English side a lot more out of convenience.'

FG19-3j

Although a small representation, it is important to ensure that the bilingual teaching methods employed are clear, easy to follow and minimise confusion. Bilingual teaching methods should be employed as part of a wider language scaffolding strategy across the University. This would ensure that students are afforded every opportunity to engage with Welsh-language delivery rather than revert to engaging with English resources 'for convenience'.

4.1.4 Improvement to the degree programme

When discussing improvements to the degree programmes, 11 students from all three groups made a total of 24 comments.

There was a positive response re increasing the WM provision. This is in line with pilot findings (Appendix DOC8003 WRIT2) which identified an increase in the number of WM options as a desirable improvement to the provision of WM education in the CSM.

Table 4.2: Thematic analysis of student response linked to improvement of degree programmes

Theme	Response from contributors (n=24)	Response rate (%)
Increase bilingual teaching provision to other modules	4	16.6%
Bilingual provision in Finance module only	1	4.1%
Increase number of WM modules available in the degree programme	12	50%
Provide Welsh language lessons	1	4.1%
Provide bilingual assignment briefs	2	8.2%
Increase WM provision with resources in English	6	33.3%

Six contributors identified a desire for increased WM provision where resources are available in English. Of the six, all contributors were from the FG19-2 who had no experience of bilingual teaching methods. The linguistic profile of the contributors was 66.6% EA and 33.3% WA. The focus of their discussion was on the need for more English resources as their experience to date had been monolingual WM delivery with restricted access to EM resources. As such, these comments should be taken in context of students who have studied monolingual Welsh modules, who request access to increasingly bilingual resources thus demonstrating a more favourable attitude towards a bilingual approach to teaching and learning.

Increasing bilingual teaching provision to other modules was received positively by FG19-3 who had a language profile of EA. This compounds the fact that students who lack the confidence to study monolingually in Welsh demonstrate support for the bilingual nature of the teaching intervention.

4.2 Quantitative analysis of module recruitment, retention and achievement

Targets for WM recruitment in the CSM were previously set by the CCC through the Staffing Plan Grant awarded directly to universities across Wales who received funding for WM lecturers. In 2018-19, the funding mechanism changed to a subject-based funding mechanism which set recruitment targets at a minimum of 10 students per year (CCC, 2018).

The Cardiff Met Strategic Plan 2017/18 - 2022/23, for the first time ever, sets out its targets for the number of students studying in Welsh. The Plan involves increasing the number of students studying 40 credits per year in Welsh from a baseline of 216 in 2016-17 to a target of 500 students in 2022-23 (Cardiff Met, 2018).

Table 4.3: Breakdown of targets for 40-credit WM recruitment across the Schools

School	Number	Target				
	17/18	18/19	19/20	20/21	21/22	22/23
CSAD	27	30	35	40	45	50
CSESP	91	110	130	140	150	170
CSM	45	60	65	80	90	100
CSSHS	79	90	100	110	120	140
CST	0	10	20	30	40	40
Total	**242**	**300**	**350**	**400**	**445**	**500**

The target of 60 for 2018-19 within the CSM was not achieved. A total of 45 students studied 40 WM credits. Table 4.3 demonstrates that between 2017-18 and 2018-19 there was no growth in the recruitment of CSM students studying 40 credits in Welsh. Although there was higher-than-average recruitment (28) compared to the two previous years (12 and 14 respectively), the 2018-19 figure is still 25% under target.

It is noted that recruitment targets set by both the CCC, and internal targets set by Cardiff Met, focus on the number of students enrolled on WM provision, and the number of credits studied through the medium of Welsh. Little attention is paid to 'how' this provision is offered or delivered, and the focus of recruitment targets is 'how many' students can be recruited and 'how much' WM learning they engage in. Little attention is paid to the teaching and learning strategies of WM provision. The study aimed to identify the need to raise awareness for consideration of 'how' WM provision is designed, developed and provided to enhance learning efficacy.

4.2.1 Recruitment and retention

The CSM has seen a gradual increase in the number of students who self-declare on enrolment as a fluent Welsh speaker, with 23 in 2016-17, 30 in 2017-18 and 43 in 2018-19 (Appendix K). The conversion rates for 40-credit WM recruitment are 43.5%, 30% and 60.5%, respectively. The year-on-year growth of Welsh speakers, coupled with an improvement in conversion rates, suggests that there is potential to achieve an estimated recruitment figure of 61 students in 2019-20, an improvement of 18.8% and only 6.2% below the target.

Despite not meeting the 2018-19 recruitment target, it does demonstrate a significant increase in the number of Welsh learners available for potential recruitment, and in the conversion rate of Welsh speakers to study 20, 40 or more WM credits. If the growth in Welsh-speaking students, coupled with an improved conversion rate, continues year on year, then there is potential for recruitment of students studying at least 40 WM credits per year to align with the Strategic Plan targets in 2020-21. To meet the target of 100 students, it may be necessary to consider alternative subject areas, to maximise the pool of potential WM students. Graph 4.2 below identifies the levels of recruitment and retention at L4 across four academic years. This is based on retention to the end of the academic year and can consist of students initially recruited to WM who have moved to an English mode of study, as well as those who have exited the programme.
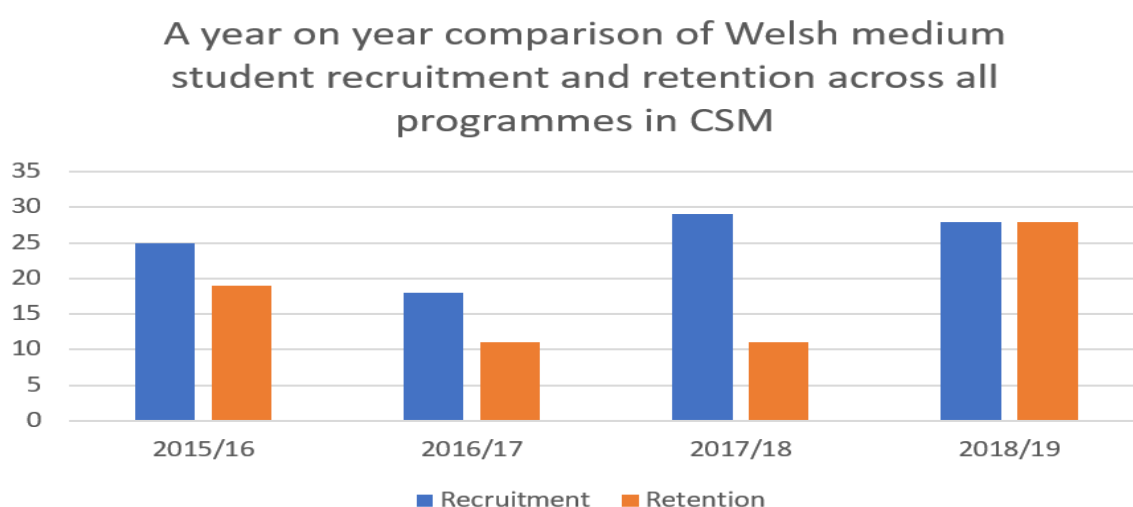
Graph 4.2: Year-on-year comparison of WM student recruitment and retention for all programmes in CSM

It is important to note that this comparison is for Year 1 of study only and not a total of all students across the three years. Making a comparison of the total students across the years would not give a clear picture as WM delivery was in its infancy prior to 2015-16 and including L5 and L6 here would skew the findings.

Data for 2018-19 indicate both a high level of recruitment and retention of students on WM modules. If this could be replicated annually, taking into account a conservative estimate of 80% of a cohort progressing to L5, then we might expect some 60 WM students in 2019-20 and circa 70-72 students in 2020-21.

4.2.2 Module marks

The data sets have been collated for CSM students whose profiles of marks include 40 (out of 120) WM credits. WM and EM students were included in the mean mark for all modules, for all students, thus giving a representation of the mean mark achieved by a typical CSM student in that given academic year (further analysis is available in Appendix I).

The 2018-19 module marks for 'Cyllid ar gyfer Rheolwyr' were compared to the Finance for Managers module for 2015-16, 2016-17 and 2017-18. This generated a mean grade achieved by the cohort which was measured against their mean grade across all modules. This allows for a year-on-year comparison, and from previously monolingual delivery to the intervention and analysing any given changes to the achieved module marks.

For the statistical analysis of the module marks, an initial assessment of 'outliers' from within the BAC4010(W) module was conducted using interquartile range (IQR) using the '1.5xIQR rule' (Upton and Cook, 1996). This method identified two sets of data which sit outside of the inner fence: NP13 and NP14. NP13 had a module mark of 91.2% which was 3.15% above the 88.05% boundary for Quartile 3 outliers. NP14 was removed from the data with a module mark of 19.2% which was 6.6% below the boundary for Quartile 1 outliers. This approach was applied to all previous years; no further outliers were identified.

The intervention itself was also conducted with ten students from the Tourism, Hospitality and Events Management degree programmes. Although data were collected from this group, there can be no comparison based on the low numbers (2016-17, n=2; 2017-18, n=1). It was decided that the study should analyse module marks for BAMS only. The profile of module marks has been compared year on year from 2015-16 to 2018-19. The 2016-17 cohort was included in the pilot project as the student numbers and linguistic profile are more closely matched to the 2018-19 profile of student contributors. This allowed for a more robust comparison of the data by comparing mean marks for BAC4010(W) and the mean module mark per cohort. The same profile of marks was then separated into English Ascendant (EA) and Welsh Ascendant (WA) 'preferred language of learning' groups and the data analysed to identify any correlation. The module marks were analysed by separating the data into the two language profiles and by separating the academic modules into WM and EM to identify any possible links between language of study, 'preferred language of learning' and the mean mark separated by language of delivery.

The module marks were analysed using SPSS Data Analysis Software using Crosstabs analysis and Independent Samples t-tests. A paired-samples t-test was conducted to evaluate the impact of the intervention on module marks between EM delivery and WM (bilingual) delivery. There was a statistically significant increase in BAC4010 marks from EM ($M = 54.385$, $SD = 12.98$) to WM ($M = 64.122$, $SD = 12.116$), t (51) = 2.643, p < 0.011 (two-tailed). The mean increase in scores was 9.736% with a 95% confidence interval ranging from 2.34 to 17.13. Where the following discussion notes a 'significant' change in module marks, this has been analysed as above.

4.2.2.1 Year-on-year comparison of BAC4010(W) against mean module mark achievement

Nineteen students enrolled on CSM's WM modules in 2015-16. From the pilot project, these students were profiled into EA (n=8) and WA (n=11). The mean mark for Finance for Managers for these nineteen learners was 55.0% and the mean cohort mark for all modules was 56.7% in 2015-16.

Fewer students opted for WM modules in 2016-17 (n=10) and 2017-18 (n=8). Students were profiled into EA and WA cohorts. For 2016-17, there was an even profile of five WA and five EA students. For 2017-18, there were three WA and five EA students. Owing to the '1.5xIQR rule' (Upton and Cook, 1996), two 2016-17 profiles were removed for being 'outliers'. This changed the 2016-17 language profile to three WA and five EA students. The 2016-17 mean mark for Finance for Managers for the eight learners was 58.9% and the mean cohort mark for all modules was 59.0%. In 2017-18 the mean mark for Finance for Managers for the eight learners was 48.5% and the mean cohort mark for all modules was 55.5%

In 2018-19, the intervention changed the nature of the language of delivery and the module was taught using the bilingual teaching methods. The 2018-19 cohort included eighteen students with a language profile of EA (7) and WA (11). The mean mark for 'Cyllid ar gyfer Rheolwyr' was 64.1% and the mean cohort mark for all modules was 54.3%
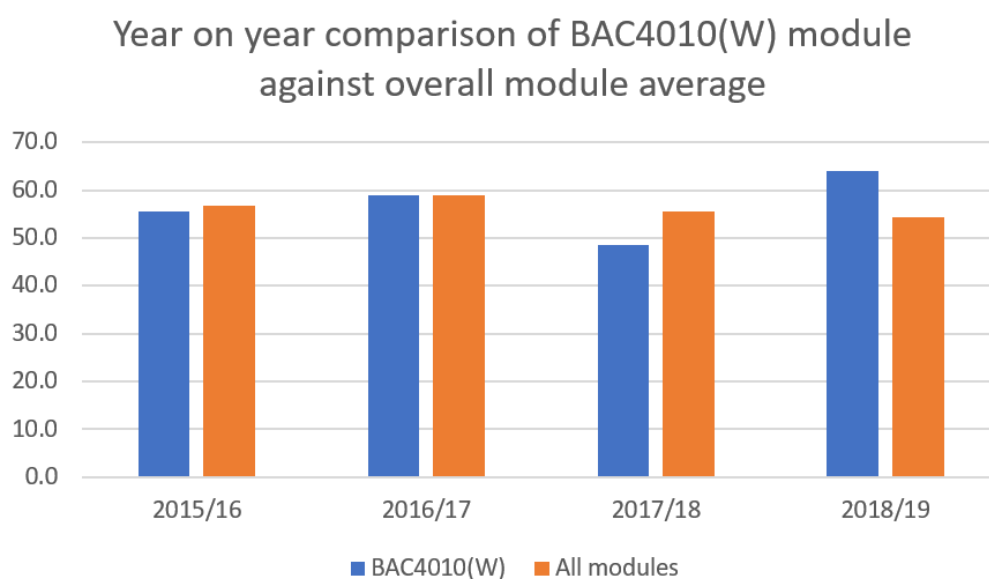
Graph 4.3: Year-on-year comparison of mark profile for BAC4010(W) against the cohort's mean module marks

The 2018-19 mean mark for the 'Cyllid ar gyfer Rheolwyr' module sees a significant increase in achievement in comparison to the cohort's mean overall mark. These results were very encouraging, however, as a descriptive analysis, further analysis would increase reliability of the data. To aid this, the research used the student language profile and compared the cohort module marks

against the average module marks in their WM modules and EM modules. This would demonstrate whether there was any correlation between module marks and 'preferred language of learning'.

4.2.2.2 Year-on-year comparison of Welsh-medium module marks against English-medium modules in relation to student linguistic profiles.

The above analysis indicated the potential for demonstrating a significant improvement in student marks by applying bilingual teaching methods. Further analysis was needed to understand whether it was the bilingual nature of the teaching methods or teaching through the medium of Welsh which created this positive change. It was important to analyse the impact of monolingual WM teaching methods on module marks.
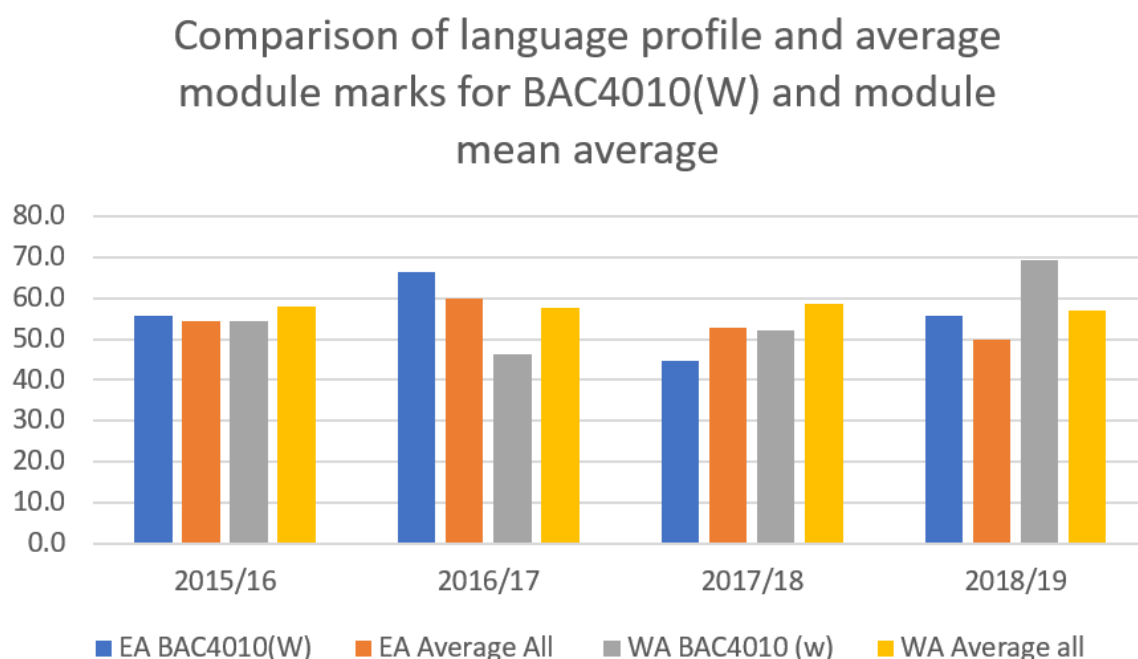
Graph 4.4: Comparison of language profile and mean module marks for BAC4010(W) and module mean average

Comparing the mean average mark against language profiles, year on year, 2018-19 demonstrated a significant positive change for WA profile students studying Cyllid ar gyfer Rheolwyr.

In 2015-16 mean module marks for both language profiles, measured against the mean mark for all modules all sat within the range of 54.4% to 58.1%. In 2016-17

the profile varied, with EA students achieving an average of 66.4% in Finance for Managers, 6.6% higher than the overall mean module mark for the EA cohort. In contrast the WA students in 2016-17 achieved an average of 46.3% in the same module, 11.3% lower than the mean module mark achieved by the cohort for all modules. The following year saw a change in the mean mark for Finance for Managers, with the EA cohort producing a mean of 44.8%, 8.1% lower than their mean mark for all modules. The WA cohort of 2017-18 also produced a lower mean mark of 52.1%, 6.7% lower than 8% mean mark for all modules.

The AY 2018-19 demonstrated a positive change in mean module marks for both cohorts with the EA group achieving 55.7%, 5.7% higher than the cohort's mean module mark. More significantly, we saw the WA cohort achieve a mean module mark of 69.5%, 12.4% higher than the mean module mark for the WA-profiled students. These data demonstrated that for the first time since before 2015-16 WA-profiled students had achieved a mean in 'Cyllid ar gyfer Rheolwyr' higher than their mean mark for all other modules. The EA-profiled students also demonstrated an improvement, suggesting that using bilingual teaching methods provide benefits re student learning.
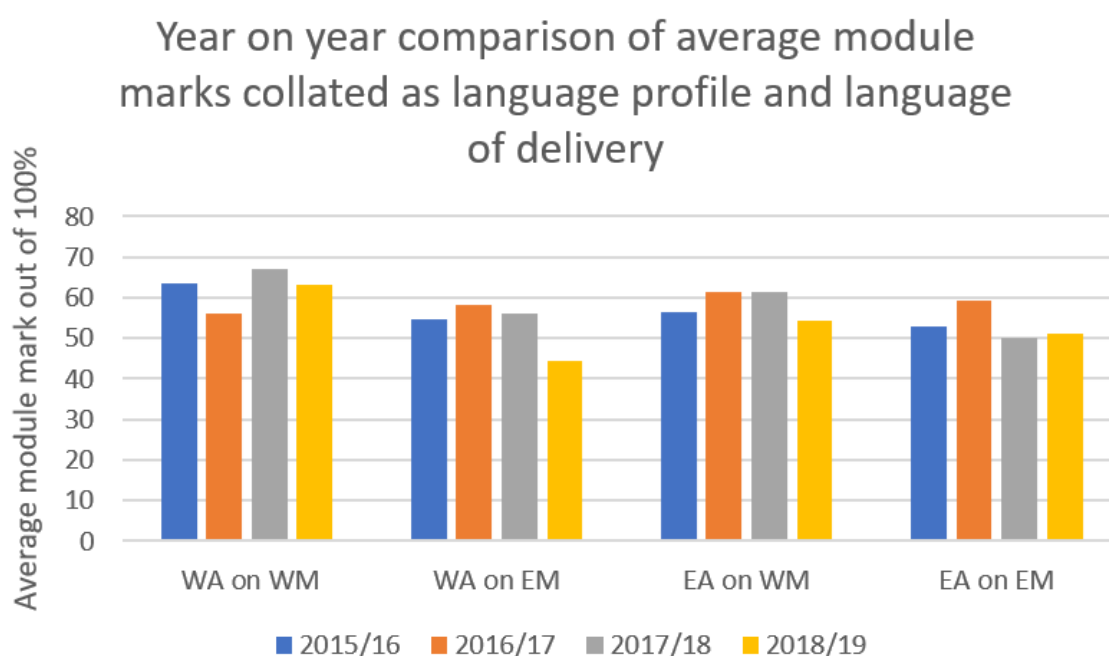
Graph 4.5: Year-on-year comparison of mean module marks collated as language profile and language of delivery

When comparing mean module marks taking into consideration language profile and language of delivery, Graph 4.5 shows that WA on WM modules have the highest marks across the profile apart from in 2016-17 when EA on WM modules achieved the highest mean average. It can be argued the worst performance in module marks across the linguistic profile is the WA on EM modules apart from in 2017-18 where EA on EM achieved lower than the WA on EM cohort.

AY 2018-19 saw the lowest profile (mean) for WA on EM modules, dropping to 44.4%, the lowest mean of all years and all profiles. This can be compared to the mean for EA on EM modules of 51.2%, demonstrating a 6.8% negative differential for WA on EM modules. Graph 4.5 also demonstrates that the EA on WM cohorts achieve consistently higher marks then the EA on EM modules.

It is important to note that assessments and class sizes remain constant across the profile. The teaching materials have been translated form EM and both lecture and seminar activities are direct translations of the EM provision. The only differences in provision are the language of study and the module delivery staff for both lectures and seminars.

4.3 Structured interviews

Responses were received from three WM lecturers; two of which having been a part of trialling the intervention on modules, 'Cyflwyniad i Farchnata' and 'Cyflwyniad i Reoli Adnoddau Dynol' with the third contributing to monolingual WM delivery at L4 to L6.

All agreed that the Welsh-language skills of the WM students varied across each cohort. SC3-2019 discussed the nature of Welsh-language skills within each group as varied depending on their background, schooling and friendship groups. They went on the state that having two or three students in a group who are very confident and strong personalities can influence the whole cohort to work in Welsh-medium, especially in group work. They stated that:

> *'Oes oes gyda chi un neu ddau neu dri sydd yn hyderus iawn yn ei iaith ac yn bersonoliaethau cryf hefyd gall hynna ddylanwadu ar y cohort cyfan – yn*

enwedig mewn gwaith grwp... ond mae hefyd yn wir bod lefelau hyder a defnydd yn gwella wrth i'r myfyrwyr fynd ar eu taith drwy'r brifysgol.'

This skills development across the academic years has been designed to encourage more independent use of the Welsh language and to remove support structures as the three-year programme progresses. SC3-2019 works with students at all levels and thus able to comment on the language development over the span of the students' studies.

Both agreed that the language skills of the WM students were of a 'satisfactory or good' standard which is backed by the concept of the students being recruited with a 'critical mass' (Derbie, 2014) of Welsh-language skills. This is noted by SC2-2019 who stated that:

> *'nid dysgwyr mohonynt a does dim angen llawer o Saesneg arnynt er mwyn gallu deall... Mae perygl o wanhau'r ddarpariaeth Gymraeg drwy lastwreiddio a chaniatáu 'comfort zone' yn lle elfen o ymestyn y bydd y myfyrwyr yn gallu ymdopi â hi.*

According to SC2-2019, students are not Welsh learners and they do not require 'much' English-language support to be able to understand the teaching. SC2-2019 goes on to state that allowing students to remain in their 'comfort zone' of English instead of challenging them also weakens the Welsh-language provision. These concepts are supported by the negative comments from the focus groups where some individual students did recognise a tendency in themselves to rely too heavily on the EM resources. This is supported by SC1-2019 who stated that the bilingual teaching methods could lead to students submitting their work in English because of the easy access to the resources.

SC3-2019 identified an additional complexity for WM students where WA students find difficulties in submitting their work in English. They noted that:

> *'I'r fath raddau roedd (NC7) yn cael peth anhawster cyflwyno gwaith yn Saesneg ar fodiwlau eraill. Felly mae'r elfen o ddatblygu hyder siaradwyr Cymraeg rhugl sydd heb arfer astudio'r maes yn y Gymraeg wedi llwyddo.'*

SC3-2019 adds:

> *'Yr elfen arall yw datblygu hyder a defnydd rhai sydd ddim mor rhugl pan yn dechrau. Fe fydd wastad amrywiaethau. Fe fydd rhai yn cyflwyno gwaith yn*

Saesneg drwy gydol eu cyfnod yn y brifysgol. Ond mae'n galonogol gweld rhai oedd yn ddihyder tu hwnt ar ddechrau eu taith yn gallu cyfrannu yn y Gymraeg mewn cyflwyniadau ac ati.'

SC3-2019 stated that developing the confidence of those who are not as 'fluent' when they start is a challenge for staff, however, seeing a student develop from a reluctant speaker to a key contributor in Welsh is an important part of Welsh-language development.

SC3-2019 is a full-time lecturer for WM modules only and has experienced more of the students' language journey. SC2-2019 is contracted to teach two hours per week (L4 only) and has worked with the teaching team for two academic years. SC3-2019's attitude towards students who choose to submit work in English is more relaxed, having experienced the full language journey of students. SC3-2019 has witnessed first-year WM students who were reluctant to submit work in Welsh go on to submit their final-year dissertation (13,000 words) entirely in Welsh.

Each contributor was asked to identify ways in which they had factored Welsh-language support or development into their teaching and learning. SC1-2019 stated that since beginning lecturing 10 years ago, they have always included English terms on teaching slides for two reasons, firstly that the Welsh terms were unfamiliar to students and secondly that the textbooks were all in English, so it was important to ensure students were familiarised with the corresponding English term:

'...roeddwn i'n gweld bo rhai o'r termau Cymraeg yn anghyfarwydd... Gan bod y gwerslyfrau i gyd yn Saesneg o'n i'n gweld bo fe'n bwysig bo'r myfyrwyr sy'n astudio yn Gymraeg yn gwybod beth oedd y termau Saesneg cyfatebol'.

SC3-2019 used a variety of bilingual teaching strategies including Welsh slides followed by English slides (but not bilingual slides), the use of terminology in italics and in brackets on slides, the use of English quotations from academic sources and the use of videos from online sources which can be in either language (where available). Bilingual sides are used 'very rarely' as SC3-2019 prefers to teach the slide in Welsh and then reiterate another slide in English, if it was felt that the information required translation.

SC2-2019 identified a number of different teaching strategies to embed Welsh-language development within teaching and learning, these included: access to English resources on Moodle, providing terminology sheets for specialist terms, translating specific terminology within presentations, using a variety of both formal and less formal Welsh terminology and using teaching resources and activities using Welsh terminology to build vocabulary.

SC2-2019 described the existing provision as monolingual Welsh delivery with access and support using English resources where it supports learning efficacy. SC2-2019 does note that bilingual learning methods do help student to feel less anxious about Welsh-medium learning, knowing the English version is available, stating:

> *'Mae (dwyieithrwydd) yn helpu'r myfyrwyr o ran tawelwch meddwl eu bod yn cael gweld y sleidiau Saesneg ar y Moodle os ydyn nhw'n dewis wrth baratoi ar gyfer yr aseiniad terfynol.'*

This was supported by SC1-2019 who stated that the bilingual nature of learning has been an important aspect of recruitment as it has been necessary to 'persuade' students that learning through the medium of Welsh was not harder nor does it put them at a disadvantage, the bilingual nature removed one of the barriers to learning. They went on to note that the increased success in recruitment created a situation where less confident students enrolled and as such the language of the classroom became more 'Wenglish', to try to ensure learning efficacy for all language profiles. SC1-2019 goes on to state that they felt the bilingual nature of the modules directly affected recruitment and retention in that:

> *'28 o fyfyrwyr gofrestru ar y modiwlau Cymraeg, bron i ddwbl y nifer dros y blynyddoedd cynt. Roedd hyn yn rhannol achos bo ni wedi defnyddio sleidiau dwyieithog yn wythnos y glas, a dweud bo ni'n gwneud yr un peth yn y darlithoedd. A'r peth mwyaf positif yw bo'r holl fyfyrwyr yma wedi aros ar y modiwl trwy'r flwyddyn – fel arfer bydden ni wedi colli ambell un oherwydd ansicrwydd ieithyddol'.*

They go on to note that many students were not confident about studying in Welsh at the start of the year, however, due to their engagement in the intervention, they are confident that the students will continue to use their Welsh language skills in their future careers.

When questioned on the drawbacks of the intervention, SC1-2019 stated that they had found producing the bilingual resources challenging, in terms of, layout and slide design:

> *'Yr anfantais oedd bo fe yn llawer iawn o waith y tro cyntaf i newid yr holl sleidiau – roedd yn fwy na jyst cyfieithu – roedd angen ail-ddylunio'r holl gynnwys a'r 'layout' hefyd ... Felly mewn ffordd ti'n gorfod paratoi 2 ddarlith nid dim ond un'.*

This aspect of increase workload was noted as time-consuming by SC1-2019 and the development of modules which are to be delivered using bilingual resources should have an allocated development time which reflects the increase in workload. This should be considered when planning new modules as stated by SC1-2019:

> *'Mae angen sicrhau bo darlithwyr Cymraeg yn cael amser ychwanegol ar eu Model Llwyth Gwaith a bod arian ar gael ar gyfer cyfieithu sleidiau, neu mae'n bwysau ychwanegol annheg ar ddarlithwyr Cymraeg / dwyieithog'.*

When discussing feedback on Welsh-language skills, SC3-2019 stated that no feedback was given on grammar, however, typographical and syntaxial errors were highlighted. This attitude towards language feedback is borne from a reluctance to undermine student confidence in using Welsh in their academic work and the potential to affect student language choice in future. SC3-2019 explained that the subject matter was more important:

> *'Y peth pwysicaf i fi yw bod y myfyrwyr yn cyflwyno unrhyw beth yn y Gymraeg er mwyn cynnal a cheisio gwella safon eu iaith (terminoleg) a magu hyder yn hytrach na'r cywirdeb. Yn fy marn i dylai gwella safon gramadegol fod yn waith arbenigol y tu allan i'r ddarlith/seminar busnes mewn modiwl gloywi iaith. Gallai'r darlithwyr busnes gydweithio gyda'r arbenigwyr gloywi iaith ond yn y pendraw arbenigwyr busnes ydyn ni nid arbenigwyr iaith, er ein bod yn amlwg yn awyddus iawn i weld y myfyrwyr yn defnyddio'r Gymraeg yn eu gwaith ac ar ôl graddio.'*

SC3-2019 identified a rationale for standalone Welsh-language support as optional for students rather than embedding Welsh-language 'teaching' into business modules. The point is made that business lectures specialise in business and not in the Welsh language. This is an important point as no staff member on the WM teaching team has a specialism or a qualification in teaching the Welsh language.

Above opinion is supported by Paradis and Genesee (1996) who found that problems with lexical banking of vocabulary rather than grammar persisted for longer. Therefore, HE students are likely to require support with lexical banking and terminology than with feedback on grammar. This approach also works to reduce perceived negativity in language feedback which can impact negatively on student confidence and willingness to employ Welsh-language skills in assessments.

Finally, SC1-2019 stated that that the language scaffolding design of the programme should consider at which point to remove language support. They felt that the removal of scaffolding in term 1 of AY 1 was too soon and waiting until AY 2 may have been more beneficial to the cohort. They also considered the creation of bilingual modules at all levels as to retain less confident Welsh speakers on the Welsh-medium modules. All contributors agreed that encouraging the use of Welsh language for academic work was important for the students in terms of future employability and developing confidence. However, their attitudes re how to implement this differ, which according to Rhys (2000), impacts upon the nature of the bilingual provision received by learners. The teaching methods to support language development outside of the intervention adopted by staff are similar and there is evidence of language development and increased use by students as they progress through their studies.

4.4 Limitations and reliability

The mixed-method approach of collecting and analysing the data from the bilingual teaching methods trial and intervention demonstrates triangulation of data (Wiersma, 1995) by using a range of data-collection techniques and comparing results. One of the main strengths of the data-collection process is the use of statistical data from University records which are ratified through the University's Quality Assurance System. The mean marks discussed above had been moderated and then approved by both an internal Exam Board and by an external examiner and as such, the module marks are a reliable data source. The analysis of the module marks was an essential element of the analysis process as it was important to prove that academic achievement was not impeded by the intervention. In fact, the analysis highlighted student improvement (for either

language profile). The strength of the data source and analysis of the module marks helped to support the qualitative analysis of student participant feedback through the questionnaire and focus groups.

The improved modules marks in both the WA and EA cohorts demonstrate that module-mark improvements are not a direct consequence of the language of delivery. If this were so, either a decrease or no change would be expected in the EA cohort marks as these students had previously been taught through EM and therefore the movement to WM might have had a negative impact on their learning efficacy. However, the research demonstrates that both cohorts have enjoyed significant increases in module marks. This dispels the argument that the increase in module marks could be solely based on students' preference for WM education as the EA students' marks also improved. The increase in module marks for both cohorts reflects the work of Williams (1994) which found that the application of bilingual teaching strategies, such as translanguaging, improved student performance as students are required to process information in two languages. Although it is impossible here to specify which of the many teaching strategies employed had the most impact, it can be argued that bilingual teaching methods for the 'Finance for Managers' module has generated an increased module mark for both sets of linguistic profile. The researcher recognised that the differential between the module marks of 'Cyllid ar gyfer Rheolwyr' and 'Finance for Managers' may not lie in the language-delivery methods alone. There may be other factors affecting student achievement, such as, attendance and/or engagement of the student with the module. While every attempt was made to reflect the EM version of the module, a simple staffing change can impact on student achievement rates. This is an unquantifiable factor and would be extremely difficult to measure, therefore, the research was designed to ensure that, wherever possible, all other factors were equal to that of the EM modules.

The questionnaire proffered open and honest answers as student participants were not influenced by 'groupthink' (Janis, 1972). Its use also minimised insider influences (Wei, 2001; Coghlan and Brannick, 2005). The questionnaire was used to compare and contrast anonymous answers to those of the face-to-face focus groups. The questionnaire corroborated the focus-group findings, in support of the bilingual teaching method, however, they also identified issues with

a small number of students who felt over-reliant on EM resources, which was not reflected in the focus groups. Structured interviews offered an alternative perspective re teaching and learning; lecturer insights enriched the research experience. Although useful and appropriate, conducting face-to-face, semi-structured interviews with staff contributors would have offered far greater insight (Saunders *et al.*, 2016).

Student availability was another limitation. While research was undertaken with the L4 BA (Hons) Business and Management cohort and the intervention was trialled with different cohorts to analyse the student response to the bilingual teaching methods in a wider context, it is not representative of all WM students studying Business and Management across Wales. This study recommends further research in this area across the HE sector in Wales.

Chapter 5: Discussion for Final Project

This chapter offers a discussion of the final project before closing with some conclusions and recommendations re bilingual teaching methods within a language scaffolding approach in WM education at the CSM. The discussion focuses on the key areas of students' preferred language of learning, recruitment and retention, student achievement and language scaffolding.

5.1 Students' preferred language of learning

According to Wei (2001), balanced bilinguals, those individuals who are equally proficient in either language, are extremely rare. It is therefore safe to assume that in any cohort of bilingual students who are learning through the medium of two (or more) languages there will be differences re language preference. This becomes increasingly complex in a university setting where the language profile of a cohort is spiky (Baynham *et al.*, 2007), with a range of backgrounds, preferences and confidence levels re language skills. When planning bilingual programmes, it is essential that learners are supported re their language use and development.

Applying Green (1986)'s concepts of active and selective language, the researcher developed a matrix of language activation in Welsh students when studying in English and Welsh. The complexities of bilingual study were identified through the nature of the active and selective languages experienced by individual students in different classes.

Student contributors identified the complex nature of studying in their L2 language, be that Welsh or English, with FG19-1k summarising thus:

> '*yn y Cymraeg oedd e yn cymryd mwy o amser i'w prosesi*'

When applying this to mathematics-based modules such as Finance for Managers, focus-group feedback (in 2017) identified that students struggled with the mode of language.

FG2I stated that:

> *'fi cofio yn blwyddyn cyntaf yn finance o'n i wedi gwneud mathemateg yn y Gymraeg ers i mi bod yn plentyn, i mynd wedyn i wneud yn Saesneg roedd yn completely random i trosglwyddo i'r Saesneg'*

Student feedback echoes Dewaele (2007) and Schüler-Meyer *et al.* (2019), proving the hypothesis that mental calculations are usually conducted in a participant's L1. Tamamaki (2003) had argued that it was the initial language of instruction of mathematics which affected the mental calculations. It was evident that when devising a WM module for a cohort of mixed language ability, or 'spiky' profile of Welsh-language speakers which involved making mental mathematics calculations, a new approach was required.

The bilingual teaching method was positively received across the whole language profile (WA and EA), which was unprecedented. Previous trials by this researcher had received a mixed response as monolingual English speakers did not engage well with the bilingual nature of the teaching. A mixed response from the CSM WM cohort was expected. Achieving a response where 100% of learners from both language profiles felt it had been 'a lot of help' to their studies highlighted the positive aspects of the bilingual teaching method in this context.

When applying the concept of identifying a student's 'preferred language of learning' it is not as simple as identifying their L1 language or even previous language of study. A number of students had been through WM education but had studied mathematics in English and thus, asking in which language they socialised, dreamed and conducted mental maths, allowed for a more specific profile of their language skills.

The research concluded that although a student may profile as WA in all other areas, there is still a possibility that they are EA when studying a mathematics-based subject. Understanding students' language profiles gives greater insight into their academic needs and the support they require for learning efficacy.

Consideration of a student's 'preferred language of learning' in bilingual curriculum design, supports the argument that WM provision should focus on

'how' WM provision is designed and developed, rather than the present focus of 'how much' provision is offered. This focus on language development, allowing students to work and submit assignments in their preferred language for each activity, could have a positive knock-on effect for recruitment. Students who lack confidence in Welsh may feel more comfortable choosing to study WM modules where there is a flexible approach to the language of learning, and therefore may choose to study more WM modules. This could 're-open the door' to the Welsh language for students who have previously studied in Welsh but whom would not have chosen to study monolingually in Welsh.

5.2 Recruitment and retention

Recruitment and retention figures are the main foci of the 2016 Cardiff Met Strategic Plan, HEFCW targets and CCC funding (CMU, 2018c). The most ambitious of these being Cardiff Met's Strategic Plan which has set the CSM the target of recruiting 100 WM students studying 40 or more credits in Welsh by AY 2022-23. Increased recruitment, including the conversion of Welsh-speaking student who enrol initially on EM courses, and year-on-year retention are essential.

AY 2018-19 saw higher recruitment and retention rates at L4 when compared to L5-6, even though there had been no change to recruitment/marketing strategies. It is not possible to attribute this improvement solely to bilingual teaching methods as other factors are known to influence student engagement, such as timetabling and peer interaction. It is possible to identify seven EA students in the first year, of which six stated that they had initially struggled with studying in Welsh. It could be argued that these six were at risk of transferring to EM modules had the bilingual modules not been available.

The University also created a WM seminar group. As stated by SC3-2019, a student's social group can impact upon their Welsh-language use and previous years had seen WM students split into two or three different multilingual seminar groups. It was decided in AY 2018-19, with a viable cohort, to trial a WM group. This has proved popular with the students who noted that they felt more

comfortable speaking with peers in Welsh. Interestingly, this cohort regularly socialised with each other.

FG19-1c stated that:

> *'gyda ni, ni gyd yn 'sort of' cymdeithasu, mas gyda'n gilydd ar ôl gwersi, Mae gyda ni ein GymGym bach ni, de.'*

This social interaction supports the bond between the group. Other student contributors noted that they socialised as a group and felt more comfortable with Welsh-speaking peers. These all work to encourage retention among peers and create a viable WM cohort. It is important that wherever viable, we offer students a WM seminar group as this will encourage recruitment and retention through social interaction and community.

An essential part of the discussion re recruitment targets is the potential for CSM WM modules to achieve the target of 100 speakers by AY 2022-23. Present recruitment and retention figures, without any additional provision, would achieve a target of around 72 students in AY 2021-22 and 2022-23. This is assuming that recruitment and retention are similar to that of 2018-19 with an 80% retention rate between L4 and L5, and 100% retention between L5 and L6. There is a need to consider alternative options for the development of WM provision in the CSM to achieve these targets.

Option A could be to increase promotional and marketing activities. This approach is already in place with the appointment of a new marketing and recruitment officer, with a focus on WM provision in the CSM. However, CS3-2019 identified an alternative approach to increasing recruitment, which is to extend WM provision across more programmes.

> *'Rwy'n credu bod cyfle i ehangu'r ddarpariaeth i feysydd eraill o fewn yr Ysgol Reoli ee. Modiwlau cyfraith, cyllid, cyfrifeg ac ati. Byddai hyn yn ehangu ystod y meysydd sydd ar gael i fedru defnyddio sgiliau Cymraeg ar ôl graddio.'*

The number of Welsh speakers identifying as fluent in the CSM in 2018-19 was 43, of which 28 were converted to WM modules. Of the remaining fifteen potential recruits, fourteen were enrolled on non-WM provision. The WM provision could

potentially convert an estimated ten of the remaining fourteen by providing WM options, which would see an increase in numbers approaching the target figure of 100. CS3-2019 suggested possible WM provision in Law, Finance and Accounting.

5.3 Achievement

Kong and Hoare (2011) argued that it was difficult to teach a subject through a language only partially understood without simplifying the curriculum. In the context of the WM modules in the CSM, recruitment specifies the need for a 'critical mass' of language skills which ensures that participants can follow and understand the teaching, even if their vocabulary requires development for specific terminology. This applies across the EM context also, especially where students are international or L2 English speakers. The phenomenon of students learning new terminology is not unique to WM provision. What is different to the EM provision is the approach to teaching terminology in two languages, ensuring that students are fully equipped for a bilingual workplace. SC3-2019 stated that:

> *'Y peth pwysicaf i fi am ddysgu yn y Gymraeg yw helpu i greu gweithlu sy'n gallu gweithio yn ddwyieithog ym myd busnes a thu hwnt. Mae angen mwy o weithwyr gyda'r hyder i ddefnyddio eu Cymraeg yn y sectorau cyhoeddus, preifat a'r trydydd sector ac i fi un o'n cyfrifoldebau pwysicaf yw paratoi ein myfyrwyr ar gyfer gweithle'r dyfodol.'*

Producing graduates who can operate professionally in a bilingual workplace is a priority for SC2-2019, SC3-2019, the CCC (2018) and the Welsh Government (2016). Employability is linked to student achievement in university and finding the balance between supporting learning efficacy through bilingual means and effectively developing Welsh-language skills is essential.

The analysis of the mean marks for 'Cyllid ar gyfer Rheolwyr' and 'Finance for Managers' demonstrates that the application of bilingual teaching methods on a mathematics-based module had been effective in supporting learning efficacy. This is evidenced through higher module marks for both WA and EA students and through positive student feedback. The interesting aspect of the research was that EA students who studied bilingually achieved on average 6.2% higher on bilingual modules than on other WM modules and 9.4% on average higher

than their EM modules. Williams (1994) argued that translanguaging activities, in their own right, gave greater opportunity for processing and understanding concepts as information was required to be processed from one language to another. The bilingual nature of the slides and the use of translanguaging supports this argument that the 'processing' of information through two languages has helped to improve the overall module achievement. On the other hand, it may have been the movement from English-medium to Welsh-medium which created the change, and as such there may be no perceived benefit from bilingual delivery; in this case the EA students would have not have necessarily seen any improvement as they theoretically would have moved from their preferred language of learning to their L2 in this module. The fact that both WA and EA students have seen improvements is evidence of the success of the bilingual teaching method in this subject.

It would be expected that WA students improve their grades through having WM provision as their selected and active languages would be working in harmony (Green, 1986). It is more surprising to find that EA students saw significant improvements in grades, as Wesche (2001) argued that it is difficult for students to apply academic concepts through a language in which they have limited proficiency. It may be testimony to the nature of the bilingual teaching methods that both WA and EA students are achieving higher module marks than compared to previous cohorts and against their own mean profile of marks.

5.4 Language scaffolding

CSM Welsh provision can be defined as a two-way immersion (TWI) programme (Freeman, 2004). Students are afforded opportunities to study WM or EM modules. It is within this context that we see a 'spiky' language profile of students and a natural translanguaging environment (Thomas, 2015). Such an environment is born of the existing bilingual teaching strategies employed by staff, and of the teaching materials and resources available. This is augmented by planned and unplanned code-scaffolding and code-switching techniques (Fennema-Bloom, 2009; Musk, 2010; Canagarajah, 2011a) and the use of formal translanguaging activities within the classroom. This complex learning

environment for bilingual CSM students would be improved by the implementation of a systematic language scaffolding plan.

Creating a language scaffolding plan which meets student, University, Welsh Government and CCC needs requires a balance between offering opportunity and encouraging engagement. SC2-2019 expressed concern at apathy towards students submitting assignments in English, as they felt that this 'diluted' WM provision and failed to challenge the students and develop their language skills. Conversely, SC3-2019 identified that language development came with ongoing immersion in WM modules which created confidence in using the Welsh language. SC3-2019 identified this a something which was developed over time, but that not all students did develop. They identified a number of students whose skills had flourished during their studies. Numerous student contributors also stated that the environment created by the WM lecturers ensured that they were given 'bilingual space' (García, 2009) to process the information without fear or pressure of poor language skills.

Retaining students who are more akin to an EA profile has a double-positive effect as it helps with meeting the targets set by the University, WG and CCC, and it helps retain Welsh speakers in an ongoing relationship with the Welsh language.

Williams (2019) argued that Welsh-language use should focus on outcomes rather than outputs. This is supported by SC3-2019's comments as allowing freedom of choice often gives space and time for language confidence and skills to develop, leading to students feeling more confident and thus, more likely to use their Welsh-language skills. This is supported by focus-group feedback (2017 and 2019) where students identified the non-compulsory attitude of lecturers as 'comforting' and 'supportive', allowing them to develop at their own pace. It is noted that there is a need to encourage and provide opportunity to challenge students to develop and apply their Welsh-language skills (SC2-2019). The need exists for a structured systematic development plan which provides a balance of choice versus level of challenge, for which the language scaffolding plan in Table 5.1 was designed.

Carstens (2016) argued that designing a language scaffolding programme required planning for facilitation of interactions between students with diverse language skills; allowing students to learn both from others and through teaching to others. In addition to this, contextualisation of the academic language within an activity allows the language to be closer to 'real-world experience' (ibid. :7). These are elements which are incorporated into the options available to learners at L5 and L6, ensuring that Welsh is used in context of a business consultancy and working with both peers and fluent Welsh-speaking business managers.

5.4.1 Rationale

Table 5.1 identifies the 2019-20 modules that comprise the BA (Hons) Business and Management degree and the language-scaffolding rationale for each module.

Table 5.1: Rationale for language-scaffolding

	Module	Language of delivery	Rationale
Level 4	Rheoli Pobol yn y Gwaith / (Managing people at Work)	100% Welsh medium with bilingual terminology and translanguaging where it is deemed appropriate by the lecturer.	Designed for confident Welsh speaking students who want to engage with WM modules. This works to reduce possibility of WM students feeling the modules are 'diluted'. Students will be strongly encouraged to submit work in Welsh in this module.
	Cyflwyniad i Farchnata (Introduction to Marketing)	Welsh medium with bilingual introduction and terminology and translanguaging where it is deemed appropriate by the lecturer.	Designed for less confident Welsh speaking students who want to engage with WM modules, but are lacking confidence in their Welsh language skills. This works to introduce students to Welsh language in HE through a stepped language scaffolding approach where resources are increasingly monolingual as the module progresses. Students will be encouraged to submit in Welsh but flexibility in preferred language of learning is accepted.
	Cyllid ar gyfer Rheolwyr (Finance for Managers)	100% bilingual delivery with all lectures and resources available bilingually, the main language of delivery will be Welsh with some English where it is deemed appropriate by the lecturer.	Designed to fulfil the needs of both WA and EA Welsh speakers in completing Mental mathematics calculations in their L1. All work can be submitted in English or Welsh as appropriate to the student's preferred language of learning.
	Business Economics	100% English medium	No Welsh medium planned
	Business Information Systems	100% English medium	No Welsh medium planned
	Law and the World of Business	100% English medium	No Welsh medium planned

	Module	Language of delivery	Rationale
Level 5	Datblygu a Chymhwyso Sgiliau (Skills Development and Applications)	100% Welsh medium through Task Based Learning	Designed for confident Welsh speaking students who want to engage with Welsh medium voluntary work or Work Experience in a Bilingual / Welsh medium setting. This module encourages WM students to experience working in a Welsh language setting. Students will be strongly encouraged to submit assignment in Welsh.
	Busnes ar Waith (Business in Action)	100% Welsh medium through Task Based Learning	Designed for confident Welsh speaking students who want to engage with consultancy work with businesses who operate in Welsh. This module encourages WM students to work collaboratively with a Welsh medium business to consult on a business problem. Students will be required to work as a team and submit their proposal to the company in Welsh.
	Ymarferion Busnes Moesegol a Chynaliadwy (Ethical and Sustainable Business Practices)	Welsh medium with bilingual introduction and terminology and translanguaging where it is deemed appropriate by the lecturer.	Designed for those still developing their Welsh language skills who want to engage with WM modules, but are lacking confidence. This uses a stepped language scaffolding approach where resources are increasingly monolingual as the module progresses. Students will be encouraged to submit in Welsh but flexibility in students' preferred language of learning is accepted.
	Cyllid ar gyfer Entrepreneuriaid (Finance for Entrepreneurs)	100% bilingual	Designed to fulfil the needs of both WA and EA Welsh speakers in completing Mental mathematics calculations in their L1. All work can be submitted in English or Welsh as appropriate to the student's preferred language of learning.
	Contemporary Operations Management	100% English medium	No Welsh medium planned
	Optional Module	100% English medium	No Welsh medium planned

	Module	Language of delivery	Rationale
Level 6	Traethawd Hir / Sefydlu Menter / Cynllun Marchnata (Dissertation / Launching an enterprise / Marketing plan)	100% Welsh medium through Task Based Learning	Designed for confident Welsh speaking students who want to engage with independent research through the medium of Welsh. Students will be required to produce at least 50% of their final assessment in Welsh to enrol on these modules.
	Arweinyddiaeth Newid (Change Leadership)	100% Welsh medium through Task Based Learning	Designed for confident Welsh speaking students who want to engage in Welsh medium tasks This module encourages WM students to work collaboratively with a Welsh medium business to consult on a business problem. Students will be required to work as a team and submit their proposal to the company in Welsh.
	Rheolaeth Strategol (Strategic Management)	Welsh medium with bilingual terminology and translanguaging, where it is deemed appropriate by the lecturer.	Designed for confident Welsh speaking students who want to engage with WM modules but are still developing professional vocabulary and confidence in applying their Welsh language skills academically. Students will be encouraged to submit their assignments in Welsh in this module.
	Optional Module	100% English medium	No Welsh medium planned
	Optional Module	100% English medium	No Welsh medium planned
	Optional Module	100% English medium	No Welsh medium planned

There is year-on-year development in available credits through the medium of Welsh, complemented by a reduction in the level of EM support. The aim of the language-scaffolding strategy is to provide a range of opportunities which caters for differing language needs of students. Although it is recognised that students have unique language profiles based on their background and experiences (Wei, 2001), for practical purposes the strategy aims to cater for three student profiles.

1. Students returning to study in Welsh after a break from WM education;
2. Students directly progressing from WM education who lack confidence in their Welsh-language skills;
3. Students directly progressing from WM education who are confident and highly motivated to study through the medium of Welsh.

The needs of each profile must be catered for to ensure the most effective and enjoyable learning experience possible. The language-scaffolding strategy offers a structured language-scaffolding system which can be tailored to the needs of the individual.

At L4, students have the option of studying three 20-credit modules ranging from fully bilingual, partially bilingual to 100% WM with language development strategies embedded in the teaching and learning. The rationale for the design is to offer an opportunity for the re-engagement of students who lack confidence or whom have been out of WM education for some time, but to also offer at least 20 credits of 'pure' WM education for those who want to fully engage in WM modules. Students can 'mix and match' their modules to suit their personal interest and language needs.

At L5, the introduction of two task-based immersion learning modules, one in-house and one as a work placement / volunteering project, offers more confident students the opportunity to engage in consultative and work-placement experiences through the medium of Welsh. These modules are fully immersive which may challenge less confident Welsh speakers. It is therefore also important to offer more traditional modules both bilingually and monolingually with language support and development techniques embedded. These modules offer students the opportunity to engage with a range of bilingual and WM education.

At L6, the scaffolding strategy sees all fully bilingual modules replaced with an independent research option. This optional module requires that at least 50% of the final document is produced in Welsh. The rationale for this is two-fold. First, it encourages the development of independent writing skills in Welsh and second, it ensures that transcripts of modules reflect the nature of the Welsh-language engagement within independent research.

The strategy offers further opportunities at L6. Two additional classroom-based options (20 credits each) are available for those who do not wish to engage in independent research and/or do not feel confident enough to write a dissertation-style assignment in Welsh. Allowing less confident students to enrol on 40 credits of taught modules helps with meeting Cardiff Metropolitan University targets.

5.5 Conclusions and recommendations

The final project has trialled a teaching intervention through the application of bilingual teaching methods as defined by Sgiliaith (2018a) to support students studying the L4 Finance for Managers module. The aim of the bilingual teaching strategy was to ensure learning efficacy in the teaching of a subject which required making mental calculations as bilinguals often conduct complex mental calculations in their L1 language (Tamamaki, 2003; Dewalae, 2016; Schüler-Meyer *et al.*, 2019). Primary research found this to be true of the students studying WM modules in the CSM. However, the profile of the language choice for mental calculations varied among individuals. Therefore, a bilingual approach was adopted which afforded opportunity for the whole cohort of Welsh language skills profile.

The bilingual teaching methods were analysed using statistical analysis of recruitment, retention, and mean module marks. Data sets showed an improvement across all three areas. In terms of recruitment and retention, AY 2018-19 saw the highest recruitment figures since 2015-16 and retention was at 100% The key finding re mean module marks was that students' mean marks had increased by 9.8% on average.

Mean marks were broken down into two separate language profiles, WA and EA. It was found that on average WA students achieved 12.7% higher in this module than they did across their mean profile of marks. Comparisons with previous years, where WM students studied the same module in English, show that WM students had achieved lower grades. This is supported by a similar profile for the EA students who achieved 6.6% higher. This could be attributed to the bilingual nature of the teaching and learning which supported bilingual information processing, which may have led to a better/deeper understanding of the subject content.

Qualitative research was conducted through focus groups and questionnaires to gain a deeper understanding of student reaction and engagement with the bilingual teaching methods. This produced an overwhelming positive response to

the bilingual teaching method by EA and WA students, and across the BA (Hons) Business and Management and THE programmes. The depth of feeling in support of the bilingual teaching method was unexpected and supported future use of the teaching method for other mathematics-based modules. Research-informed recommendations are presented below.

Recommendation 1: The adoption of the bilingual teaching methods for mathematics-based modules at L4 and L5 for the duration of the academic year across all Welsh-medium programmes in the CSM.

Three student contributors and two staff contributor raised concerns about the nature of Welsh provision and the over-reliance on English language across Teaching, Learning and Assessment. Although the comments supported bilingual provision in general, these comments raised the specific question of how to embed bilingual teaching strategies without diluting the WM provision for those who are highly motivated and confident in their Welsh-language skills.

The final project included a programme of modules which allowed for the gradual development of WM students. A language-scaffolding strategy applies bilingual teaching methods in conjunction with monolingual and stepped language-scaffolding modules at L4. Task-based immersive (Thomas, 2019) monolingual modules are offered at L5, while bilingual delivery at L6 is replaced with independent research options for those confident and motivated to conduct independent research in Welsh.

It is noted by SC1-2019 that consideration needs to be given to the work allocation time allowance offered to the development of new bilingual modules as the development of bilingual resources is, by its nature, more time consuming that creating mono-lingual resource development. There also needs to be consideration for staff training in the implementation and effective use of bilingual teaching strategies (Thomas *et al.*, 2018; Fitzpatrick *et al.,* 2018) to ensure learning efficacy and that the outcomes of the bilingual strategy meet the needs of learners, future employers and the University.

Recommendation 2: The adoption of the language-scaffolding strategy for BA (Hons) Business and Management from AY 2019-20 onwards with the inclusion of staff development and support with the development of resources.

Staff contributors confirmed that bilingual teaching strategies such as translanguaging (Williams, 1994), code-scaffolding (Fennema-bloom, 2009) and elements of bilingual teaching (Sgiliaith, 2018a) are used by staff and already form part of the existing teaching strategy employed on the WM modules. These act as examples of good practice and should form part of any future language-scaffolding strategy. However, the study also highlights the need for the creation of a staff development programme which raises awareness of language skills to support bilingual learners and support WM lecturers in the development of resources which allow for a spiky linguistic profile.

Recommendation 3: To maintain the present approach, including development time allocated for new modules, at all levels, whereby lecturers use translanguaging and code switching, and provide terminology support and access to EM resources that enhance learning efficacy.

Targets for recruitment and retention have been set by various organisational bodies, the most ambitious being the University's target of 100 CSM students enrolled on at least 40 WM credits by 2022-23. Analysis suggests that achieving this target is unlikely. SC2019-3 discussed the potential for offering 40 credits across all subject areas to meet the targets of WM recruitment in the CSM.

Recommendation 4: Investigate the potential for Welsh-medium delivery on other CSM programmes to increase recruitment, ensuring that any mathematics-based modules are designed using a bilingual teaching method.

Student contributor feedback demonstrated a strong positive reaction to the creation of a WM seminar group which supported the students in using the Welsh language outside of the classroom, including socialising together. This is supported by Williams (2019) who argued that the use of Welsh outside of the educational system is essential to develop confidence and willingness of individuals to use their Welsh-language skills. Williams (2019) argued that organisations need to normalise the use of Welsh in both professional and social

contexts if we are to increase its daily use. CS3-2019 also noted that a group containing confident and enthusiastic Welsh speakers tends to lead others to engage in Welsh-language activities.

Recommendation 5: Offers Welsh-medium seminar groups wherever numbers are viable.

The aim of these recommendations is to achieve a programme which offers opportunity for all Welsh-speaking students; from those returning to Welsh - medium education and those lacking confidence to L1 confident Welsh speakers opting to study a percentage of their degree programme in Welsh. This flexible programme gives opportunity for students to build confidence in a 'safe' environment where learning efficacy is at the forefront of the priorities of the lecturers. Applying a wide-range of bilingual teaching strategies and techniques which vary from module to module and year to year, offers opportunity for students to build on their Welsh-language skills through a system which scaffolds, supports and challenges students to apply their language skills. By implementing these recommendations, the CSM could become a leading provider of Welsh-medium education in Business and Management across Wales.

To conclude, the research has investigated the students' needs in terms of 'how' the modules can be delivered for learning efficacy, and the impact bilingual teaching strategies have had on student enrolment, retention and achievement. The research has shown how a structured and scaffolded systematic approach to WM provision can increase student recruitment, retention and satisfaction, as well as, increasing module marks and achievement; however, it is also important to ensure that Cardiff Met maintains a balance of 'how much' WM provision is offered. The aspects of negative feedback from students demonstrated that a fully bilingual provision was not desired by all participants and that providing a wide range of WM options whereby students could engage with as little, or as much, WM provision as they desired would offer better provision for the 'spiky' profile of Welsh language skills.   When planning future provision, the research has demonstrated the importance of considering 'how' WM provision is delivered alongside 'how much' WM provision is offered, whereby creating a flexible and inclusive approach which offers opportunity to those who are re-engaging with the Welsh language.

Chapter Six: Reflective Essay

This chapter provides i) a critical reflection on the ethical, political and moral issues faced during the programme of study and ii) a critical analysis and evidence of how my reflective practice has developed over the course of my candidature. This chapter will also reflect on the doctoral research process and its impact upon researcher skill development.

For the purposes of this reflective essay, the conscious decision was made to write in the first person. It can be argued that a writer's personality should come through in a manuscript (Brenner, 2014); this comes from the author's decision on language choice, diction, syntax, structure and perspective. It can be argued that educationalists come from a qualitative writing mindset and as such writing in this field lends itself to "narrative analysis of thematic events from the participant's own words told in the first person" (Zhou and Hall, 2018: 346). As this section is from the author's own perspective, the "subjective self" (ibid.), writing in the first person is deemed appropriate.

6.1 Ethical, political and moral issues

6.1.1 Language and power perspective

Appendix DOC8003 WRIT1 included an auto-biographical section on 'assumptions' with ontological and ethnographic perspectives of my bilingual experiences and background. This included my assumptions as a lecturer/researcher, and the context in which my participants and I operate. On reflection, these sections only scratched the surface of my internal relationship with my languages and I feel that further discussion of these issues would give greater insight into my passion for supporting students with their Welsh-language development.

Fishman (1976) introduced the concept that linguistic choice was based upon an individual's sociological perceptions. He identified that the speaker's background, social context of the situation and the power of the language, influenced the linguistic choice of bilinguals. As part of my reflective review, it was important that

I address my linguistic background and perceptions to understand fully my own motivations and biases towards bilingualism generally and the Welsh language specifically. According to Wei (2001), the linguistic background and personal perspective of the researcher can impact on the research itself. It has therefore, been important to understand what has influenced me from my family background and linguistic proficiency to ensure a fair analysis of the research. Using the terminology as identified and discussed by (Wei, 2001), I identified myself as an early coordinate bilingual (Welsh and English) with elements of ascendant English. I have experienced various levels of bilingualism in my life from recessive bilingual to approaching 'balanced bilingual'. Hence, I feel that I have a broad perspective and greater empathy with students of differing linguistic abilities.

Had the research focused on a language and power perspective (Fishman, 1976), I would have professed a somewhat mixed relationship with the Welsh language as a child. Considering my influences on a more sociological basis than the timeline provided in Appendix DOC8003 WRIT1, I now feel comfortable to say that I was made to feel inadequate in my language proficiency by peers at school. In the bilingual setting of my secondary school, it was evident that Welsh was the power language of the school. In school, I felt that I was not accepted by the Welsh-speaking students as being 'Welsh'. I believe that this impacted upon my relationship with the Welsh language for many years. This was until I attended the Welsh Language Sabbatical Scheme (Cardiff University, 2019) and subsequently worked with the Welsh for Adults Centre (WFA) in Coleg Gwent (2011-2014). This was when I started to feel 'Welsh'; I gained recognition, even acceptance and for the first time I allowed myself to be defined as Welsh.

I believe that my personal experiences laid the foundations for my interest in supporting students to improve and development their Welsh-language skills, to ensure fair access to learning for all students and my personal interest in building student confidence in their Welsh language for use both academically and professionally. I do not want students to ever feel the way I felt about speaking and using Welsh. This was the foundation of my interest in supporting student language development and building confidence, whatever the level of language proficiency at enrolment.

The research may have benefitted from the inclusion of an autoethnographic discussion of my relationship with the Welsh language. Méndez (2013: 1) argued that by conducting an autoethnography one "may become aware of realities that have not been thought of…". In this way the research may have benefitted from being written in the first person, enabling my contributing an insider researcher perspective. The rationale for not including an autoethnography was two-fold; first, the limitation of the word-count already meant my relegating sections to the appendices and second, on analysis of the staff-contributor data, the main points I would have discussed had already been raised by staff interviews.

6.1.2 Ethical decision to identify Cardiff Metropolitan University

The decision to identify Cardiff Met in the case study was based on a simple internet search of the name 'Kelly Young' and term 'Welsh language'. The top two hits were directly attributed to my employment as a Welsh-medium Lecturer with the Coleg Cymraeg Cenedlaethol (CCC) and as Senior Lecturer with Cardiff Met (see Figure 6.1). Moreover, the last entry on the results page also related to my previous employment as Welsh Language Development Manager at an FE college in Wales.
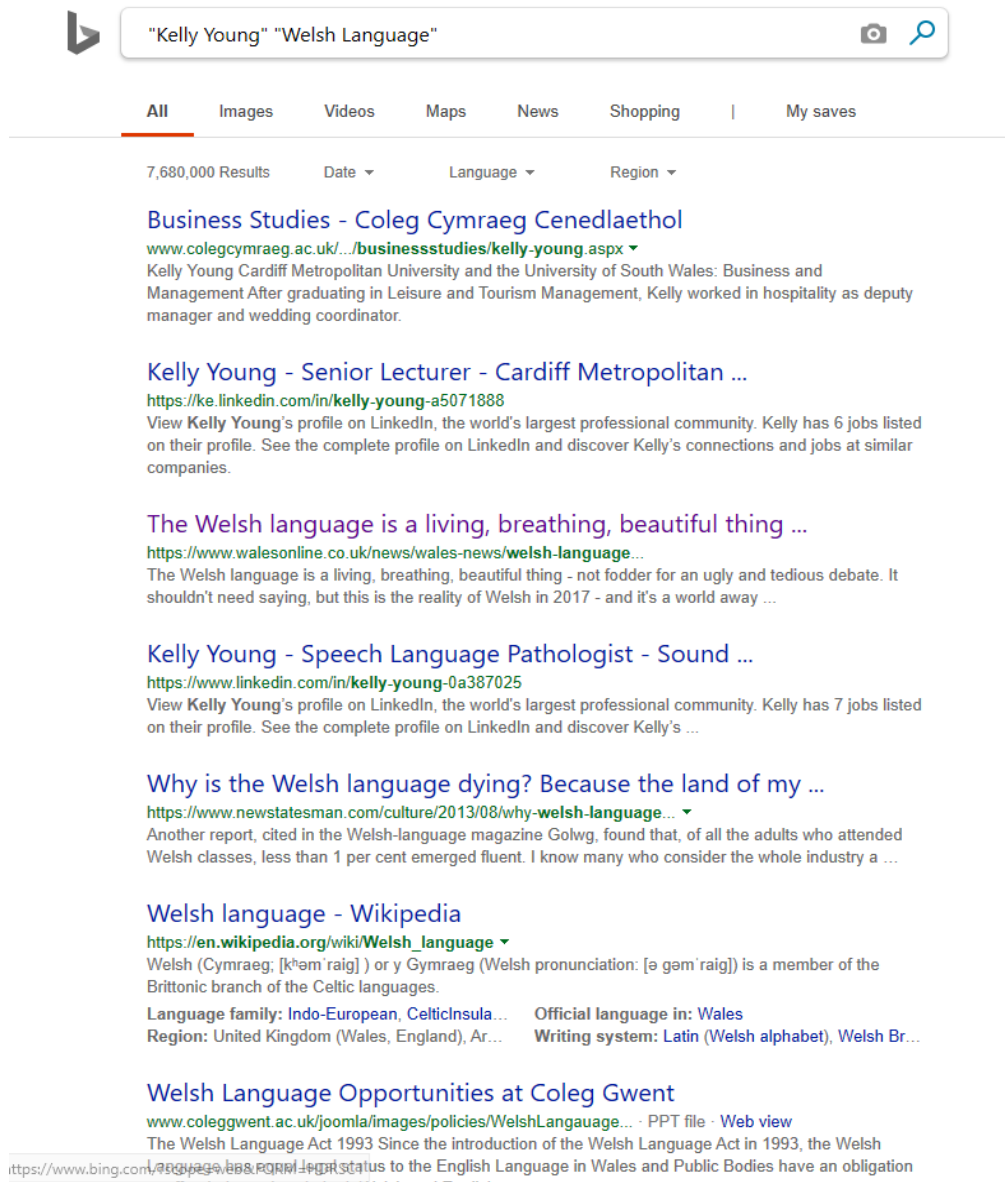
Figure 6.1: Internet search results on "Kelly Young" and "Welsh Language"

Ease of identification impacts upon participants' anonymity. Hence, it was important to implement a robust system for anonymising participants' contributions.

6.1.2 Expanding the stakeholders

The research initially planned to include external stakeholders as discussed in the Appendix DOC7001 WRIT1, Mendelow (1991)'s power-interest grid. Data collection was conducted through e-structured interviews with external stakeholders. The subsequent data analysis did not include any new information, nor did the data contradict or disprove any existing discussions. Including perspectives of external stakeholders may have strengthened the triangulation of

data (Saunders *et al.*, 2016) and allowed for the discussion of external stakeholder needs, which can be argued as an important element of 'planned change' management (Lynch, 2011; as discussed in Appendix DOC7001 WRIT1). The external stakeholder data supported the results of the data presented in the thesis, however, word-count constraints led to its being omitted. Its removal simplified the research methodology and data collection methods, reducing the presentation of data and analysis thereof.

The nature of the participants and their linguistic profiles and background also created specific limitations, as findings are only relevant to CSM students and their respective programmes. There is potential for further extrapolation to other WM HE modules and other institutions.

6.2 Critical analysis of reflections

The following section critically analyses the reflections from the research project, including areas which, while were beyond the scope of the project itself, are relevant to the discussion below.

6.2.1 Developing an understanding of the learning context for WM students

From September to December 2010, I attended a sabbatical training scheme at Cardiff University for teachers retraining to teach through the medium of Welsh (see Appendix DOC7001 WRIT1). I was introduced to the concept of bilingual teaching methods and was fortunate to receive one-to-one training from Dr Cen Williams, Bangor University, on translanguaging and bilingual teaching methods for mixed-language classes. I developed a staff training session for the FE college in which I was employed, delivering a range of courses through the college's CPD scheme.

The language profile of the FE classes was mixed, with the majority of students in a cohort being monolingual English speakers. Bilingual classes had a small number of bilingual Welsh/English speakers (up to 10% of any one cohort). Here, the experience of teaching bilingually was one of balancing subject teaching with affording students with opportunities to engage with the Welsh language accordingly. Although the teaching methodologies and strategies employed

followed the Sgiliaith (2018b) guidelines, feedback from student participants was mixed. Non-Welsh speakers were especially negative towards the bilingual nature of the teaching method. This experience impacted upon my willingness to trial bilingual teaching methods in Cardiff Met and is the reason why previous research had not included consideration of trialling a bilingual teaching intervention. I had reservations.

It was during assignment DOC8002-WRIT1, that I began to develop an understanding of the students' linguistic profile and how this can impact upon information processing. The work of Green (1986), Levelt (1995) and De Bot (2000) all helped my understanding of the complexities of language use and speech production in bilingual individuals, which led to the development of Figure 2.2 '*Matrix of language activation in Welsh-medium CSM students'*. To this point, little consideration had been given to the complexities of WM students studying in English-medium modules at the CSM. This issue was raised by contributors from the pilot and final projects who stated that they struggled with learning through the medium of English during their degree studies.

Taking the complexities of language use in bilinguals into consideration, the language-scaffolding strategy aimed to support both individuals returning to Welsh-medium education and those with confident Welsh-language skills. It also aimed to support students who were transitioning from Welsh-medium to English-medium education through developing their terminology in English-medium mathematics terminology and supporting them to continue with a finance pathway through the medium of English. Given the work of Tamamaki (1993) and Dewaele (2007), offering a system which supports the transition of Welsh-ascendant students to English-medium finance modules could ensure that these students are not disadvantaged by a possible lack of English-medium subject terminology. Anecdotally, this issue has been raised by lecturers and students (see Appendix DOC8003 WRIT2) whereby students have been given feedback on their lack of English language skills in finance modules. Further research into this area would be of interest to the University and to the wider academic world.

In terms of my personal development, this deeper understanding of the language profile and linguistic support needs of WM students in the CSM allows me to better support them as a personal tutor and subject lecturer. Without the doctoral research, I do not believe that I should have had the confidence to trial a bilingual teaching method, especially given the mixed response I had previously experienced in FE. As Biggs (2003) argued that professional reflection is looking at how to make improvement on the original, this has taught me that previously negative experiences need not restrict us from engaging in trialling new ideas in teaching and learning, especially where there is a sound rationale for the proposed change.

6.2.2 Code-switching and code-scaffolding

Code-switching (Baker, 2001; Myers-Scotton, 2006; Garcia, 2009) and code-scaffolding (Fennema-Bloom, 2009) formed part of the focus of the pilot project. The researched focused on the importance of the language of instruction, the nature of code-switching in teaching and the use of code-switching in scaffolding language skills. The pilot project conducted a basic analysis of code-switching by students and found that it was prevalent, both habitually and for discussing terminology, within the focus groups conducted in 2016. This demonstrated the students' propensity for code-switching and the use of both intrasentential and intersentential code-switching (Garcia, 2009) within the students' natural language but did not consider the use of code-switching by lecturing staff in their teaching and learning.

Was there a cause and effect relationship between the nature of code-switching in lecturing staff and the use of code-switching in students? Initial research into the use of language in the classroom identified that students welcomed the 'relaxed attitude' and bilingual nature of language use within the Welsh-medium class. This led to the potential for a diluted approach to Welsh-medium delivery (SC2-2019) and acquiring an appropriate balance between student satisfaction, building student confidence and offering a 'genuine' Welsh-medium experience led to the development of the Welsh language-scaffolding strategy, discussed below.

The potential for further research in the area of code-switching, code-scaffolding and their effects on language usage in learners has potential for future research. Further research in this area could hold interest for both linguistics and the field of bilingual teaching and has potential to become an important addition to an ever-growing body of knowledge.

6.2.3 Language-scaffolding strategy

The development of a strategic approach to language-scaffolding in CSM has been a cyclical journey. Appendix DOC7001 WRIT1 identified developing a language-scaffolding strategy as the initial concept for the research proposal. This approach was rejected following a poster presentation and negative feedback from delegates, which led me to question the rationale for the research design and overall concept. I considered alternative options; the pilot project (Appendix DOC8003 WRIT2) focused on existing Welsh-language support through the Tystysgrif Sgiliau Iaith programme and how the University could improve student engagement and experience. Prior to the pilot project, I was convinced that students wanted to engage in Welsh-language development and language-improvement sessions, either through standalone or embedded into credit-bearing modules. I was wrong. This was a learning experience; I thought I knew and understood my students well. It turned out that I did not understand them as well as I thought.

The overwhelming response form the pilot project was that students wanted to study their chosen topic and not Welsh language and grammar. Over 90% said that they would not study Welsh language and would choose to study in English rather than have their Welsh-language skills assessed formally. This was unexpected and left me questioning whether it was possible to surreptitiously engage students in Welsh-language skills development, and whether this was ethically acceptable. This brought me back to question they ways in which we could effectively, and ethically, support students in the development of their Welsh-language skills through bilingual teaching methods and language-scaffolding.

The increasingly spiky profile (Baynham *et al.*, 2007) of Welsh-language skills among cohorts enrolling on Welsh-medium modules in the CSM led the research to consider the efficacy of teaching and learning on Welsh-medium modules. Kong and Hoare (2011) argued that curriculum may need to be simplified to match the language skills of the learners. This was not possible in the context of the learners in the CSM, therefore, recruitment of students with a 'critical mass' (Derbie, 2014) of Welsh-language skills is essential. That said, the annually increasing target for recruitment and retention of Welsh-medium modules set by Cardiff Met lends itself to question how recruitment can be increased while still ensuring a critical mass of Welsh-language skills.

Since its inception in 2014, Welsh-medium modules have seen a general increase in recruitment. This has been accompanied by an increasingly spiky language profile and a range of language backgrounds of students. Over the past four academic years, recruitment has included individuals who are returning to Welsh-medium education (Welsh-returners) following either English-medium FE college / sixth-form study or a return to education following a career break. As such, these recruits tend to lack confidence in their use of Welsh-language skills, owing to a lack of practice. Said students required more support to return to study in Welsh than those enrolling directly from Welsh-medium education. This raised the question of whether it is possible to encourage the enrolment and engagement of Welsh-returners in Welsh-medium education while ensuring an authentic Welsh-medium experience for those who enrol directly from Welsh-medium education. It was with this in mind that the language strategy focused on providing a range of delivery options which aimed to meet the needs of students choosing to re-engage with the Welsh language as well as those entering directly from Welsh-medium education.

Meticulous planning, based on a clear rationale was required re when and where the language-scaffolding strategy would be applied, and subsequently removed. The LSS would ensure sufficient opportunities for students who presented with differing language profiles.

6.3 Research skills development

The following section focuses on personal development using both reflective and reflexive practices. Ghaye (2011) defined reflective practice as a retrospective analysis which improves future actions; as such, this section considers the research journey and its impact upon future activities. In addition to this, the section takes a holistic viewpoint of the impacts of the research process, both on my skills and on my practice as a lecturer and supervisor; as Johns (2004) argued, reflexivity is about the mindfulness of the research process.

I shall be referring to research journal entries (kept since April 2015) to frame my reflection and to evidence how reflections have changed over the course of the programme. This refection will also consider the Researcher Development Framework (RDF) produced by Careers Research and Advisory Centre (2010) which identified four domains and twelve skills required of the effective researcher.

Appendix DOC7001 WRIT2 identified what I considered to be my strengths and weaknesses as a first-year researcher. This reflection will use the approach by Rolfe *et al.* (2001) which, although originally developed for nursing professionals, can be applied to education research and has merits for its simplicity and easy application of its 'what', 'so what' and 'now what' structure. These reflections form the basis of the personal development analysis, considering the four domains of the RDF.

6.3.1 Knowledge and intellectual skills

In Appendix DOC7001 WRIT2, I criticised myself for 'shoehorning' my research into areas with which I felt most comfortable, restricting my research to existing knowledge. I noted that when I started on the programme I had 'felt that my subject knowledge was a strength' (Appendix DOC7001 WRIT2). Reflecting upon this, I find myself questioning my subject knowledge, even now. I can only suggest that on embarking on the research, the old adage "you don't know what you don't know" applied. I now feel that although I have undertaken in-depth research into the area of bilingual teaching methods, I am a specialist in a very

small field and there is a vast body of knowledge of which I am aware, but I am no expert.

I should like to enhance my understanding of code-switching and how language used by teachers can influence and impact student language use. Research conducted by Fennema-Bloom (2009) Canagarajah (2011) and Mazak and Herbas-Donozo (2015) intrigued me in terms of language use and classroom habits. It made me aware of the habitual code-switching and lazy language habits of which I am guilty in the classroom. This has helped me to improve the quality of the language I use in my teaching. I would have also liked to delve deeper into psycholinguistics as I was inspired to understand more about language use in bilinguals through the work of Levelt (1995), De Bot (2000) and Dewaele and Pavlenko (2001). These works raised questions which I felt would be useful to provide understanding within the context of Welsh-medium education and could be an area of future development.

Appendix DOC7001 WRIT2 initially acknowledged a lack of research methods understanding, both theoretical knowledge and practical application. I noted a reluctance to engage with qualitative research methods and relied heavily on 'business-based' research. In 2015, I noted a failed attempt to read 'Research Methods in Education' by Cohen *et al*. (2013) and a lack of understanding of research methods terminology. I recall a feeling of being overwhelmed at the complexity of research and questioned my ability to continue on the programme. Reflecting on this, I am now comfortable with research methods as a subject in both its academic understanding and practical application. I noted in Appendix DOC7001 WRIT2 that I was over-reliant on business research texts, and although I reflect that I have used Saunders *et al*. (2016) within the research methods chapter, this is supplemented by specific articles and books on research methods for education such as Freebody (2003), Clarke (2008), Kincheloe (2011) and Alexakos (2015).

Learning about research methods took much time and effort. Given its importance, I learned not to rush personal development. It was essential to develop relevant research skills and not simply rely on existing knowledge. I am now able to read complex research methods text and discuss research methods

confidently with peers. Consequently, I have improved as a dissertation supervisor and lecturer. I still feel that there are further skills which I can develop, namely, in the application of research software such as improving my use of NVivo for qualitative research and SCSS for quantitative research and statistical analysis.

6.3.2 Personal effectiveness

Appendix DOC7001 WRIT2 identified time management and work-life balance as the areas which required further development. The journal regularly noted that large amounts of time had passed between entries and that there had been a lack of work done on modules. Has this improved?

There have been improvements. Applying the concepts of Kolb (1984)'s experiential learning cycle, it took numerous cycles of experience and many journal entries for me to accept that I achieved more when separating my time into lecturing time and research time within the academic year. I had tried to balance weekly research time throughout the year until the summer of 2018, when I finally recognised that I achieved more when I had a sole focus. I noted that I am able to balance data collection and research planning throughout the academic year, however, undertaking secondary research, analysis and write-up is more productive/effective when conducted outside of teaching weeks. My future plan is to use the long vacation for research projects. This will allow me to balance work and home life better.

6.3.3 Research governance and organisation

In Appendix DOC7001 WRIT2 the focus of the reflection was on research methodology, which I feel has been covered in section 6.3.1.1. I feel that this domain has been a constant strength. Holding an undergraduate degree in management and possessing relevant experience as a hotel manager, project manager, strategic manager within FE and organiser of student field visits, means that most aspects such as health and safety, ethics, research strategy and research planning were of second nature to me.

I feel that I have developed skills in the financing, funding and resourcing of research through applying for and receiving grants for international research

working with Universidad Nacional de la Patagonia San Juan Bosco (Jornada, 2017). Funded by Santander international mobility grant (CMU, 2019a) and the Cardiff Metropolitan short-term mobility fund (CMU, 2019b), this gave me valuable experience of making grant applications. I still need to develop in this area, especially in identifying appropriate sources of funding for future research that are not directly linked with the CCC, as the CCC-based process is straightforward. In 2019, I successfully applied for a research grant for a field trip to Spain through the CCC's 'Grant Arloesi' (Appendix L), which will take place in June 2020.

6.3.4 Engagement, influence and impact

In Appendix DOC7001 WRIT2, I noted feeling that this domain was embryonic in its development and at that point I had never presented research in any format other than business reports and the dissertation for MA Education of Sustainable Development and Global Citizenship (ESDGC). These were internal publications.

In June 2016 I conducted my first poster presentation at the CCC annual research conference. Feedback had a profound impact upon the research in that my proposal lacked effectiveness and had to be reconsidered in its entirety. It was at this time that I developed my understanding of the need for public domain presentation and feedback. In June 2019, I presented a poster of my final research project (Appendix M) at the CCC annual research conference, which was an entirely different experience; the response was overwhelmingly positive and supportive.

In July 2019, I was a panel member at the inaugural CCC conference of associate tutors (CCC, 2019) which discussed enriching the experience of Welsh-medium students. We discussed the research project in the context of the student experience as well as other activities such as field trips and the development of Welsh-medium seminar groups, all of which was relevant and linked to the programme and research conducted with the students as part of the Professional Doctorate in Education.

Previous reflections (Appendices DOC8002- PRES1 and DOC8003-PRES1) noted the intention to publish research. Although this has yet to happen, I have

co-authored a chapter of an e-book on marketing research methods and have been asked to write an article for the CCC's e-journal *Gwerddon* and to present a full paper at next year's CCC annual research conference. I have every intention of fulfilling these invitations and to take my first steps into research publication.

It is important to identify the research's impact on change within the CSM and on the University as a whole. Chapter Three notes that an agreement in principle had been reached for the implementation of a Welsh-medium pathway 'Busnes yng Nghymru' for BA (Hons) Business and Management. Further to this, Welsh-medium modules identified by the research, in conjunction with the bilingual teaching methods and language-scaffolding strategy, have been accepted by the CSM. The Welsh-medium modules offered on the BA (Hons) Business and Management programme, advertised on the University's website (CMU, 2019c), follow the research proposal as demonstrated in Chapter Five: Table 5.1. This evidence demonstrates that the research has influenced the development of the modules to date for AY 2019-20 and that change has occurred following the research. It is pleasing to note that this research project has impacted positively the Welsh-medium profile of the organisation.

6.4   Conclusions

On commencing the programme, I was advised that keeping to word counts would be a challenge. I now concur. Deciding which aspects of the research to follow and which can be confined to future plans, has been challenging. Making decisions to simplify research methods, making collected data redundant and losing an element of depth and reliability for the sake of a word limit, has been frustrating at times. These limitations also applied to the discussions following the research, and the determination of what was included within the scope of the research, and what had to be side-lined for the sake of the word limit. This without doubt restricted the discussion and evaluation of certain areas, however, it also leaves room for further investigations.

Appendix DOC7001 WRIT2 noted that following the completion of the MA ESDGC I felt that I had reached my 'educational glass ceiling'. The journey on

which the research has taken me has opened my eyes to new ideas, broadened my understanding of bilingualism in general and more specifically bilingual teaching for learning efficacy, allowing me to engage with students in a way which gave insight into their needs as individual learners.

Prior to the programme I had not realised how one's own history and experiences influenced opinion and beliefs; not everyone has the same perspective. When I first read Wei (2001)'s insights into insider researcher, I barely related this to myself and the impact it had upon my research. Reflecting upon this through the sociological perspective of Fishman (1976), I realise that my background has had the biggest impact upon my research. I openly described my relationship with the Welsh language and my nationality as cathartic, if not somewhat emotional. Allowing the 'truth' of my background to be told has allowed me always to be more honest and open as a professional.

The reflective nature of Chapter Six has allowed me to consider the whole journey. This journey has shaped my understanding of the topic and of the way in which I conduct research. Further, it has influenced my professional behaviour: I have improved as a lecturer, as a supervisor and as a co-worker because of this programme of study. It has not been an easy journey, but I would recommend it (and have) to colleagues who are embarking on doctoral-level programmes. I usually tell them that the last four years have been a rollercoaster ride, with many ups and downs, turns and twists, luckily, I like rollercoasters.

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Appendix A

Cardiff Metropolitan University Ethical Approval

Cardiff | Prifysgol
Metropolitan | Metropolitan
University | Caerdydd

Cardiff School of Education,
Cardiff Metropolitan University
Cyncoed campus,
Cyncoed Rd,
Cardiff,
CF23 6XD.

Re: Confirmation of Ethical Approval

This letter is meant as confirmation that the research conducted by Mrs Kelly Young, in fulfilment of the degree of Professional Doctorate in Education entitled **"A critical analysis of integrated and stand-alone Welsh language support for bilingual Business and Management students at Cardiff Metropolitan University."** has received ethical approval by the Cardiff School of Education's Research Ethics Committee.

The ethics code attributed to this project is: CSE20171815

Consequently, it is confirmed that the project meets the regulations outlined by the Cardiff Metropolitan University's Research Ethics Framework, and where appropriate the Human Tissue Authorities principles and conventions.

You are advised that a copy of this ethical approval letter should be presented in the appendices of your final thesis.

Yours sincerely,

Dr. Kieran Hodgkin
Chair of the School of Education and Social Policy's Ethics Committee
Cardiff School of Education and Social Policy
T: 02920 205597
E: khodgkin@cardiffmet.ac.uk

Appendix B

Breakdown of modules available across the 3-year undergraduate degree programmes in CSM

Academic Year	Level	Business & Management	Tourism, Hospitality and Events	Marketing Management
14/15	4	Management Theory and Practice (20 Credits)	Management Theory and Practice (20 Credits)	Management Theory and Practice (20 Credits)
		Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)
		Business Applications (10 Credits)	Business Applications (10 Credits)	
	5	Finance for Decision Making (20 credits)	Work Experience & PDP2 (10 Credits)	Work Experience & PDP2 (10 Credits)
		Work Experience & PDP2 (10 Credits)		Business Research Methods (10 Credits)
		Business Research Methods (10 Credits)		
	6	No Provision	No Provision	No Provision
15/16	4	Management Theory and Practice (20 Credits)	Management Theory and Practice (20 Credits)	Management Theory and Practice (20 Credits)
		Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)
		Business Applications (10 Credits)	Business Applications (10 Credits)	
	5	HRM in Context (20 Credits)	Work Experience & PDP2 (10 Credits)	HRM in Context (20 Credits)
		Work Experience & PDP2 (10 Credits)	HRM for THE (20 Credits)	Work Experience & PDP2 (10 Credits)
		Business Research Methods (10 Credits)		Business Research Methods (10 Credits)
	6	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)
16/17	4	Managing People and Organisations (20 Credits)	Managing People and Organisations (20 Credits)	Managing People and Organisations (20 Credits)
		Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)	Personal Development Planning 1 (10 Credits)
		Introduction to Marketing (20 Credits)		Introduction to Marketing (20 Credits)
	5	HRM in Context (20 Credits)	Work Experience & PDP2 (10 Credits)	HRM in Context (20 Credits)
		Work Experience & PDP2 (10 Credits)	HRM for THE (20 Credits)	Work Experience & PDP2 (10 Credits)
		Business Research Methods (10 Credits)		Business Research Methods (10 Credits)
	6	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)

17/18	4	Foundations of Human Resource Management (20 Credits)	Managing People and Organisations (20 Credits)	Foundations of Human Resource Management (20 Credits)
		Introduction to Marketing (20 credits)	Personal Development Planning 1 (10 Credits)	Introduction to Marketing (20 credits)
	5	Research Methods for Business (10 credits)	Research Methods (10 credits)	Research Methods for Business (10 credits)
		Work Experience & PDP2 (10 Credits)	Work Experience & PDP2 (10 Credits)	Work Experience & PDP2 (10 Credits)
		Business in Action (20 Credits)	Diversity and Inclusivity in THE (10 credits)	Integrated Marketing Communications (20 Credits)
		Integrated Marketing Communications (20 Credits)	Marketing for THE (20 Credits)	
	6	Supervised Dissertation or Enterprise Project or Marketing Plan (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project or Marketing Plan (40 Credits)
		Strategic Management (20 Credits)		
18/19	4	Foundations of Human Resource Management (20 Credits)	Managing People and Organisations (20 Credits)	Foundations of Human Resource Management (20 Credits)
		Introduction to Marketing (20 credits)	Personal Development Planning 1 (10 Credits)	Introduction to Marketing (20 credits)
		Finance for Managers (20 credits)	Finance for Managers (20 credits)	Finance for Managers (20 credits)
	5	Research Methods for Business (10 credits)	Research Methods (10 credits)	Research Methods for Business (10 credits)
		Work Experience (10 Credits)	Work Experience (10 Credits)	Work Experience (10 Credits)
		Business in Action (20 Credits)	Diversity and Inclusivity in THE (10 credits)	Integrated Marketing Communications (20 Credits)
		Integrated Marketing Communications (20 Credits)	Marketing for THE (20 Credits)	
	6	Supervised Dissertation or Enterprise Project or Marketing Plan (40 Credits)	Supervised Dissertation or Enterprise Project (40 Credits)	Supervised Dissertation or Enterprise Project or Marketing Plan (40 Credits)
		Strategic Management (20 Credits)		

Appendix C

Narrative of Deno (2005)'s IDEAL model application in the design process.

The design process began with an initial team meeting where the team identified potential changes in Welsh-medium provision for academic year 2018/19. Three specific problem-solving sessions were then held on dates between June 2018 and September 2018, and included the purposive sample (Saunders *et al.*, 2016) of the three core lecturers in Welsh-medium delivery in CSM. The following is an outline of the discussions which took place within of the problem-solving process:

Identify Problem: Findings from the pilot project were shared with team members and outline of the main issues requiring intervention in the academic year 2018/19.

Define Problem: Problem definition included meeting targets as set by the CCC and Cardiff Met. with regards to enrolment, retention and successful completion, coupled with identification of language skill issues, language use within written assignments, code-switching and lack of confidence in student's Welsh language skills.

Explore Solution: Team members discussed the various options for interventions including stand-alone Welsh language sessions, embedding language skills in the subject material, developing language-based credit baring modules, Welsh language pathways, the development of new modules and application of bilingual teaching methods.

Apply Solutions: It was finally decided to trial a bilingual teaching method, which consisted of fully bilingual slides and resources, with the new finance module at level four. It was decided to trial this approach with other modules at level four, to analyse the impact on learner satisfaction in discursive modules compared to the numerically based finance module. It was also decided to create control group (Saunders *et al.*, 2016) including participants whom had not been part of the study (Level five students) and also an additional control group where Level four students studying Tourism, Hospitality and Events (T.H.E.) would have one module under

the bilingual teaching method and the remaining two Welsh-medium modules delivered as Welsh-medium only modules with some code-switching and translanguaging, as previously delivered with no changes to delivery. Feedback from the pilot study had identified a negative response by participants to specific Welsh language sessions (please note, not Welsh-medium modules but the concept of learning Welsh language skills as part of their studies). This negativity was especially clear for creating credit baring Welsh language modules but also for embedding Welsh language skills into the content lessons. It was therefore decided to trial a new approach with the fully bilingual module in finance in response to research by Dewaele (2007) and Schüler-Meyer (2019). The rationale for the choice of this module was that mental calculations would be a necessary requirement within the finance module and thus an appropriate module to test the bilingual teaching methods. These interventions were intended to run from the academic year 2018/19 and the impacts of the teaching methods on both lecturers and students, monitored regularly, allowing the continuous feedback from participants, therefore creating a participant led AIR (Alexakos, 2015) structure to the intervention.

Look at Effects: The effect of the intervention was monitored through an ongoing informal feedback system, applying the concepts of AIR and co-operative research (Alexakos, 2015). The effects of the interventions upon the participants was considered from two perspectives; from the perspective of teaching bilingually by the lecturing staff and from the perspective of learning bilingually by the student participants. Firstly, feedback was garnered from lecturing staff participating in the research, both as testers of the intervention and as lecturer within control group teaching. Feedback was gained through informal discussion, team meetings and finally through post-intervention appraisal Interviews (discussed further in Element four).

Student participant feedback was garnered from informal feedback at the end of sessions, through sticky note exercises, questions and answers (Q&A) and analysis of e-mail requests or other feedback. Feedback sessions would not be conducted after every teaching session for the fear of 'research fatigue' (Clarke, 2008) as was identified as a limitation in the

pilot project study. As such, and to minimise the risk if research fatigue in the student participant group, feedback was sought every third or fourth session using a mixture of sticky note exercises, informal Q&A and a single online questionnaire at the end of the module, which adhered to O'Leary (2004) requirements for professional appearance to encourage participation. The questionnaire also used the Qualtrics software package (Qualtrics, 2018) coupled with a similar design process as the pilot project, including the use of differing question types, including Likert scales (Saunders *et al.,* 2016) and both open and closed questions to encourage completion. It was decided to include a Qualtrics based questionnaire to gain anonymous feedback from participants as classroom-based feedback, although useful, can also be affected by group think (Janis, 1972) and potential for conformity to group pressures (Asch, 1951). Attempting to minimise both peer-pressure and group-think which can impact the reliability of face-to-face feedback in a classroom situation, the plan was included anonymous feedback options to assess if there were any conflicting opinions expressed when the participant did not feel 'exposed' to peers and / or the researcher. The questionnaire was therefore be used to look for additional opinions not expressed within the classroom feedback.

Appendix D

Example of 'verbatim' transcribed focus group FG19 -1

Amser	Cyfranwyr	Grwp Focws 1 2019
	KY	Mae'n saff, diolch yn fawr iawn. Ok, so urrr dyma grwp ffocws 2 i fi yn 2019 Kelly Young ydw i a dwi'n ymchwilydd o fewn y maes addysg ym Mhrifysgol Met Caerdydd. Jyst i gadarnhau dwi wedi mynd trwy y ffurflenni caniatâd ar gwybodaeth gyda'r cyfranwyr i gyd a ma na pawb wedi llenwi'r ffurflen ganiatâd cyfranogwyr, ydy pawb wedi llenwi nhw? Pawb wedi ie?
		(Cyfranogwyr ymateb ye)
	KY	Ffantastic, diolch. So dwi mynd i gofyn yn y lle cynta i jyst mynd rownd yn quick quick ar gyfer i fi just cal gwybod am proffil iaith pawb. Be dwi meddwl gyda hynna a ma hynna mynd i swnio'n really weird ond ma na rhesymau tu ôl i hyn. Dwi di gofyn ym mha iaith ti yn urm wedi cael dy fagi gyda so teulu, ffrindiau, pa iaith ti'n siarad nawr o fewn y Prifysgol. Ond hefyd, dwi ishe gwybod ym mha iaith wyt ti'n breuddwydio ac ym mha iaith wyt ti'n cyfri yn dy ben. Ye, so pa iaith wyt ti'n neud fel mental maths calculations fel y cyfrifau yn dy ben pan ti'n neud mathemateg. So, heb enwau ok, just mynd rownd a jyst deud urm hanes o rhan yr iaith os ma na'n okay i ddechrau bant.
	FG 19 1a	Dad yn siarad Cymraeg a mam yn siarad Saesneg, ysgol gynradd Cymraeg, ysgol uwchradd Cymraeg, urm siŵr a fod yn meddwl yn Saesneg mwy na Cymraeg (KY ymateb – reit) os fi'n siarad Cymraeg da rhywun wnâi meddwl yn Cymraeg (KY ymateb – ye) a breuddwydio yn Saesneg.
	KY	Oh okay, be am mental maths pan ti'n neud maths yn dy ben?
	FG 19 1a	Maths cloi siŵr a fod yn Saesneg
	KY	Saesneg reit ok diolch
	FG 19 1b	O cefndir Cymraeg, mam wedi cael ei magu yn Cymraeg, addysg trwy'r Cymraeg a dad wedi cael ei fagu yn Saesneg ond wedi pigo lan ar y iaith yn eithaf gloi ac yn annog ni i siarad. Urm rwy probably ddim yn siarad mwy gymaint a dyle ni fod yn y Gymraeg gyda ffrindiau a rwy breuddwydio yn Saesneg a mental maths Cymraeg.
	KY	Diolch
	FG 19 1c	Siarad Cymraeg, a wel cael fy magu yn Cymraeg a wedyn es i ysgol gynradd a eilradd yn y Gymraeg A treial siarad Cymraeg da ffrindiau ond os yw e fel pobol Saesneg rownd siarad Saesneg a wedyn sain siŵr be fi'n breuddwydio a sain meddwl am e na dim a wedyn mental maths Cymraeg siŵr a fod.

KY	Ffab diolch.
FG 19 1d	Pob un yn y teulu yn Cymraeg ond am dad so wnâi neud popeth yn Saesneg (chwerthin). Breuddwydio yn Saesneg, cyfri'n Saesneg, popeth arall yn Saesneg. (chwerthin)
FG 19 1e	Cefndir Cymraeg i gyd, pob un yn siarad Cymraeg, breuddwydio probably Saesneg , maths probably yn Saesneg a siarad Cymraeg gyda ffrindiau
KY	Fantastic
FG 19 1f	Urr ye, ces i fagu yn Cymraeg i gyd a wedyn dwi siŵr o fod ddim yn siarad gymaint o Cymraeg a dyle ni fod gyda ffrindiau ond ma jyst yn galed pan ma pobol Saesneg rownd ti. Fi siŵr o fod yn breuddwydio yn Cymraeg, fi meddwl bod fi, ond fi'n cyfri'n Saesneg.
KY	Ok
FG 19 1g	Iawn ok so, dwi di cael fy dyfu fynni'n Cymraeg, pob ysgol dwi di bod ynddi yn Gymraeg, dwi gwneud bob dim yn Gymraeg, dim yn breuddwydio ond yn cael nightmares yn Saesneg (chwerthin) ie a cyfri'n pen yn Cymraeg, meddwl yn Cymraeg sori
KY	Diolch
FG 19 1h	Ye cael fy magu yn Cymraeg, ysgolion Cymraeg, probably yn breuddwydio'n Saesneg a maths yn Saesneg hefyd
KY	Diolch
FG 19 1i	Magu yn Saesneg ond fy mrawd a chwaer yn siarad Cymraeg felly siarad Cymraeg iddyn nhw, addysg trwy gyfrwng y Cymraeg, wedyn breuddwydio'n Saesneg a maths yn Saesneg.
KY	Ffab
FG 19 1j	Cefais fy magu yn Saesneg, wnaeth fi a fy chwaer yn siarad Cymraeg ond nid fy teulu fel gweddill ddim yn siarad Cymraeg o gwbwl, urm breuddwydio mewn Saesneg a meddwl yn Saesneg, popeth yn Saesneg.
KY	Maths yn Saesneg
FG 19 1j	Ye
FG 19 1k	Ces i fy magu trwy Saesneg ond es i ysgol Cymraeg ond fi'n neud popeth trwy'r Saesneg

Appendix E

Anonymised Raw data for module marks 2015/16

2015/16 BABMS	NP1	NP2	FG2C	FG2G	NP3	FG2H	FG2J	FG2E	FG2I	FG2F	NP4	FG2D	FG2B	FG2K	FG1A	FG2L	FG2A	NP5	FG1B	Average
BAC4010	70.0	45.0	50.0	66.0	58.0	70.0	63.0	43.0	84.0	56.0	53.0	47.0	55.0	37.0	49.0	72.0	40.0	40.0	47.0	55.0
BCO4008	46.0	47.0	61.0	62.0	60.0	58.0	53.0	51.0	62.0	43.0	50.0	44.0	65.0	48.0	52.0	67.0	41.0	58.0	59.0	54.1
BHL4010	52.0	46.0	56.0	49.0	51.0	65.0	48.0	44.0	50.0	60.0	46.0	54.0	46.0	64.0	45.0	64.0	55.0	57.0	60.0	53.3
BHL4907	65.0	43.0	44.0	52.0	56.0	71.0	70.0	45.0	73.0	74.0	54.0	54.0	52.0	66.0	63.0	69.0	61.0	48.0	68.0	59.4
BRM4907	65.0	45.0	60.0	56.0	68.0	73.0	71.0	73.0	73.0	60.0	59.0	60.0	70.0	54.0	52.0	65.0	60.0	43.0	54.0	61.1
BSP4002	52.0	40.0	60.0	54.0	50.0	54.0	50.0	32.0	63.0	60.0	51.0	57.0	53.0	41.0	56.0	62.0	59.0	50.0	66.0	53.2
BSP4964	67.0	40.0	60.0	61.0	62.0	75.0	68.0	50.0	67.0	72.0	44.0	61.0	56.0	60.0	57.0	66.0	65.0	57.0	68.0	60.8
Overall	59.6	43.7	55.9	57.1	57.9	66.6	60.4	48.3	67.4	60.7	51.0	53.9	56.7	52.9	53.4	66.4	54.4	50.4	60.3	56.7

2015/16 EA									Average
BAC4010 EA	70.0	45.0	50.0	66.0	58.0	53.0	55.0	49.0	55.8
BCO4008	46.0	47.0	61.0	62.0	60.0	50.0	65.0	52.0	55.4
BHL4010	52.0	46.0	56.0	49.0	51.0	46.0	46.0	45.0	48.9
BHL4907	65.0	43.0	44.0	52.0	56.0	54.0	52.0	63.0	53.6
BRM4907	65.0	45.0	60.0	56.0	68.0	59.0	70.0	52.0	59.4
BSP4002	52.0	40.0	60.0	54.0	50.0	51.0	53.0	56.0	52.0
BSP4964	67.0	40.0	60.0	61.0	62.0	44.0	56.0	57.0	55.9
Overall average	59.6	43.7	55.9	57.1	57.9	51.0	56.7	53.4	54.4

2015/16 WA												Average
BAC4010 WA	70.0	63.0	43.0	84.0	47.0	37.0	72.0	40.0	47.0	40.0	56.0	54.5
BCO4008	58.0	53.0	51.0	62.0	44.0	48.0	67.0	58.0	59.0	41.0	43.0	53.1
BHL4010	65.0	48.0	44.0	50.0	54.0	64.0	64.0	57.0	60.0	55.0	60.0	56.5
BHL4907	71.0	70.0	45.0	73.0	54.0	66.0	69.0	48.0	68.0	61.0	74.0	63.5
BRM4907	73.0	71.0	73.0	73.0	60.0	54.0	65.0	43.0	54.0	60.0	60.0	62.4
BSP4002	54.0	50.0	32.0	63.0	57.0	41.0	62.0	50.0	66.0	59.0	60.0	54.0
BSP4964	75.0	68.0	50.0	67.0	61.0	60.0	66.0	57.0	68.0	65.0	72.0	64.5
Overall average	66.6	60.4	48.3	67.4	53.9	52.9	66.4	50.4	60.3	54.4	60.7	58.3

Appendix F

Anonymised Raw data for module marks 2016/17

2016/17 BABMS	2399	6231	7141	7394	3473	9022	8798	482	Average
BAC4010	62.3	52	34.8	72.2	52	68.8	69.4	59.4	58.8625
BHL4010	60	61	64.5	70.6	47.9	62	61.6	55.6	60.4
BHL4913	57.5	63.5	56	61	33	43	75	56	55.625
BHL4014	46.5	63.5	67.5	72.5	71	70.5	70.5	65.5	65.9375
BRM4008	50.75	71.75	66.5	66	62	56	62	47.5	60.3125
BSP4002	30	52	52	67	53	46	46	40	48.25
BSP4964	61.6	62.1	59.8	71.7	63	56.9	70.3	62.2	63.45
Overall	52.66429	60.83571	57.3	68.71429	54.55714	57.6	64.97143	55.17143	58.97679

2016/17 BABMS	2399	7394	9022	8798	482	Average
BAC4010	62.3	72.2	68.8	69.4	59.4	66.42
BHL4010	60	70.6	62	61.6	55.6	61.96
BHL4913	57.5	61	43	75	56	58.5
BHL4014	46.5	72.5	70.5	70.5	65.5	65.1
BRM4008	50.75	66	56	62	47.5	56.45
BSP4002	30	67	46	46	40	45.8
BSP4964	61.6	71.7	56.9	70.3	62.2	64.54
	52.66429	68.71429	57.6	64.97143	55.17143	59.82429

2016/17 BABMS	6231	7141	3473	Average
BAC4010	52	34.8	52	46.26667
BHL4010	61	64.5	47.9	57.8
BHL4913	63.5	56	33	50.83333
BHL4014	63.5	67.5	71	67.33333
BRM4008	71.75	66.5	62	66.75
BSP4002	52	52	53	52.33333
BSP4964	62.1	59.8	63	61.63333
	60.83571	57.3	54.55714	57.56429

Appendix G

Anonymised Raw data for module marks 2017/18

2017/18 BABMS	FG 19 2d	FG 19 2a	FG 19 2b	NP16	FG 19 2c	FG 19 2f	FG 19 2g	FG 19 2e	Average
BAC4010	45	44.6	36	78.2	40.6	50	53.2	40	48.45
BHL4010	60.2	53	54	71.5	53.8	51.9	64.3	62	58.8375
BHL4014	53	60	45	60	67	40	63	48	54.5
BHL4913	70.25	72.25	54	69.25	62.25	67.25	68	58	65.15625
BRM4008	54.5	43.5	42.5	56.5	47.5	48	52.5	56	50.125
BSP4002	50	50	30	63	46	46	60	50	49.375
BSP4964	60.9	60	54.4	69.8	63.6	63.2	70.6	52	61.8125
	56.26	54.76	45.13	66.89	54.39	52.34	61.66	52.29	55.47

2017/18 EA	20736	3110	3684	1560	3178	Average
BAC4010	36	40.6	50	53.2	40	43.96
BHL4010	54	53.8	51.9	64.3	62	57.2
BHL4014	45	67	40	63	48	52.6
BHL4913	54	62.25	67.25	68	58	61.9
BRM4008	42.5	47.5	48	52.5	56	49.3
BSP4002	30	46	46	60	50	46.4
BSP4964	54.4	63.6	63.2	70.6	52	60.76
	45.13	54.39	52.34	61.66	52.29	53.16

2017/18 WA	4144	4576	4175	Average
BAC4010	45	44.6	78.2	55.93333
BHL4010	60.2	53	71.5	61.56667
BHL4014	53	60	60	57.66667
BHL4913	70.25	72.25	69.25	70.58333
BRM4008	54.5	43.5	56.5	51.5
BSP4002	50	50	63	54.33333
BSP4964	60.9	60	69.8	63.56667
	56.26	54.76	66.89	59.31

Appendix H

Anonymised Raw data for module marks 2018/19

2018 /19 BABMS	FG 19 1j	FG 19 1f	FG 19 1h	FG 19 1a	FG 19 3i	FG 19 1i	FG 19 1g	FG 19 1b	NP17	NP18	FG 19 3a	FG 19 1c	FG 19 1k	NP19	FG 19 3b	FG 19 1d	NP20	FG 19 1e	Average
BAC4010W	76.6	79.9	66	79.6	57.8	77.2	52.6	71.2	37	69.9	60.8	61	43	57.1	75.4	67.6	62.6	58.9	64.12222
BHL4010	76	55.8	59.9	67.2	50	64.5	43.8	62	50.5	30.1	71.8	15.9	49.5	49.6	71	54.2	64.3	54.1	55.01111
BHL4014	63	50	58	63	32	65	33	61	52	60	55.9	35	52	40	40	70	62	40	51.77222
BHL4913	71.5	62.5	65	64	52	57	65	60	47	41.5	65	51.5	54.5	1	65	64.5	71	56	56.33333
BRM4008	76	51	61	50.5	41	60	52.5	58.5	44.5	48.5	58.5	31	63.5	36.25	56.5	57	61	51	53.23611
BSP4002	63	47	40	53	20	65	42	35	23	0	50	0	40	25.5	42	32	48	26	36.19444
BSP4964	76.6	72.4	71.4	70.6	57.4	72.1	49.8	62	57.8	72.1	62.1	60.5	62.8	36.7	69.6	65.7	60.7	65.8	63.67222
	71.81	59.80	60.19	63.99	44.31	65.83	48.39	58.53	44.54	46.01	60.59	36.41	52.19	35.16	59.93	58.71	61.37	50.26	54.33

2018 /19 EA	6237	1338	4579	6810	4423	40871	6019	Average
BAC4010W	76.6	79.6	37	43	57.1	67.6	62.6	60.5
BHL4010	76	67.2	50.5	49.5	49.6	54.2	64.3	58.75714
BHL4014	63	63	52	52	40	70	62	57.42857
BHL4913	71.5	64	47	54.5	1	64.5	71	53.35714
BRM4008	76	50.5	44.5	63.5	36.25	57	61	55.53571
BSP4002	63	53	23	40	25.5	32	48	40.64286
BSP4964	76.6	70.6	57.8	62.8	36.7	65.7	60.7	61.55714
	71.81	63.99	44.54	52.19	35.16	58.71	61.37	55.39694

2018 /19 BABMS	8009	8119	2651	9321	20399	7524	2881	4012	2630	9339	6407	Average
BAC4010W	79.9	66	57.8	77.2	52.6	71.2	69.9	60.8	61	75.4	58.9	66.42727
BHL4010	55.8	59.9	50	64.5	43.8	62	30.1	71.8	15.9	71	54.1	52.62727
BHL4014	50	58	32	65	33	61	60	55.9	35	40	40	48.17273
BHL4913	62.5	65	52	57	65	60	41.5	65	51.5	65	56	58.22727
BRM4008	51	61	41	60	52.5	58.5	48.5	58.5	31	56.5	51	51.77273
BSP4002	47	40	20	65	42	35	0	50	0	42	26	33.36364
BSP4964	72.4	71.4	57.4	72.1	49.8	62	72.1	62.1	60.5	69.6	65.8	65.01818
	59.80	60.19	44.31	65.83	48.39	58.53	46.01	60.59	36.41	59.93	50.26	53.65844

Appendix I

Further exploration of the module marks using Box and Whisker graphs for further depth of analysis.

Year on year comparison of student module marks for BAC4010(W)

Legend: ■ BAC4010 2015/16 ■ BAC4010 2016/17 ■ BAC4010 2017/18 ■ BAC4010W 2018/19
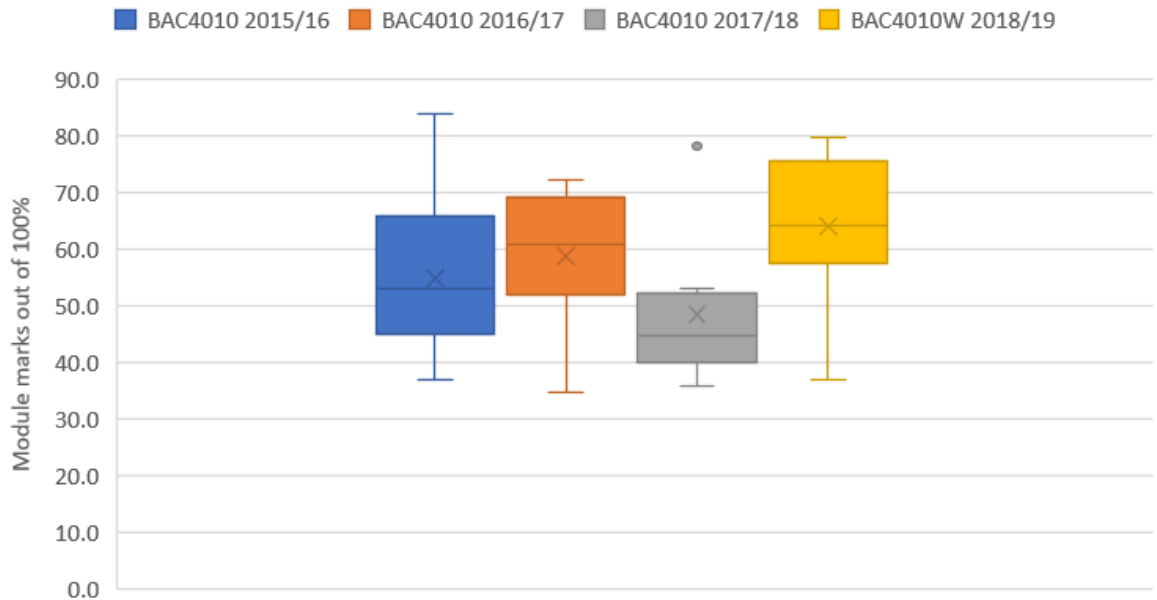
Graph A: Year-on-year comparison of student module marks for BAC4010(W) using box and whisker

AY 2015-16 saw the highest maximum value with one student achieving a module mark of 84%, however, the upper and lower quartiles are around 10% lower than the upper and lower quartiles achieved in 2018-19. AY 2016-17 saw a slight increase in upper and lower quartile marks with a median of just over 60%, the highest quartile and median achievement of any EM delivery. However, 2018-19 saw an improvement on these results with a lower quartile to upper quartile range of 58.5% to 76% respectively. The median mark was placed at 64% with the maximum value of 80% achieved by one student.

Graph B: Year-on-year comparison of student module marks for BAC4010(W) with language profile separation

The bilingual delivery of Cyllid ar gyfer Rheolwyr in 2018-19 achieved a higher median mark than any other WA group being taught on the EM module, Finance for Managers. The 2016-17 EA cohort did achieve a higher median than all other years, however, the upper quartile range is lower than that of 2018-19 where a larger number of students achieved over 70%

In terms of student numbers and language profile, the two most similar student participant profiles are 2015-16 and 2018-19. Direct comparison indicates that see that the upper and lower quartile range of the WA profile, and the medium of

the WA profile in 2018-19 has shifted upwards, although the maximum value is lower in 2018-19. The EA profile has also shifted upwards in 2018-19 but to less of an extent and the lower quartile and minimum value of the EA cohort of 2018-19 is only a slight improvement on 2016-17. This analysis gives more depth into the range, median and modal marks achieved by the cohort, supporting the findings of the mean analysis in that the 2018-19 cohort improved, as a whole, in the Cyllid ar gyfer Rheolwyr module.

Appendix J

Comparison analysis of contributor comments to benefits and drawbacks of bilingual teaching methods.
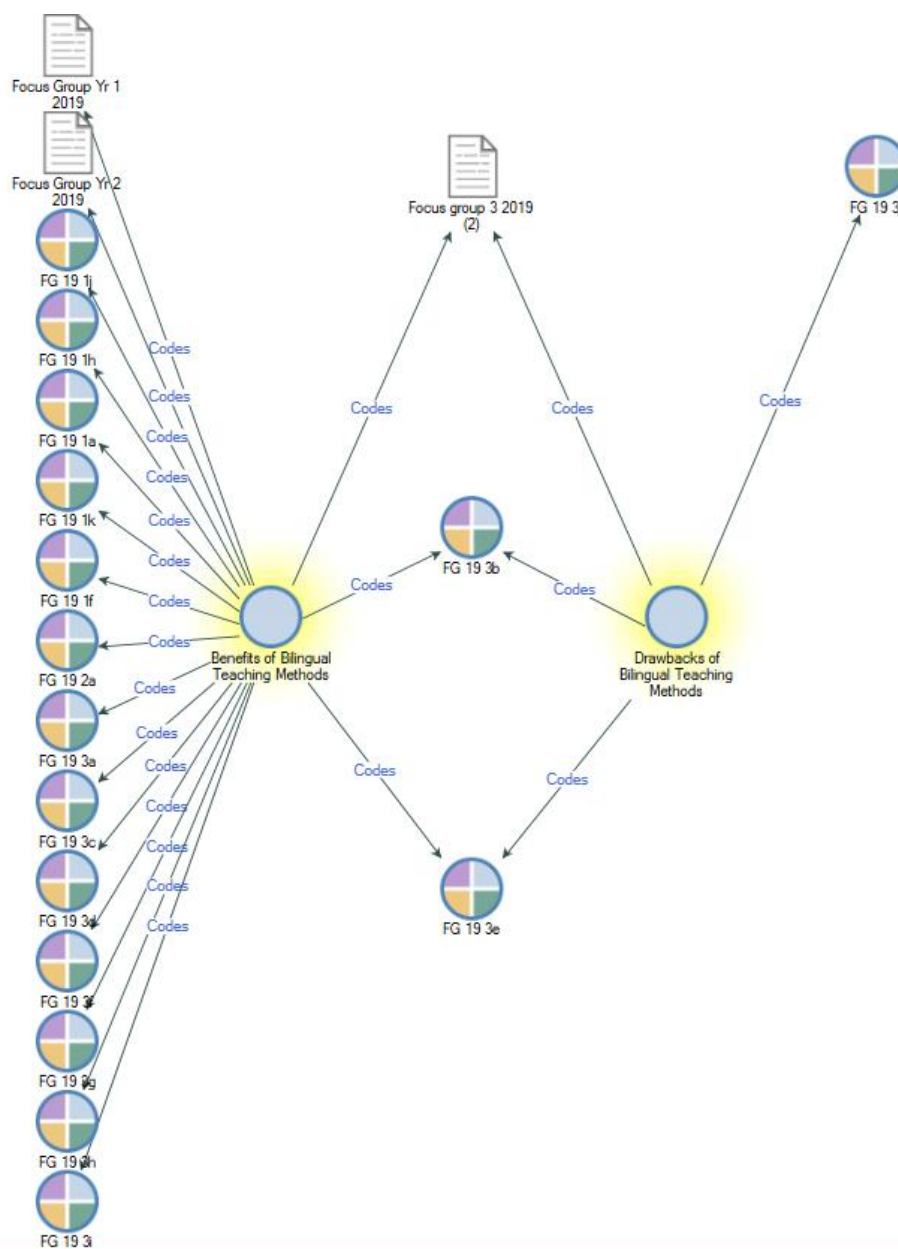
Appendix K

Data on Welsh-speaking Students in CSM sent by
e-mail from Administration to Management (redacted) July 2019

From: ▮▮▮▮▮▮ @cardiffmet.ac.uk>
Sent: 17 July 2019 12:13
To: ▮▮▮▮▮▮ cardiffmet.ac.uk>
Subject: RE: Welsh numbers

Hi ▮

Here you go – I've included info on students who were studying more than 10 but less than 40 credits as well as there are a couple.

	Fluent Welsh	Credits in Welsh (10-30)	Credits in Welsh (40+)	Total - Studying in Welsh
Level 3	3	0	0	0
Level 4	43	2	26	28
Level 5	30	3	9	12
Level 6	23	1	10	11
Total	99	6	45	51

- BA (Hons) Business and Management Studies
- BA (Hons) Business and Management Studies with Finance
- BA (Hons) Business and Management Studies with Human Resource Management
- BA (Hons) Business and Management Studies with Information Systems Management
- BA (Hons) Business and Management Studies with International Business Management
- BA (Hons) Business and Management Studies with Law
- BA (Hons) Business and Management Studies with Marketing
- BA (Hons) Events Management
- BA (Hons) International Hospitality and Events Management
- BA (Hons) International Hospitality Management
- BA (Hons) International Tourism and Events Management
- BA (Hons) International Tourism Management
- BA (Hons) Marketing Management
- BA (Hons) Fashion Marketing Management

Best,
▮

Appendix L

Copy of Coleg Cymraeg Cenedlaethol Confirmation of Research Grant 2019

DYFARNIADAU GRANTIAU ARLOESI
Mehefin 2019

Isod nodir y ceisiadau am grantiau arloesi gennych chi sydd wedi eu cefnogi, ynghyd â'r amodau penodol sydd ynghlwm â'r dyfarniad, os yn berthnasol. Nodir hefyd y bydd yn ofynnol i'r Rheolwr Prosiect gyflwyno adroddiad terfynol cyn gynted ag y bo modd yn dilyn dyddiad gorffen y prosiect. Atodir templed Adroddiad Diwedd Prosiect ar eich cyfer.

Dylid cyfeirio unrhyw ymholiadau ynglŷn â'r dyfarniadau at Catrin Heledd (c.heledd@colegcymraeg.ac.uk). Nid yw'n arfer gennym roi sylwadau ar geisiadau aflwyddiannus.

Trosglwyddwyd y cyllid ym mis Mehefin. Pan fo cynnyrch y prosiect wedi ei gwblhau a'i gyflwyno i'r Coleg yn unol â'r cais a'r amodau cysylltiedig gofynnir eich bod yn darparu Adroddiad Diwedd Prosiect.

Wedi eu cefnogi:

Teitl	Rheolwr	Grant	Amodau
Ymchwil i'r defnydd o'r Fasgeg mewn Addysg Uwch ym maes Busnes / Taith Maes Myfyrwyr	Kelly Young	£3,000.00	Dylid rhannu unrhyw gysylltiadau a grëwyd ar y daith gyda'r Coleg

Mae dyfarniad pob grant yn amodol ar dderbyn yr amodau penodol a restrir uchod a'r Amodau Cyffredinol yn Atodiad A ac a nodwyd ar y ffurflen gais.

ATODIAD A

Amodau Cyffredinol

Canllawiau Cyfathrebu:
- Disgwylir i bob prosiect/cynhadledd sy'n derbyn Grant gan y Coleg ddefnyddio'r Canllawiau Cyfathrebu canlynol: Canllawiau Marchnata a Chyfathrebu.
- Rhaid cysylltu gyda Thîm Cyfathrebu'r Coleg i'w hysbysu am ddyddiad unrhyw ddigwyddiad/ lansiad/ cyhoeddiad, ayyb.
- Dylai rheolwr pob prosiect gysylltu â'r Tîm Cyfathrebu o leiaf fis cyn diwedd y prosiect er mwyn trafod y posibiliadau hyrwyddo.
- Dylid annog pawb sy'n mynychu cynhadledd o dan nawdd y Coleg i ymaelodi â'r Coleg. Gall dangos tystiolaeth o enwau a rhifau aelodaeth fod yn allbwn penodol i'r prosiect, a gellid cynnwys y dystiolaeth hon yn yr Adroddiad Diwedd Prosiect.

Cydnabod Nawdd / Canllaw Brand:
- Disgwylir i unrhyw waith marchnata / cyhoeddusrwydd gan y Brifysgol mewn perthynas â gweithgaredd neu gyhoeddiad a gefnogwyd drwy grant wrth y Coleg gydnabod nawdd y Coleg ar bob achlysur, boed hynny mewn print neu ar-lein.
- Disgwylir i bob cyhoeddiad sy'n deillio o grant wrth y Coleg gydnabod nawdd y Coleg yn unol â chanllawiau cyhoeddi'r Coleg. Disgwylir hefyd i reolwr y prosiect gysylltu â Mari Fflur, Rheolwr Academaidd y Coleg, i wirio manylion perthnasol: m.fflur@colegcymraeg.ac.uk.
- Yn yr Adroddiad Diwedd Prosiect, dylid cynnwys lluniau o'r digwyddiad/ lansiad/ cyhoeddiad a thystiolaeth o unrhyw ddeunydd marchnata i ddangos sut y cydnabuwyd nawdd y Coleg a brandio'r Coleg.
- Bydd swyddogion y Coleg o bryd i'w gilydd yn mynychu digwyddiadau sy'n cael eu cynnal yn sgil derbyn grant wrth y Coleg.

  [Gwelir http://www.colegcymraeg.ac.uk/cy/amdanomni/ffurflenniadogfennau/canllawiaubrand/ ar gyfer copi o logos y Coleg. Dylid sicrhau eu bod yn cael eu defnyddio'n gywir yn unol â Chanllawiau Brand y Coleg. Ni ddylid cam-ddefnyddio'r logos trwy eu torri na'u hymestyn ac mae'n rhaid i logo'r Coleg fod yr un maint ag unrhyw logos eraill a ddefnyddir. Dylid cysylltu â'r Rheolwr Marchnata i wirio diwyg unrhyw waith mewn da bryd cyn cyhoeddi, sef Elin Williams: e.williams@colegcymraeg.ac.uk.]

Cysylltiadau:
Rhaid i unrhyw gysylltiadau a wneir drwy'r daith gael eu rhannu gyda'r Coleg.

Llyfrgell Adnoddau / Y Porth:
- Rhaid i unrhyw adnodd sy'n cael ei ddatblygu yn sgil derbyn grant wrth y Coleg gael ei osod ar Lyfrgell Adnoddau'r Coleg neu'r Porth yn dilyn trafodaeth gyda'r Coleg am ffurf yr adnodd. Dylid cyfeirio ymholiadau ynglŷn â'r Llyfrgell / Porth at cymorth@colegcymraeg.ac.uk.

Appendix M

Poster Presented at the CCC Annual Research Conference 2019

Contextualizing Professional Change

and Development

Doctorate in Education

St20086384

Kelly Young

May 2016

Contents

1. Introduction

This assignment aims to outline the organisational context of the research being undertaken for the Professional Doctorate in Education, with a working title 'Making the most of Wenglish: Using translanguaging, code switching and code-scaffolding to maximize learning efficacy for Welsh/English bilingual students studying Welsh medium business modules.

This assignment will take into consideration the author's background and professional practice which includes three years of employment in a Further Education college in South East Wales as Welsh Language Development Manager and the author's present employment as Regional Lecturer (Welsh medium) in Business and Management at Cardiff Metropolitan University. The university name will be anonymised in the final thesis. It aims to analyse the present organisational context in terms of both organisational structure and culture, which will impact upon the proposed research and to evaluate the benefits of the research to both the organisation and stakeholders. It will also discuss the concepts of code-switching, translanguaging and code-scaffolding and identifying their use as pedagogical strategies in teaching on bilingual modules within the Cardiff School of Management (CSM). Baker (2006) describes code-switching as the use of two or more languages within single communication and it was perceived by Baker (2006) as undertaken where there was a deficiency in linguistic ability. Fennema-Bloom (2009) defined 'code-switching' as a pedagogical strategy to ensuring content comprehensibility in teaching science. The term 'Translanguaging' as coined by Cen Williams (cited in Baker, 2001) identified the movement from one language to another in bilingual classrooms, this movement between two or more languages or '*multiple discursive practices'* (Garcia, 2009:45) allows bilinguals to 'make sense of their bilingual worlds' this develops on the traditional concept of 'code-switching' and the more developed 'code-scaffolding' as defined by Fennema-Bloom (2009). Therefore, 'code-scaffolding' is a structured form of 'code-switching' which is undertaken to assist teaching and learning of content.

Using existing literature on student linguistic choices for Higher Education (HE) (Davies & Trystan, 2012) and identifying and categorising bilingualism in education (Wei, 2000; Garcia, 2009; Baker, 2001) the assignment will discuss the rationale for the research

and take into consideration the complexity of bilingualism and the differing nature of bilingualism within individuals (Wei, 2000). This output of the research will be to create a best practice model for the use of bilingual pedagogical strategies within Welsh medium Business modules in CSM which support the wide range of linguistic abilities within the classroom and identify where code-scaffolding and translanguaging are required to support the students' understanding of the subject material. The assignment will also discuss the research methodology and research methods proposed to complete the research.

Answering the research question 'how are translanguaging, code-switching and code-scaffolding currently used as pedagogical strategies in the teaching of Welsh medium Business modules in HE?' and 'how can their use maximise students linguistic and subject knowledge development within the subject area of Business?' The proposed change aims to develop a model of best practice for the use of code-scaffolding and translanguaging in bilingual modules in CSM to supports learning efficacy.

2. Professional Context

Upon consideration of the professional context, I recognise that there are two aspects of context which impact upon the research; the organisational context and my own professional credentials and background.

2.1. Organisational Context

It is important to understand the complex nature of the Welsh medium delivery within the organisation, including the external influences such as Welsh Government (WG) and Coleg Cymraeg Cenedlaethol (CCC) and the nature of the Canolfan ABC (CABC) Welsh medium provision of Business and Management in CSM and the University of South Wales (USW).

The context for Welsh medium delivery of business modules within CSM is complex as there are a number of external influences which impact heavily on the provision not only within the Cardiff School of Management but also on a pan-organisation scale. The context is further complicated by the existing funding received from the CCC and also the creation of the CABC which is, at present, a brand for the delivery of Welsh medium business modules within CSM and USW.

At present there is conflict between the ideologies of the CCC and the bilingual strategies employed by lecturers in CABC as the CCC requires the Welsh language to be treated as a separate language and students are encouraged to engage in the use of Welsh only, but in reality, lecturers, in practice, employ linguistic strategies of translanguaging and code-switching to ensure the communication of complex business topics. This highlights the difference between the monoglossic ideologies (Baker, 2001) of the CCC and the heteroglossic ideologies (Baker, 2001) applied in the classroom by lecturers. The aim of the study is to formalise and structure these practices to meet student needs.

2.1.1. Welsh language in an educational context

The office of National Statistics (ONS) have published statistics on the number of Welsh speakers, levels of fluency and use of Welsh language in Wales through the Census Research published every ten years (ONS, 2011). I will focus my research in this area on Welsh speakers in post 16 education. There is existing research on Welsh medium education at compulsory level (Baker C. & Prys-Jones, 1998) however research on Welsh medium and bilingual education in Wales post-compulsory is in its infancy and as such there are numerous areas which can be developed further.

According to Williams (2000) Primary education (5-11-year olds) has been on the increase since the 1950s. This study, published in 2000, demonstrates that pre-CCC the number of courses provided in Welsh or bilingually was minimal however, post 2011 and the introduction of the CCC, there has been a significant year on year increase of Welsh medium opportunities at HE level. This increase has been directly attributed to the CCC staffing scheme (over 100 lecturing positions have been funded on a five-year basis to pump-prime Welsh medium courses in Universities across Wales) and an increase in the number of students taking a substantial part of their studies in Welsh. (CCC, 2015 : NEWS; 8744) According to the CCC (2015) in 2013/14 there were 2,427 students across universities in Wales studying at least 33% of their course through the medium of Welsh and another 4,915 students taking at least five credits (less than 5%) of their course through the Medium of Welsh. According to the CCC (2015) the number of learners studying in HE through the medium of Welsh has increased by over 10% since 2012/13 and this has been facilitated by the CCC staffing scheme which has employed lecturing staff in numerous disciplines across Wales, this includes the lecturing staff employed by the CABC (CCC, 2015).

2.1.2. Coleg Cymraeg Cenedlaethol

The pre-cursor to the CCC was established in 2001 when the Higher Education Funding Council for Wales (HEFCW) started funding a small number of Welsh medium modules within universities in Wales, in 2003 HEFCW set up a Welsh Medium Provision Steering Group to work towards the Welsh Assembly Government's aspirations to increase the Welsh medium provision within HE and following this a network model was proposed and supported by a Strategic National framework (HEFCW, 2012). The CCC was preceded by the Coleg Ffederal established in 2008, and the CCC was then 'formally incorporated as a company limited by guarantee in March 2011' (HEFCW, 2012).

The Coleg Cymraeg Cenedlaethol is 'a centrally governed body, which takes an overview of all Welsh medium provision, to provide unity of purpose, cohesion and leadership through a national strategy' (CCC, 2012 : The Coleg). The aim of the CCC is:

> … 'to increase, develop and broaden the range of Welsh medium study opportunities at universities in Wales. In addition to funding high quality modules and resources for the Welsh medium sector, the Coleg will further build upon the previous work accomplished by the Centre for Welsh Medium Higher Education and will aim to develop effective collaborative partnerships, extend the range of academic provision, and train a new generation of lecturers for the future in partnership with universities.'

(CCC, 2012)

The CCC support the provision of Welsh medium Higher Education through their Academic Plan which funds the position of over 100 academic lecturers in Universities across Wales with a budget of £1 million annually dedicated to staffing (CCC 2012 : Academic Staffing Scheme). At the time of writing, the CCC fund three existing full-time posts teaching business modules in both CMU and USW.

There is presently some uncertainty about the future of the CCC and the nature of the funding therewith. This is due to a review of the funding due in 2017 which will give some indication of potential provision in the future. The continuation of the funding will be dependent on a variety of factors which are out of the control of the CCC and the Universities involved in the Welsh medium provision. This has therefore been a catalyst to the research proposal, although not the whole rationale for the research; it

was the catalyst for the consideration of the need for research into the viability of welsh medium modules and the development of bilingual teaching strategies in CSM, Cardiff Metropolitan University.

2.1.3. Welsh Provision in Cardiff Metropolitan University

There has been an educational institute on the University site since 1865 (Cardiff Metropolitan University, 2015) when the Cardiff School of Science and Art was founded. Cardiff Metropolitan University was officially renamed in 2011 after the University left the University of Wales and was previously known as the University of Wales Institute Cardiff (UWIC).

Canolfan ABC sits within The Cardiff School of Management (CSM) and is situated at the Llandaff campus. CSM delivery a range of foundation courses, undergraduate programmes, postgraduate programmes and research opportunities. Welsh medium provision was formally introduced in 2011 through the funding of a Senior Lecturer employed at the University of Wales who was contracted to deliver Welsh medium modules in CSM as 0.5 of their employment contracts.

2.2. Professional credentials and background

This section will consider the proposed change and how the background and professional experience of the researcher impacts upon, and gives professional credence to, the research.

I have been an academic lecturer in Business and Management for over 12 years; the main stay of this experience has been in FE in Wales and also in the HE in FE sector in an FE college in South East Wales. Table 1.1 (Appendix 1) identifies the experience and qualifications which make this research relevant to my professional context.

I am presently employed as a lecturer in Business and Management at Cardiff Metropolitan University, teaching through the medium of Welsh, however, between 2011 and 2014, I was employed as a Bilingual Champion (Welsh language development manager), part of the strategic management team of a Further Education (FE) college. This role required me to undertake practical research with staff, management and

Welsh speaking students to develop a best practice approach to the development of bilingual provision in the college. The focus was identifying the modules best suited for bilingual delivery throughout the five campuses of the FE college, with reference to demand, staffing and strategic direction of the organisation. This research formed the basis of the dissertation for the MA in Education of Sustainable Development and Global Citizenship achieved in 2012 (Young, 2012).

I also have gained a Post Graduate Certificate in Education (Post Compulsory Education and Training) (PGCE) and I am a Fellow of the Chartered Management Institute (FCMI) and a Senior Fellow of the Higher Education Authority (SFHEA) giving a professional context and over 12 years of experience teaching in a post compulsory environment.

3. Literature Context

   3.1. Organisational Change

The catalyst for the research is the recognition of a need for change within Cardiff Metropolitan University with regards to the delivery of Welsh medium modules within the school of management. This need for change was highlighted when a member of staff resigned their position and the funding of a replacement was initially refused by the CCC; although later a temporary 12-month position was agreed. This raised the bigger question of whether the future of the Welsh medium provision was sustainable if the funding for the CCC is reduced or removed when the funding is reviewed by WG in 2017.

At present the provision of Welsh medium modules in Cardiff Metropolitan University is in a unique position with collaborative working with USW, sharing staff and resources for a range of modules across levels three (foundation) to seven (post-graduate). According to Trist (1983) the overall aim of collaborative working is for organisations to deal more effectively with issues affecting the organisation. In this instance, the collaborative working was instigated by the CCC through the funding mechanisms of the CCC Staffing Schemes and as such the collaborative working includes CSM, USW and the CCC; working together to provide Welsh medium opportunities in Business studies in South East Wales. The environmental factors which

affect the collaborative work must be considered, according to Gray & Wood (1991) these factors can include corporate issues, social and economic issues, institutional factors and political influences. Using these factors will allow structure and focus of the external and internal issues which impact upon the successful collaborative working and potentially identify areas which can be improved.

Developing a consistent and strategic approach to bilingual pedagogy on Welsh medium Business & Management modules, is the main focus of this study. This is especially important since the introduction of the National Student Satisfaction (NSS) survey, the publication of the level of student satisfaction on all courses is published annually for the information of university applicants. The NSS results are part of most Universities' quality strategy and as such, contribution to a positive NSS result would benefit the Welsh medium modules and the CSM as a whole and is one way to monitor the success in terms of students as stakeholders.

Managing stakeholders will be a key issue in the successful implementation of the change and applying Mendelow (1991)'s power-interest grid to the stakeholders of the research analyses the power and control of each of the stakeholders and thus indicates the most effective way to manage communications and the relationship with the stakeholders.

Table 1

Stakeholder Analysis
adapted from Mendelow (1991) Power-interest grid

	Low INTEREST	High INTEREST
High POWER	**Keep Satisfied** **WELSH GOVERNMENT** Ensure satisfy as to the contribute made to national targets and Welsh Language commissioners standards and student uptake.	**Manage closely** **COLEG CYMRAEG CENEDLAETHOL** Continue WM courses in Business in SE Wales, meet ongoing targets, provide opportunity **STUDENTS** The have power to choose substitutions, They are our customers and have access to social media and NSS. It is essential that we ensure preferences are considered.
Low POWER	**Monitor** **COMPETITORS / WELSH UNIVERSITIES** Monitor provision, student numbers and module development of our competitors providing Welsh medium Business modules.	**Keep Informed** **WELSH LANGUAGE COMMUNITY** Ensure the community are aware of provision and regular communication via social media and publications

When considering the organisational change project, I will be using a variety of theories to investigate the context of the project, including the consideration of the

following theories; Greiner (1998) five phases of growth which applies to the Canolfan ABC (CABC); although part of two well established universities the Welsh medium provision (CABC)is in its infancy and applying Greiner (1998)'s five phases of growth will help understand the organisational context for strategic planning of delivery. This theory gives structure to the context of the CABC however it does not consider the process of change management, as such, the project will also apply Burnes & Cooke (2013) adaptation of Lewin's force-field analysis and Kotter (1996)'s eight step process for change. I will use these theories to evaluate the proposed changes and consider the most effective way to implement the change.

For the implementation of the research, I will focus on Kotter (1996) eight step process for change. Kotter proposes that successful change within an organisation can be brought about through 8 steps; (1) creating urgency, (2) forming a powerful coalition, (3) creating a vision, (4) communicating the vision, (5) remove obstacles, (6) creation of short term wins, (7) building on the change and (8) anchoring the change in corporate culture. Using this as a structure to the implementation of the research project, I have identified that key elements of the process which are essential for successful change are; identification of the need for change, the implementation of the change and the evaluation of the change. The important aspects of the change management will be gaining the support of key stakeholders, creating and communication the vision, creating short term wins and anchoring the changes in corporate culture (Kotter, 1996). Identifying key players within the organisational structure with whom a coalition would be beneficial to the success of the project.

3.2.   Bilingualism, identity and language choice

Baker (2001) defines bilingualism the ability of individuals to use more than one language but goes on to argue that it does not mean the languages are used in the same way or in the same context. Wei (2000) developed a comprehensive list of the definitions of different types of bilingual and their characteristics, with over 20 separate definitions of the term bilingual, it demonstrates how varied the concept of 'bilingual' is in reality, ranging from 'receptive bilingual' a person who understands a second language but does not speak or write it, to a 'balanced bilingual' as someone who has an equal mastery of both languages. The research will use Wei (2000)'s table

to identify the nature of bilingualism exists within the participants and form part of the categorisation of the participants into groups.

Bilingualism in education has been defined many times and many agree that it is, by its nature, a complex and hard to define phenomenon (Garcia, 2009; Baker,2001; Bakhtin, 1981) even the traditionally agreed definition that it is 'the use of two languages in education is not straight forward' (Garcia, 2009:7). Garcia (2009:8) likens Bilingualism in Education to an '*all-terrain vehicle,* with different legs that expand and contract'. This is moving away from the monoglossic ideologies of bilingualism where bilinguals are considered to be monolinguals with two separate languages, to a more fluid understanding of the heteroglossic ideologies (Baker, 2001) where the languages co-exist as 'multiple voices' within individuals (Bakhtin, 1981). This has links to self-perception and cultural identity as the 'multiple voices' are used in an educational setting.

The importance of cultural identity and its relationship with linguistic choice is a necessary element of the research project. Fishman (1976) suggests that linguistic choice is rooted in the sociological perceptions of the speaker of the language. In his studies, he identifies that the background of the speaker, social context of the situation and the 'power' of the language influences the linguistic choice of bilinguals and can influence the language choice from one context to another. As part of the research, there will also need to be consideration of language proficiency within participants and their self-perception and relationship with the Welsh language although most Welsh medium student have attended Welsh medium secondary school, followed by either Welsh medium sixth form or English medium / bilingual Further Education college. There are a number who have attended traditional bilingual secondary school settings (as defined by WG as having both non-Welsh speaking and Welsh speaking students in mixed classes or separate by using language options for individual lessons) or English medium FE in school or college. All students must be able to understand enough Welsh language to follow a complex level 4 lesson with support in linguistic / technical terminology development, however their perception of the Welsh language will vary, which impacts upon their experiences in the bilingual classroom. As the existing participants will be from a wide range of backgrounds with a

wide range of levels of competency (Baker and Prys-Jones, 1998) suggest that we should ask a range of questions to define bilingualism in the participants, however, creating too narrow a definition of bilingualism in this research may be counter-productive. The research will need to take into account the participants history as identified by the enrolment process of the CABC and also research through the use of a questionnaire to assess / self-assess their perception of their own bilingualism and categorise them into specific groups (using the definitions of Wei, 2000) which will then support the development of a range of strategies to suit student needs.

3.3. Bilingual teaching strategies

According to Baker (2001) the change from one language to another in bilingual classrooms, for example reading a book in one language but discussion of the material occurs in another language within the same activity, requires the student to process the information in more depth rather than 'surface learning' as defined by Biggs (2003). This allows bilinguals to process the information in two languages; this code-switching when applied as a pedagogical strategy becomes 'code-scaffolding' as defined by Fennema-Bloom (2009). Fennema-Bloom (2009:34) expands the concept of code-switching into 'code-scaffolding' where the movement between languages is used as a pedagogical tool to ensure learning efficacy of science subject content. She defines code-scaffolding as using code-switching use as 'a strategic tool in the development and comprehension of the instructional content'. Fennema-Bloom (2009) studied English/Mandarin Science content teachers in American High Schools and though this study suggests that 'code-switching' can be a pedagogical strategy to ensure content comprehensibility in teaching science. She identifies five coding categories, where teachers code-switched in the classroom, identifying for what the reason the switch occurred. Fennema-Bloom, (2009:29) identifies the reasons for code-switching in teaching as; (1) instructional for content acquisition, (2) reformulation, (3) instructional for language acquisition, (4) facilitation, and (5) habitual. These five categories allow for the identification, from audio recordings, of where code-switching happens in the classroom and its pedagogical impact.

Historically, code switching has been perceived negatively where the code-switching occurs as bilinguals are unable to express themselves in one of their languages (Baker 2006). More recent research identifies code-switching as a natural transition between

languages which bilinguals use to make 'sense of the world around them'. Garcia (2009: 50) argues that:

> Far from being a sign of inadequacy or sloppy language usage or lack of knowledge, it has been shown that code-switching is a sophisticated linguistic skill and a characteristic of fluent bilinguals.

Garcia (2009) goes on to identify two types of code-switching; intersentenial where code switching happens at the boundaries of sentences and intrasentenial where the switch occurs mid-sentence. These different code-switching types will be a small part of the study by trying to identify why code-switching occurs and identify whether there are different reasons for intersentenial and intrasentenial code-switching in both teaching staff and students.

Far from trying to stop or reduce code-switching in the classroom, the study aims to identify where code-switching, as a means of supporting content delivery and maximising learning efficacy, can be used as a pedagogical strategy. To do this, the literature above will directly influence the design and rationale of the research. The existing research literature is focussed on teaching subjects whose lingua-franca is English, in English to speakers of other languages. My research differs in that the research aims to look at teaching modules in Welsh to participants who are fluent in both Welsh and English, but their linguistic proficiency in the target language (Welsh) may vary due to their linguistic backgrounds and 'family' language.

4. Proposed Methodology

Applying the concept of the 'research onion' as developed by Saunders et al. (2015), this section will consider the research in terms of the research philosophy, approach to theory development, methodological choice, strategy, time horizon and the techniques and procedures used to undertake the research. The following diagram (1) is an adaptation of Saunders et al (2015) research onion as applied to the research proposal being undertaken.

Diagram 1 – Applied Research Onion
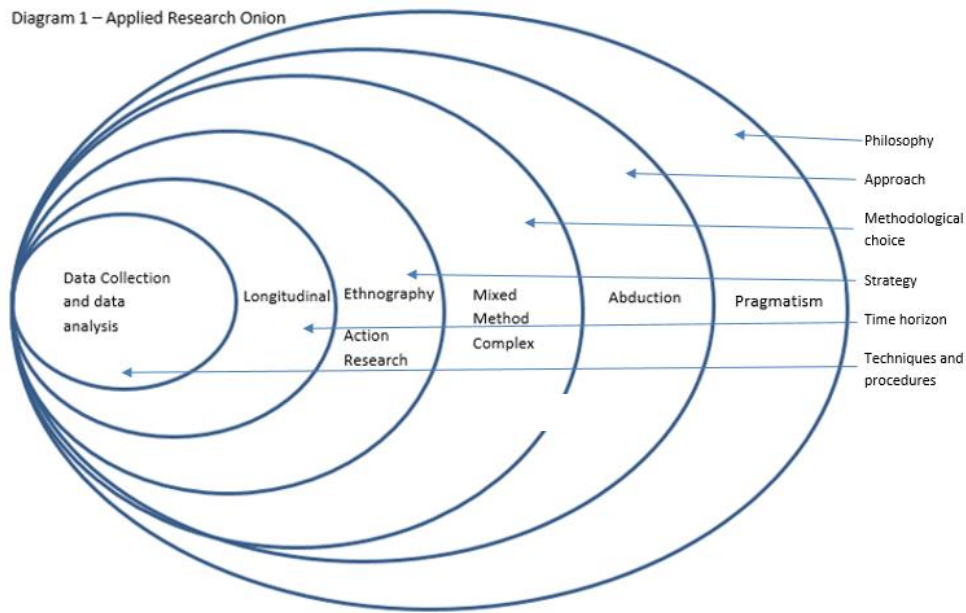
Application of Saunders et al. Research Onion (2015, as cited in Saunders et al., 2016 :164)

The philosophy for the research is one of pragmatism as defined by Saunders et al (2016: 169) as one likely to 'influence a mixed methods research design' which allows a choice of any mix of positions which support the research and the methodological choice is directly influenced by the research context and consequences. This philosophy is most aligned to my research context as the nature of the research topic is complex with many aspects influencing the philosophy; on one hand the research needs to focus on students and pedagogical strategies and on the other hand the influence of organisational culture and power directly impacts upon the research. As such a fluid, interchangeable style which meets the needs of the research and allows flexibility in approach is essential for the research to be undertaken successfully.

4.1. Research Methodology

According to Saunders et al (2016: 145) an abductive approach to research is based upon both deductive and inductive approaches which moves between the two and combining them. It is most useful when a known premise is used to generate testable conclusion where 'data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test through subsequent data collection and so forth'. The research proposal will use a complex mixed method of methodological choice where movement between qualitative methods (interviews and focus groups) and quantitative methods (questionnaires and observation of code-switching incidents) will be 'sequential multi-phase'. Saunders et al (2016) define

'sequential multi-phase' as having qualitative and quantitative data collection methods which run one after the other rather than at the same time (concurrent). In this way, the research is designed to collect the data initially quantitatively and from this identify individuals for development of qualitative data collection and analysis, which informs a second element of quantitative data collection. Concurrent data collection and analysis was initially considered, and elements of concurrent data collection will exist in the data collection as research with staff will occur concurrently. As such, this again supports the importance of the pragmatic philosophy of the research as there needs to be flexibility in the approach which meets the needs of the research.

The research will take an Action Research approach as defined by Kemmis (2009); a revision of Kurt Lewin's model of action research. Kemmis (2009) suggests the following approach to action research;

1. Identifying Initial Idea

2. Reconnaissance

3. Data collection and analysis

4. Evaluate findings and reassess initial idea
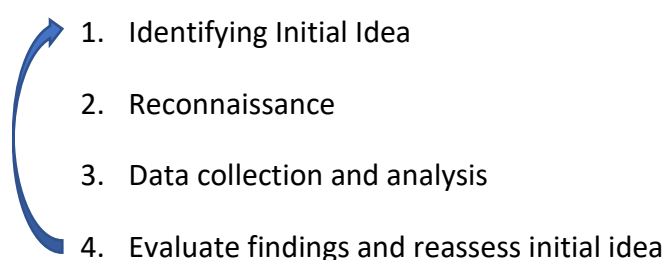
Using a cycle of trial and evaluation, the research will identify elements of the data which need collection, undertake the observation and recording of sessions, collect data and analyse results finally formulating findings and identifying potential further research and data collection. As step 4 naturally feeds back to step one, creating an action spiral, the research will continue until a model of best practice for code-scaffolding and translanguaging has been developed. The study will therefore be a longitudinal study over a two-year period with two different sets of participants, which evaluates the impact of using code-scaffolding and translanguaging to support the linguistic development and learning efficacy of Welsh medium modules in Business & Management.

4.2. Research Methods

Considering 'core' of the Research Onion (Saunders et al, 2016) we need to consider the data collection and data analysis methods. To undertake this, we need to identify participants for the data collection, data collection methods and the analysis of the data.

The research will use purposive sampling, as defined by Saunders et al (2016: 301) as selecting 'cases that will best enable you to answer your research questions and to meet your objectives' which 'is often used when working with very small samples'. The nature of Welsh medium provision is that the samples will be small as class sizes are restricted by the linguistic nature of the provision. As such, the participants will be restricted to students studying in Welsh in CSM and the staff delivering the modules. The research aims to sample at least 20 students studying at least 10 credits in Welsh on any CSM undergraduate degree programme and at least two staff members, with potential for more staff involved from across other academic school if required, as participants for the study. The student sample will aim to be a 'maximum variation sample' as defined by Saunders et al (2016: 301) as using 'judgement to choose participants with sufficiently diverse characteristics to provide the maximum variation possible in the data collected'. I aim to do this through the use of an initial questionnaire to identify variations in the characteristics of the participants, using Wei (2000) definitions of bilingualism to categorise participants. This will help inform to inform the choice of those chosen for interviews and focus groups.

Following this initial questionnaire and classification of participants, the next stage will be to record teaching sessions in a range of modules, either video or audio, which will allow for the quantitative analysis of code switching in the classroom. Previous studies (Mazak & Herbas-Denoso, 2014; Fennema-Bloom, 2010) have used audio recording devices to record the linguistic nature of bilingual classrooms using then the Fennema-Bloom (2010) five categories of code-switching to quantitatively analyse the code-switching within a class-room environment. I intend to adapt this technique using video recording (or audio if preferred by participants) to record the code-switching evident in a Welsh medium classroom. After analysing the data, I will them identify a maximum variation sample of individuals to conduct semi-structured interviews with. These interviews will identify where the participant code-switched in the classroom and discuss the reason for the code switching, gaining more in-depth insight into the reason for code-switching in students. This technique will also be adapted for use with the two staff to identify where and why they code-switch applied to pedagogical strategies. The use of Welsh in the class discussions and a quantitative analysis of the participants use

of code-switching and translanguaging within their classroom discussions and assessments will also give a base line for future analysis.

This cycle of data collection will happen at three points in an academic year; initially within 3 weeks of the start of a module, the second data collection will be at a halfway point through the module and finally at the end of a module. The aim of this is to identify changes in the translanguaging, code-switching and linguistic behaviour of both staff and students and to quantify any changes in the use of Welsh in the classroom. The research will measure the amount of code-switching undertaken by staff and participants and compare quantitatively against previous measurements. From these interviews with participants to identify the reason for code-switching and its impact on learning efficacy and understanding content. This should then inform practice with regards to identifying where code-scaffolding has occurred, if it has been successful and its impact upon linguistic choice for assessments. Each point of the data collection will form a cycle of the action research cycle and will inform the next round of data collection.

The plan, however, is flexible in terms of both timings and in the methods, for example I may choose to use focus groups rather than semi-structured interviews, as this may gain more reliable data. Saunders et al (2016) suggest that semi-structured interviews can create issues of bias, lack of consistency in respondents and are hard to repeat. As such focus groups may be an alternative option as, according to Belzile & Oberg (2012, as cited in Saunders et al, 2016) focus group allows for the analysis of the participants' interactions and dynamics which make up the shared meanings and experiences. The study may also extend over an additional academic year if the findings lack consistency or reliability.

5.   Research Aims and Objectives

The research has a dual focus, firstly to consider the use of language-scaffolding as a means to maximize learning efficacy, but also to enable changes in practice to be implemented long term across all delivery staff. To undertake this, the following aims and objectives give a holistic view of Welsh medium provision in CSM.

5.1. Working Title

Making the most of Wenglish: Using translanguaging and code-scaffolding to maximize learning efficacy for Welsh/English bilingual students studying Welsh medium business modules.

5.2. Aims

To develop a model for the use of translanguaging and code-scaffolding to maximize learning efficacy for Welsh/English bilingual students in Welsh medium business modules.

5.3. Objectives

To identify participants' level of bilingualism and perception of linguistic identity.

To identify existing strategies of bilingualism used in classroom-based delivery in CSM and extrapolate best practice for the use of translanguaging and code-scaffolding.

To evaluate student perceptions of translanguaging and code-scaffolding and identify student preferences.

To identify any changes in the use of code-switching by participants within classroom-based learning.

To produce a best practice model of translanguaging and code-scaffolding which maximises learning efficacy within Welsh medium modules on the under-graduate programmes in CSM.

6. Milestones

Table 2 below is an outline of the milestones identified throughout the research project. The plan includes the application of the research proposal, ethics approval process and administration requirements of the Doctorate in Education, although not explicit, they are implicit in the first milestone, get research proposal agreement, which requires all of the documentation to be completed for approval to be given.

Table 2 – Milestones of the research

Milestone	Aim	Date
Submit Research Proposal	Get agreement on proposed research	July 2016
Find participants	Completed required admin	Sept 2016
Pilot Questionnaires (1 and 2)	Trial questions and findings	Sept 2016
Design teaching plan and varied methodologies	To create a structured approach action research and ensure observed sessions include bilingual strategies	Sept 2016
Questionnaire 1	Identify linguistic history and categorise participants	Oct 2016
Observe / record teaching sessions	To identify where bilingual strategies are used and identify code-switching in participants	Oct– Dec 2016
Questionnaire 2 (1) and interviews	To gain insight into the participants perception of their experience and discuss code-switching reasons with participants	Jan 2017
Evaluate findings and T&L methodologies	To gain insight into student preferences and potential opportunities for further development	Jan 2017
Design observations (2) and vary strategies	To create a structured approach action research and ensure variety in bilingual teaching methodologies	Jan 2017
Observe / record teaching sessions (2)	To identify where bilingual strategies are used and identify code-switching in participants and see f there is any change in occurrences of code-switching	Feb-April 2017
Questionnaire 2 (2) and interviews	To gain insight into the participants perception of their experience and discuss code-switching reasons with participants	April 2017
Evaluate findings and T&L methodologies	To gain insight into student preferences and potential opportunities for further development	May 2017 – July 2017
Interviews	To gain insight from staff into teaching using bilingual strategies	Anytime during the research
Complete / write up	To make conclusions / recommendations	August 2017

Completing these milestones should allow the research to be completed by September 2017, although there is flexibility within this plan. I recognize that there may be a need to repeat the research cycle again for an additional academic year, with a new set of participants, to ensure that the results are valid and reliable. I will be looking for consistency in the responses across the different participants and cycles will be repeated as necessary until the findings are considered to be consistent and reliable.

7. Expected beneficiaries, outcomes and limitations

7.1. Potential limitations and ethical considerations

Consideration must be given to issues surrounding researching one's own practice and the practice of one's organisation. Johns (2004) suggests that reflexivity is a practice which focuses on the mindfulness of the reflective process, allowing researchers to be more holistic in their approach to developing themselves and their research. A mindfulness of my position as researcher and practitioner will be important to take into account when designing and analysing the data as is as a more immediate and ongoing

form of reflection as defined by Schön (1987) who suggests that practitioners need to consider their reflection and determine how this reflection then impacts on their actions.

Considering the BERA (2011) Guidelines for Educational Research, it will be essential to work within the guidelines and to ensure that educational research is conducted with an 'ethic of respect for the person, knowledge, democratic values, the quality of educational research [and] Academic Freedom' (BERA, 2011: 4). The research will also need the 'voluntary informed consent' of participants, ensuring the right for them to withdraw at any time, openness and disclosure and privacy. These are the most important elements for the participants of this research as this research does not involve working with vulnerable adults or children. The research will also be undertaken through existing modules, rather than activities additional to the participants' undergraduate programme. This was to minimise the possibility of 'detriment arising from the participation in Research', as it was possible that conducting the research outside of their allocated module hours would give some learners an unfair advantage over others. Other ethical considerations for Cardiff Metropolitan University include ensuring that there is an outcome or benefit from the research for the CSM and also considerations for the wider 'community for educational researchers' to ensure that there is no misconduct, including ensuring validity of data, avoiding sensationalising findings and distorting findings.

There are additional areas which need consideration in terms of the background and context of the linguistic nature of both the researcher and the subjects. According to Wei (2000) the researcher can impact on the research itself and it is important to acknowledge the aspects of the researcher's background, linguistic proficiency, and relationship with the subjects to ensure a fair analysis of the research. According to Wei (2000:476) the following issues are 'particularly useful to consider:

- Is the researcher monolingual or bilingual (in the appropriate languages for the study)?
- What is the ethnic origin and nationality of the researcher?
- Is the researcher male of female?
- What age group does the researcher belong to?

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- What is the educational level of the researcher?

- What is the disciplinary background of the researcher (e.g. linguistics, psychology, neuroscience, speech therapy, sociology, education, administration and government, etc.)?

- What is the researcher's attitude towards bilingualism?'

Using the question above the researcher identifies the following characteristics which may impact upon the research and the nature of the relationship between researcher and subjects. Using the terminology as identified and discussed by (Wei, 2000, p. 6) the researcher identifies as an early productive bilingual in both Welsh and English where the development of the language was co-ordinate bilingual, with elements of ascendant bilingual which has recently developed into balanced bilingualism. The researcher has experienced a wide range of experiences in develop their bilingualism going through a range of levels of bilingualism within their life. This allows the researcher a wider perspective and empathy with a wider range of bilingual abilities. This varied range of experiences may also negatively impact upon the research as subjects with firmer monolingual experiences in Welsh only may not understand the rationale behind the trial of bilingual support.

The ethnicity and nationality of the researcher should not impact on the research as the researcher, although born in England, was raised in a small village in mid Wales where Welsh language is spoken by over 60% of the population (ONS , 2012). The researcher is middle aged (40), female and is currently completing doctorate level research. This should not have any impact which needs management or recognition as non-of these factors are relevant to the subjects. However, the disciplinary background (Education) is very important as the focus of the research is to identify ways to develop a more structured approach to the delivery of Welsh medium modules. The research will consider the methodology of Teaching and Learning within a bilingual context and as such the main focus will be an educations stance. Finally, the researcher's attitude towards bilingualism is important and will be discussed in depth in the following paragraph.

According to Wei (2000:479) the researcher's attitude towards bilingualism is not as simple as seeing it as an advantage or disadvantage but much subtler. The researcher

must consider their social and professional position, personal interest in the outcomes and their perception of bilingualism. All of these aspects of the researcher are a major issue within the research context and must be addressed to ensure that the impact of all 3 areas is managed. Firstly, the social and professional position of the researcher is important as the researcher will also be a regular part of the participants' teaching team, although not their main or only lecturer, they will have regular contact outside of the research. It will be essential for the researcher to ensure that the subjects can communicate honestly and openly without fear of reprisal. The researcher also has to ensure that participants don't respond with what they believe the researcher wants to hear rather than the truth. The researcher will need to consider the relationship with the subjects and design a research methodology which allows subjects to give honest and open feedback. Secondly, the personal interests of the researcher are important as the researcher is employed as a lecturer in the medium of Welsh on a fixed term contract which is funded by the CCC. As such, there is a natural personal interest in having positive outcomes which support the long-term interests of the researcher. It will be important to for the researcher to remain open minded and accept the results as they are produced by the subjects. Wei (2000: 483) stated that we need to 'establish an appropriate and mutually acceptable relationship (between researcher and subject) … beneficial not only to individuals but also to the fulfilment of the research aims. The research should help model the use of code-scaffolding and translanguaging activities within the teaching and learning of Welsh medium modules to improve consistency and learning efficacy for the participants on a long-term basis; as such the benefits of the research and the individual are inextricably linked.

8. Conclusion

To conclude, the research aims to investigate the translanguaging and code-switching activities used by lecturers in the CSM to create a model for best practice in code-scaffolding and translanguaging which maximises learning efficacy. The aim is to measure code-switching by staff and students and investigate whether there is a link between code-scaffolding and the increased use of Welsh language as a communication tool by bilingual Welsh / English participants. A consistent and strategic approach to code-scaffolding linked to an increase in a student's use of Welsh in the classroom would suggest an effective linguistic model in developing bilingual skills in the classroom,

however quantitative analysis alone will make this hard to validate. The research aims to validate this link through semi-structured interviews and/or focus groups which aims to gain a deeper understanding of the linguistic dynamics of the classroom. The action research project will be conducted through identifying a variety of code-scaffolding and translanguaging teaching strategies and trialling different methods (i.e., bilingual slides, monolingual slides with bilingual handouts etc) to discover which methods are preferred by participants and staff and which are most effective in developing linguistic skills.

The study aims to identify where and why staff and students code-switch, to identify and trial translanguaging and code-switching pedagogical strategies in teaching business and to formalise the use of these strategies in Welsh medium teaching of Business in CSM.

Using similar research methods to previous studies (Mazak and Herbas-Denoso, 2014; Fennema-Bloom, 2010), and existing methods of categorising language usage (Wei, 2000; Fennema-Bloom, 2010) the research is founded on proven techniques and systems which have been used to study English-Mandarin and English-Spanish science students and aims to develop upon these studies and focus on Welsh-English students studying Business. There are enough similarities in the existing research and proposed study to be able to confidently apply the methods to the research whilst acknowledging that the differences (linguistic and subject) allow this study to be original enough to warrant further investigation.

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Appendix 1 – Professional credentials and background

Date	Role / Study	Key Skills	Relevance
Sept 2014 - present	Regional Lecturer (Welsh medium) Business & Management, Cardiff Metropolitan University	Lecturing, provision of Welsh medium education, development of resources and delivery of Welsh medium modules, research.	Working within the organisation where the change is planned, the context of the work will impact upon the quality of provision and recruitment.
May 2011 – Sept 2014	Bilingual Champion (Strategic level, Welsh Language Development Manager)	Strategic planning, policy writing, research and tactical / strategic planning and partnership development.	Successful previous experience of strategic planning for Welsh medium provision within post 16 Education.
Sept 2008 – June 2012	MA Education of Sustainable development and Global Citizenship, University of Wales, Newport	With a module on Organisational Context and Change and dissertation entitled 'Developing Welsh medium provision in Further Education : A case study of Coleg Gwent.	Previous research at Master degree level which developed a long term strategy for the development of Welsh medium provision within Coleg Gwent.
September 2010 – December 2010	Welsh Language Sabbatical Scheme, Cardiff University	Three month sabbatical to develop bilingual teaching methodologies and improve Welsh language skills.	Initial training on bilingualism, bilingual teaching methodologies and context of Welsh medium education.
October 2006 – May 2011	Lecturer, Business, Management and Accounting, Coleg Gwent, Pontypool Campus	Teaching a range of subjects across levels 2, 3 and 4/5. Taught on programmes including ILM, ACCA, HNC and BTECs.	Also taught Welsh Baccalaureate and history of Welsh language and Welsh culture to a variety of groups.
October 2002- October 2006	Project Manager, ESF projects Monmouthshire Menu and START	Managing an ESF funded project providing training for hospitality industry staff and management in Monmouthshire.	Project management skills, ability to work to deadlines and adhere to strict administrative procedures.

PDP element of

Contextualizing Professional Change

and Development

Doctorate in Education

st20086384

Kelly Young

May 2016

Assessment Criteria

1.	Demonstrate understanding and management of research design, methodologies and methods
2.	Exercise autonomy and professional responsibility, including responses to challenges and obstacles
3.	Reflection on the exploration of a complex problem through project management and sustained research
4.	Development of transferable skills and qualities useful or necessary for employment or professional practice
5.	Demonstrate high level reading and writing skills

This is the beginning of a long journey, of which, I secretly am … or maybe was… convinced I was not capable of completing. I completed my MA in Education of Sustainable Development and Global Citizenship in 2010, completely convinced that I had reached my 'educational glass ceiling' and further study was beyond my capabilities. It was with this at the back of my mind, that I started the Doctorate in Education. This reflective report will evaluate my development and reflective practice in the first 12 months of my Doctorate.

I completed my Post Graduate Certificate of Education (PGCE) in post-compulsory education and training in 2005, part of which focussed on developing skills of being a reflective practitioner. During the introduction course to the module 'Contextualizing Professional Change and Development' in April 2015, the concepts of reflective and reflexive practice were already known to me, however, the session on reflective practice did serve as a refresher to the importance of formalising the process and structuring it. Biggs (2003) suggests that Professional Reflection is the practice of looking at what exists and considering how one may make an improvement on the original. It is this approach to reflective practice that I am basing my observations, not on what is now, but what I can make my present practice into in the future. This is supported by Ghave (2010) who defined reflective practice as looking back at our actions and using the information to affect and improve our future actions.

I have proactively approached my research as a reflective (if not somewhat self-critical) practitioner. I will break this assignment into what I consider to be the actions and activities which have impacted most on my development, that is; my reflective journal, training and development, research skills and design and feedback and constructive criticism.

For the purpose of this assignment, I will use the four domains of a reflective researcher as specified by the Researcher Development Framework (RDF) (2010) which are:

Domain A: Knowledge and Intellectual abilities

Domain B: Personal effectiveness

Domain C: Research governance and organisation

Domain D: Engagement, influence and impact

The four domains and their related skills can be demonstrated clearly through the below diagram produced by the Careers Research and Advisory Centre (CRAC) (2010) which clearly segments the domains are the relevant skills required to complete these domains.
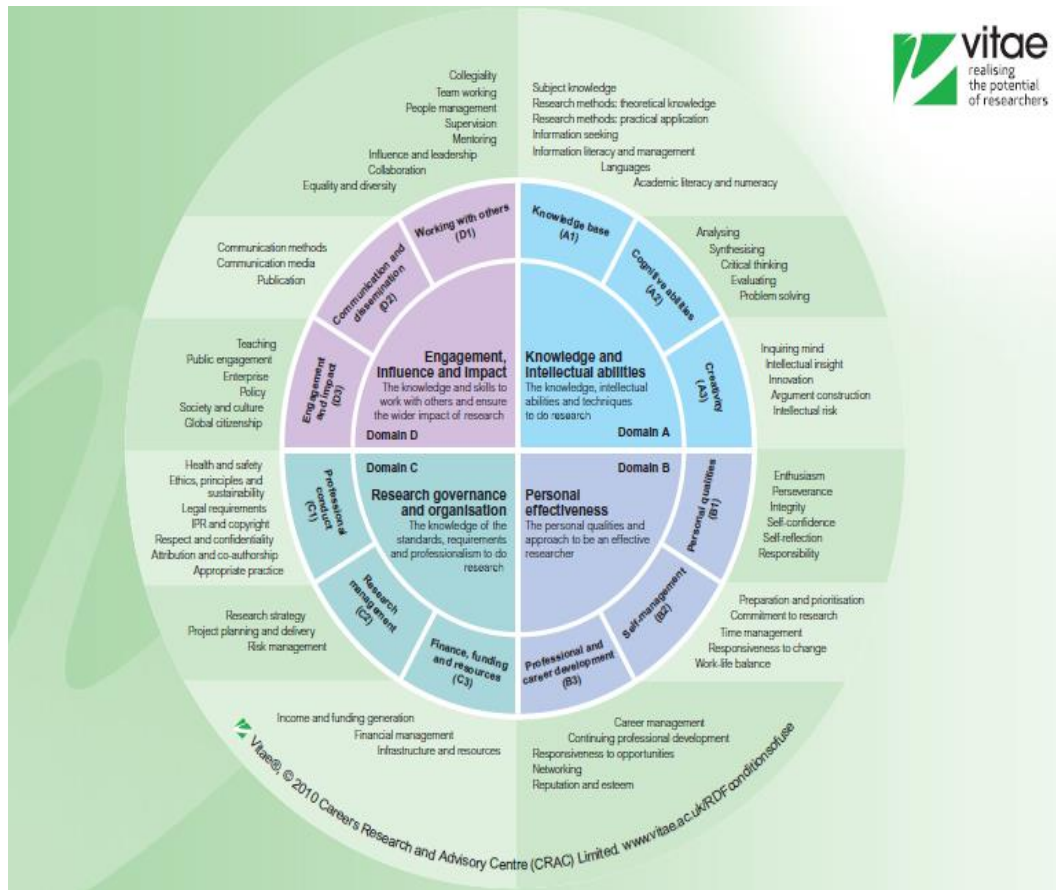
On embarking on the course, my initial reaction was to undertake a skills gap analysis to identify my weaknesses and areas for development to meet the skills required for the research. Image 1.0 is from my reflective journal.

Image 1.0 – Skills Gap Analysis April 2015
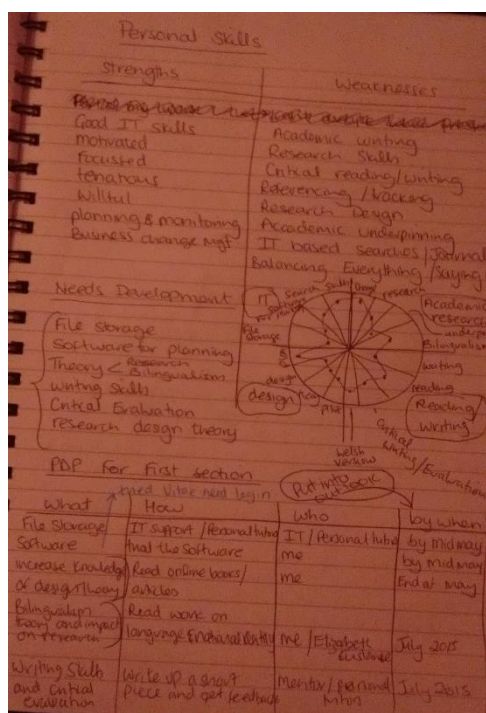
The image shows my self-assessment of my skills and weaknesses and areas for development. From this analysis I identified a number of areas for development which would support my research and progression on the qualification. I have detailed these in the sections below.

A. Knowledge and Intellectual abilities

The RDF (2010) states that there are 17 skills required in this domain. I am going to focus on the skills I identified as weaknesses in my initial Skills Gap Analysis and those I feel I have developed during my studies to date, these include subject knowledge, research methods, information seeking, critical thinking and argument construction.

Initially, I felt that my subject knowledge was a strength, as I had undertaken research into bilingualism and Diglossia (as defined by Baker, 2001; Ferguson 1959) however, upon writing the main assignment for the module, I realised that I was restricting my research to the areas I was familiar with, rather than developing a wider understanding of the subject. As such, and at the guidance of my supervisors, I embarked on learning about bilingualism as a broader term. Initially, I struggled with finding relevant articles and books which I could apply to my research, however, following support sessions with Learning Services (note this was also a skill I needed to improve) I started to find existing research and theories which more closely met my research needs. I initially found myself 'shoe-horning' my research into my existing knowledge however, after developing my 'information seeking' skills I now understand the field of bilingual education, translanguaging and Code-scaffolding (as defined by Garcia, 2009) in more depth, which is directly applicable to my research.

Research methods and methodology was also a weakness, even though I had completed a research module at Masters Level, I still found myself reluctant to engage with qualitative research. I initially read Cohen et al (2013), Research Methods in Education which resulted in the following passage in my journal:

> "Tried and lost! Didn't understand it –I made a terminology section in the back of my book and read ½ chapter, lost the will to live, gave up! I think at this point, I am just getting back into research. This book may have been a bit too much to start. I need to start with a book that is written in plain English and more practical."

<div align="right">Young (2015) Reflective Journal</div>

As seen from my Skills Gap Analysis, I identified one of my strengths as 'Tenacious' which served me well as my next diary entry was as follows:

> "Blaxter *et al*. (2010). *How to Research*. This was a clear well set out book, easy to follow and I felt ahead of the book for the first two chapters – rebuilt my confidence a bit after book 1. I have covered much of the process up to Chapter Three so I am on the right path. In fact, I feel that this was too low a level for me – but a great way to start! Feel better now."

<div align="right">Young (2015) Reflective Journal</div>

Eventually, I found myself using Saunders et al (2016) Research Methods for Business Students as my main text for the research methodology and research methods for my assignment. I think this was a comfort zone for me, and the language and writing style of business research text is easier for me to follow as it is the type of text I have been reading since being an undergraduate. I still plan to go back to Cohen et al (2013) and try again in the future as I am sure that the contents will be useful to me.

The final element of this section is developing criticality and academic writing skills. I identified these as a weakness as my writing tends to be analytical and business like but lacks criticality and academic structure. To improve this, I booked onto an academic writing skills workshop in April 2016. This session focussed on criticality and analysing others work to identify good and bad practice. This was helpful, however identifying criticality in others work is easier than critically evaluating your own, and as such, although I am more aware of what I need to do, I still lack criticality in my writing.

## B. Personal Effectiveness

In this section, I mainly identified time management and work-life balance as the areas requiring development. My reflections throughout my journal would suggest that I still haven't mastered this element of the skills. I regularly start new journal entries with "where did the last X months go?". Although I have been allocated Time for Research as 3 hours per week, I

tend to find myself working at weekends in full days. I intend to use my time more effectively from this point forward by allocating time in my diary, which is non-moveable, just for my research. My work-colleagues will have to respect my research needs and work around me when booking meetings and activities. Applying Kolb (1984)'s experiential learning cycle theory which suggests that people learn through their experiences and the evaluation of those experiences, I now need to apply what I have learned through my experiences and create a structured plan to support my allocation of research time. I have tried allocating a few hours within the week, and I have also tried to allocate full half days of research. What I have found from this is that I get distracted in the office by students, staff and e-mails. My learning from this is that I need to allocate time, outside of the office environment, to my research. I am going to allocate one full day per fortnight (as defined by my Time for Research allocation) and book this into my diary. I will see how this works and reflect at a later date.

C. Research Governance and Organisation

For the majority of this section, I have been teaching myself research methods through key text. Using Saunders et al (2016) Research Onion analogy, I have defined my research as follows.

Diagram 1 – Applied Research Onion
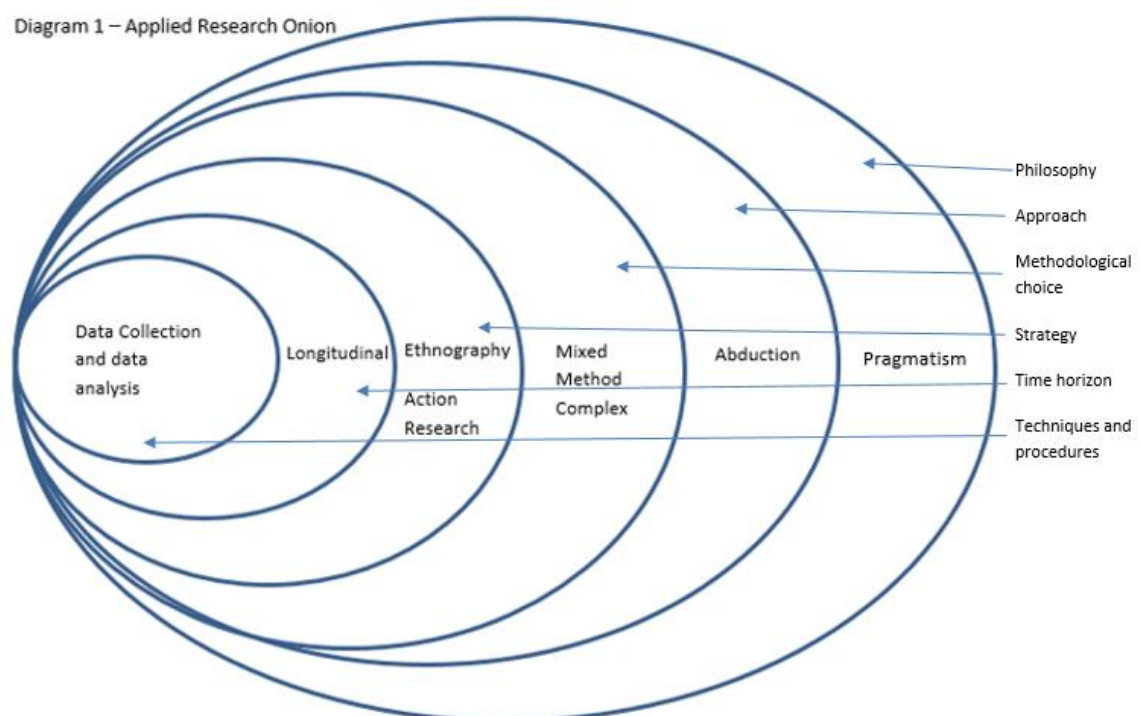
I am leaning towards a Pragmatic philosophy as defined by Saunders et al (2016:169) one likely to 'influence a mixed methods research design' which allows me to choose any position which support my research, thus giving me flexibility in my design and the ability to adapt my research methods. The abduction approach allows me to use both qualitative and quantitative

data collection and analysis methods and I am most comfortable with this as it offers me flexibility which my research design.

My research led me to two Previous studies by Mazak & Herbas-Denoso, 2014 and Fennema-Bloom, 2010. These studies looked at English-Mandarin and English-Spanish Science classes where code-switching and translanguaging were used to support cognitive development of the topic. These studies used audio recording devices to record the linguistic nature of bilingual classrooms then analysed the code-switching using the Fennema-Bloom (2010) five categories of code-switching to quantitatively analyse the code-switching within a class-room environment. Before reading these studies I was focussing too much on the creation of classroom-based resources and teaching materials, which in effect was confining the research to an output which may or may not have had any benefit. It was after reading these studies that I realised I was more interested in the concept of code-switching and the natural language used in the classroom and how we lecturers code-switch (as we already do) to ensure learning efficacy. It was during a meeting on the 20/5/2016 that my rationale for the study was informally justified, as a colleague was e-mailing a student in Welsh but chose to use the word 'software' instead of the Welsh 'meddalwedd' in the e-mail. I asked why he had chosen to code-switch in the e-mail, and his response was that … "he wasn't sure she (the student) would understand the Welsh word". This reinforced my rationale and made me more determined that there was an achievable research project in my ideas.

D. Engagement, influence and impact

For this element, I feel that I am still at an embryonic stage of my development. I have not yet engaged with any formal sharing of practice, although, I have shared my ideas with my direct colleagues (as they will be part of the study and I need their buy-in) and with managers and specialists in the field. The feedback to date has been extremely positive, with many asking for more information when I have results and asking how this may be applied to different areas of the business (i.e., International students and other subjects). I am presenting a poster at the Coleg Cymraeg Cenedlaethol's Annual Research Conference in June 2016 and I have attended conferences on bilingualism and networked with potential External Examiners and other specialists in the field.

Below is a table of the conferences, training and presentations I have made to date on my research.

Event	Date	Outcome

Presentation for CPCD module	21/04/2016	Feedback from supervisors and other candidates, pass achieved.
'Ymchwil a Chyhoeddi' Yr Athro Dafydd Johnston a Dr Hefin Jones	20/04/2016	Improved understanding of publishing and presenting research
Information Literacy Workshop	23/03/2016	Support with using MetSearch and making searches more productive and useful
Poster Presentation Workshop	23/03/2016	A practical session on designing effective posters for conference presentations
Academic Writing Workshop	22/03/2016	Support workshop for improving academic writing skills and criticality in writing
Introduction to NVivo	21/03/2016	Using software to support research in qualitative analysis and useful in referencing
Teaching and Learning Conference 2016	29/02/2016	Conference on bilingual teaching practices run by Colegau Cymru, showcasing best practice in bilingualism worldwide

I also have 2 events planned in June 2016 which will be useful to my development in this domain, they are a tree-day conference, Bilingualism in Education in Bangor University 9-11 June with guest speakers Colin Baker and Ofelia Garcia and also the Coleg Cymraeg Cenedlaethol's Research Conference on the 24th June 2016 where I will be presenting a poster of my research design.

There activities to date have developed my general understanding of research and presenting research at conferences. I have been able to observe best practice in these conferences and feel I am able to adopt good practices into my own work.

Conclusion

As a reflective practitioner, as defined by Schön (1984), I regularly evaluate my experiences and use this to inform future actions however, the concept of a reflexive practitioner focusses more on the mindfulness of the process (Johns, 2004). Mindfulness is the consideration of yourself as

researcher within the context of the research. You must consider elements of the research such as personal investment and interest and how your personal expectations, values and beliefs impact upon the research. This is an important element of my reflective practice as language is a very personal an emotive issue for many, both speakers and non-speakers of language can have strong reactions to questions and research on these topics. According to Wei (2000) the researcher can impact on the research itself and it is important to acknowledge the aspects of the researcher's background, linguistic proficiency, and relationship with the subjects to ensure a fair analysis of the research. This is an important aspect of the ethical issues regarding the research which may affect the design and research methods to ensure that I do not impact on the research by influencing student responses.

So, I started this assignment with the admittance of my lack of confidence in my research skills and ability to complete the Doctorate successfully, and now? I can say that I have developed significantly over the year. I am more confident in my skills and in the research proposal I have created. I feel that I have developed a number of weaknesses and although I would not go as far as to say that they are now strengths, I am willing to say that I have improved my skills to such a degree that I now believe I can achieve my Doctorate in Education … as long as I keep developing and reflecting.

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DOC7001 PRES1 Organisational Context and Change (slides)

Professional Doctorate in Education(Ed D)

KELLY YOUNG

Introduction

► The presentation will outline the proposal for research to be undertaken as part of the Doctorate in Education (Ed D)

► The presentation will cover the following:

  ► **Professional context**
  ► **Organisational context**
  ► **Rationale for study**
  ► **Research aims and objectives**
  ► **Literature review**
  ► **Proposed methodology**
  ► **SMART targets**
  ► **Beneficiaries**
  ► **Outcomes and Limitations**

Professional context

► Kelly Young BA PGCE MA FHEA FCMI
► Lecturer in Business & Management (Welsh medium)
► Position funded by Coleg Cymraeg Cenedlaethol for 5 Years (until 2019)
► Teaching at Cardiff Metropolitan University and the University of South Wales

Position	Organisation	Dates	Relevance
Lecturer	Cardiff Met Uni	Sept 2014 - Present	Welsh medium regional lecturer
Bilingual Champion	Coleg Gwent	05/2011 – 09/2014	Supported staff and students in embedding Welsh in T&L
Lecturer	Coleg Gwent	10/2006 -05/2011	Developed Bilingual Teaching methodologies
ESF Project Manager	Coleg Gwent	10/2002 – 10/2006	Developed training for Tourism establishments

Personal and Professional interest

- Raised as a bilingual Welsh speaker to non-Welsh speaking parents
- Studied in Welsh medium / bilingual context to A level
- Post A level study (1993) did not use Welsh professionally until 2010
- 2010 – attended Welsh Language Sabbatical Scheme (Cardiff University)
- Developed a bilingual teaching strategy and embedded Welsh into classroom T&L (as measured by ESTYN)
- Recognised that a large number of students attending FE had studied in Welsh but no longer had option to continue
- MA research into creating a sustainable Welsh medium strategy for T&L in Coleg Gwent
- Bilingual Champion – Disseminated research findings with FE colleges in SE Wales and delivered staff training both internally and externally within the college

National Context

- Welsh medium provision in HE has been supported financially by the Welsh Government since the establishment of the Coleg Cymraeg Cenedlaethol (CCC) in 2011 (Welsh Government 2013)
  - with the establishment of a network of Welsh medium lecturers in a wide range of subjects in all (except one) Universities in Wales
  - Provision of scholarships to encourage students to study in Welsh
  - Provision of prospectuses and website for searching Welsh medium courses
  - Provision of a range of research scholarships for PhD research in Welsh
  - Promotional activities in schools and colleges
  - CPD for lecturing staff through the medium of Welsh
  - 2015 – Evaluation of the CCC with positive findings and outcomes

Cardiff School of Management

- Cardiff Metropolitan University offers Welsh medium provision in Sports, Education, Arts, Business, Tourism and Speech therapy.
- Cardiff School of Management (CSM) degree programmes offer 1/3 of the degree programme in Welsh (8 undergraduate degree programmes and 1 foundation degree)
- Staffing consists of 3 x 0.5 FTE plus one 0.4 FTE
- Student recruitment is increasing annually with an average 70% increase year on year
- 2015 -16 saw 50+ students registered on Welsh medium modules
- Creation of the Canolfan ABC (CABC) which co-ordinates Welsh medium delivery across Cardiff Metropolitan University (Llandaff) and the University of South Wales (Treforest)

Why is a study required?

- Review of Funding in Wales to take place in 2017
  - CCC funding will be affected at present it is not clear whether the academic posts will continue to be funded by WG
  - CCC will continue in other ways but there is no guarantee for the continued pay of the teaching staff costs
- Consumer Rights Act 2015
  - Changes to legislation mean that information on websites and in publicity materials must be accurate and contractually binding
  - If a student has enrolled on the basis of receiving 1/3 of the degree in Welsh the University is contractually obliged to provide this.

Rationale for study

- The funding mechanism will change in the future
- Not all degree programmes have viable numbers
- Not all degree programmes have generic shared modules
- The University have advertised the degree in Welsh and are contractually obliged to provide

The University need to develop the long term viability of Welsh medium delivery within Cardiff School of Management

Research title, aims and objectives

- **Title :** Where do we go from here? An investigation into the delivery of Welsh medium and bilingual modules within Business & Management Undergraduate Degree programmes.
- **Aim :** To develop teaching methodologies for the delivery of Welsh medium and bilingual modules within Business & Management Undergraduate Degree programmes.
- **Objectives:**
  - To assess the linguistic nature and history of the participants
  - To trial a range of bilingual teaching methodologies with undergraduates in CSM
  - To evaluate student perceptions of the various teaching methodologies
  - To identify the teaching methodologies preferred by participants and staff
  - To identify any changes in use of Welsh language in assessments
  - To apply findings to developing Welsh medium / bilingual delivery

Literature Review (Organisational Change)

▶ When considering Organisational Change, I will be using a variety of theories to support my recommendations, including the consideration of

  ▶ Greiner (1998) 5 phases of growth,

  ▶ Burnes & Cooke (2013) an adaptation of Lewin's force-field analysis

  ▶ Kotter's (1996) eight step process for change

  ▶ Huxam & Vangen (2000) identify that trust as a pivotal issues in the success of collaborative working

  ▶ Calton & Lad (1995) and Das & Teng (1998) extending trust into including power and control, respectively.

I will use these theories to evaluate the proposed changes and consider the most effective way to implement the change.

Literature Review (Bilingualism)

▶ Bilingualism is a vary varied and well researched area, however, there is little research published on bilingualism in HE, I will be using a variety of sources which are both generic and specific to HE to support my recommendations, including the consideration of

  ▶ Davies & Trystan (2012): conducted a study with students in year 12 & 13 in schools and colleges across Wales identifying the factors affecting the linguistic choice of students when choosing a University

  ▶ Baker and Prys-Jones (1998): suggest that we should ask a range of questions to define bilingualism in the research subjects, however, creating too narrow a definition of bilingualism in this research may be counter-productive

  ▶ Wei, 2000: Identifying the term bilingual and used to identify the linguistic nature of the student, using questionnaires to help categorise learners according to Wei's definitions

  ▶ Numerous authors on Identity and language and language planning, such as Fishman (1972, 1991) Baker (2011), Ferguson (2006), Aitchinson and Carter (2004) and Berdichevsky (2004).

Methodology

Create an action research plan (as defined by Kemmis, 1980 as a revision of Lewin's model of action research)

  ▶ Identifying Initial Idea

  ▶ Reconnaissance (identify linguistic ability of participants)

  ▶ Qualitative study on student preferences in their use of the Welsh language in their learning and assessment

  ▶ Evaluate findings and reassess initial idea

  ▶ Action research spiral (2 rounds)

Participants

  ▶ Purposive sampling of students who are undertaking modules in Welsh in CSM

  ▶ Purposive sampling of staff and management who are involved in Welsh medium provision in CSM

Methods

  ▶ Questionnaires (Reconnaissance and to assess initial impacts of the teaching methodologies)

  ▶ Focus groups (To gain deeper insights into student preferences and attitude towards completing assessments in Welsh

  ▶ Interviews(to develop teaching methodologies to apply in the study)

▶ Although the data collection itself with be obtrusive in its nature, the varying teaching methodologies will be techniques already developed and implemented by lecturers and the design of the research is to identify the teaching methods which are preferred by the participants and make a positive change in the linguistic nature of the participants.
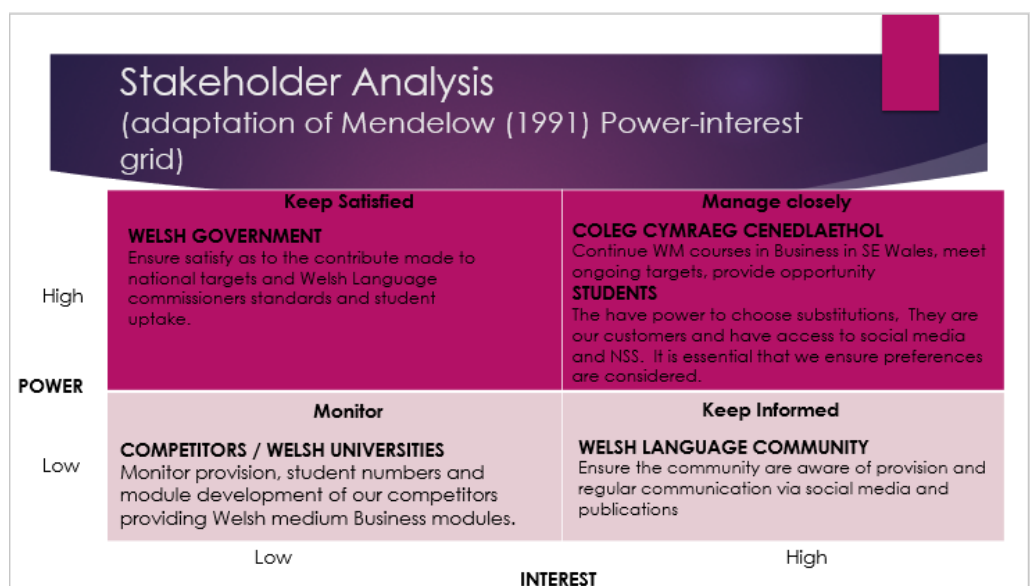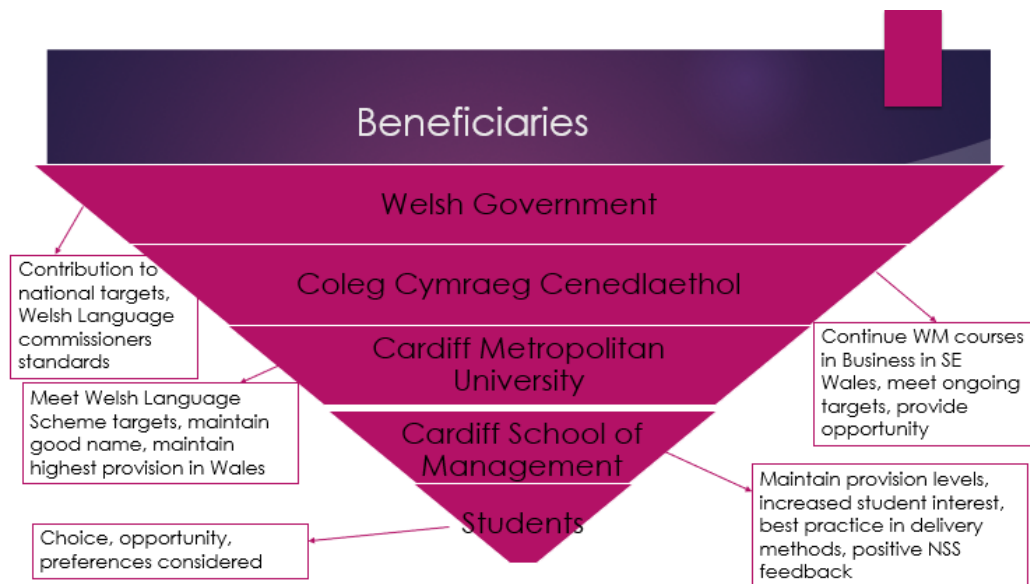
Methods

- **Sample and methods:**
  - **20 - 25 'fluent' Welsh speaking students level 4 to 5 in any degree programme within CSM who have chosen to study at least 10 credits in Welsh**
    - Action research (2 cycles)- establish relationship with Welsh language, undertake different teaching methodologies, use questionnaires and focus groups to gain insight into experiences and perceptions.
  - **3 staff members who teach modules in Welsh**
    - Interviews to ascertain their experiences of teaching in Welsh and gain insight into their teaching practices to create varied teaching methodologies.
  - **3 - 5 Welsh speaking students who study modules in Welsh**
    - Focus group of level 4 to 5 students in any degree programme within CSM to discuss linguistic preferences in assessments and the impacts of teaching methodologies in their choice of Welsh for formal assessments.

Milestone	Aim	Date
Submit Research Proposal	Get agreement on proposed research	March 2016
Find participants	Completed required admin	March 2016
Pilot Questionnaires (1 and 2)	Trial questions and findings	March 2016
Design teaching plan and varied methodologies	To create a structured approach action research and ensure variety in bilingual teaching methodologies	May-Sept 2016
Questionnaire 1	Identify linguistic history and categorise participants	Oct 2016
Deliver teaching plan	Trial methodologies and assess student perception	Oct– Dec 2016
Questionnaire 2 and Focus groups	To gain insight into the participants perception of their experience	Jan-March 2017
Evaluate findings and T&L methodologies	To gain insight into student preferences and potential opportunities for further development	March 2017 – May 2017
Design teaching plan (2) and vary methodologies	To create a structured approach action research and ensure variety in bilingual teaching methodologies	May-Sept 2017
Deliver teaching plan	Trial Methodologies and assess student perception	Oct– Dec 2017
Questionnaire 2 and Focus groups	To gain further insight into the participants perception of their experience	Jan-March 2018
Evaluate findings and T&L methodologies	To gain insight into student preferences and potential opportunities for further development	Dec 2017 – Feb 2018
Interviews	To gain insight from staff into teaching methodologies	Anytime during the research
Complete / write up	To make conclusions / recommendations	August 2018

Ethical Considerations

- The research must ensure that the participants do not experience any dis-advantage from being part of the study.
- Participants will be kept fully informed of the study and consent will be required.
- An application for ethical consent will be required before any research is undertaken.
- Wei (2000: 483) stated that we need to 'establish an appropriate and mutually acceptable relationship (between researcher and subject) ... beneficial not only to individuals but also to the fulfilment of the research aims. The linguistic history of the researcher can impact upon the relationship and attitude of the researcher and participants, this will be taken into consideration within the planning and undertaking of the research.

Beneficiaries

Welsh Government

Coleg Cymraeg Cenedlaethol

Cardiff Metropolitan University

Cardiff School of Management

Students

Contribution to national targets, Welsh Language commissioners standards

Meet Welsh Language Scheme targets, maintain good name, maintain highest provision in Wales

Choice, opportunity, preferences considered

Continue WM courses in Business in SE Wales, meet ongoing targets, provide opportunity

Maintain provision levels, increased student interest, best practice in delivery methods, positive NSS feedback

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Stakeholder Analysis
(adaptation of Mendelow (1991) Power-interest grid)

POWER	Keep Satisfied	Manage closely
High	**WELSH GOVERNMENT** Ensure satisfy as to the contribute made to national targets and Welsh Language commissioners standards and student uptake.	**COLEG CYMRAEG CENEDLAETHOL** Continue WM courses in Business in SE Wales, meet ongoing targets, provide opportunity **STUDENTS** The have power to choose substitutions, They are our customers and have access to social media and NSS. It is essential that we ensure preferences are considered.
	Monitor	Keep Informed
Low	**COMPETITORS / WELSH UNIVERSITIES** Monitor provision, student numbers and module development of our competitors providing Welsh medium Business modules.	**WELSH LANGUAGE COMMUNITY** Ensure the community are aware of provision and regular communication via social media and publications
	Low	High
	INTEREST	

Outcomes of the Study

► To propose changes to delivery methodologies for the Welsh medium modules in CSM, led by student preferences

► To identify teaching methodologies to implement across all modules which are delivered in Welsh and bilingually

► To identify any changes in linguistic nature and confidence (measured by increased use of Welsh in assessments) of the participants.

► To present the finding of the research to external organisations for the adoption of practices nationally

Limitations of the study

▶ Only working within one university may skew findings – there are options to use network to widen research

▶ Teaching style of lecturer may skew perceptions – Researcher can utilise other lecturing staff to deliver sessions and analyse findings

▶ Existing relationship with participants may create unnatural behaviours- this will be monitored and evaluated accordingly

▶ The research considers the value and student perception of bilingual teaching methodologies – this may not be in keeping with CCC values and as such support for this element of the research may be withdrawn by the CCC

▶ According to Wei (2000) the researcher can impact on the research itself and it is important to acknowledge the aspects of the researcher's background, linguistic proficiency, and relationship with the subjects to ensure a fair analysis of the research

Conclusion

▶ The study will be utilise the existing students who undertake their study in Welsh to develop a best practice teaching methodology and delivery plan for future Welsh medium modules in CSM

▶ The outcomes of the study will be presented to Senior Management for consideration for implementation

▶ The outcomes will also be presented nationally through the Coleg Cymraeg Cenedlaethol as a best practice approach to the development of viable and sustainable Welsh medium provision in HE.

▶ There is also potential for the adoption of teaching methodologies within international programmes within CSM, but this can only be possible to evaluate as the research progresses.
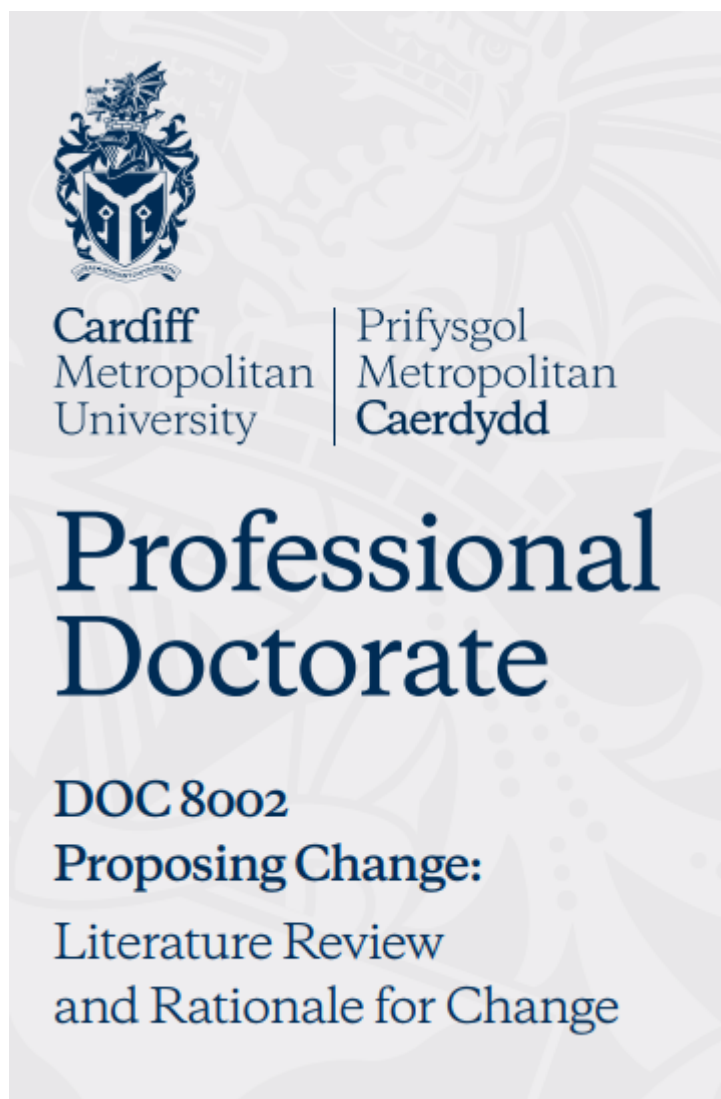
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Cardiff Metropolitan University | Prifysgol Metropolitan Caerdydd

Professional Doctorate

DOC 8002
Proposing Change:

Literature Review
and Rationale for Change

Kelly Young

St20086384

02/01/2018

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Module DOC 8002: Literature Review and Rationale for Change

1.0 Introduction

To begin, this module will consider the key terminology linked to bilingualism and language acquisition in the Higher Education (HE) sector moving on to then examine the drivers for change that impact upon this research. Hornberger (2005) stated that:

> 'Bi/multilinguals' learning is maximized when they are allowed and enabled to draw from across all their existing language skills (in two or more languages), rather than being constrained and inhibited from doing so by monolingual instructional assumptions and practices'.
>
> Hornberger (2005: 607)

This statement forms the basis of the literature review with an underlying question of how the Welsh medium delivery at Cardiff Metropolitan University (Cardiff Met) and more specifically Cardiff School of Management (CSM) can maximise the learning efficacy and provide the most positive student experience to those who choose to study bilingually in Welsh and English. From there, the assignment will critically evaluate the key literature and theories which apply to the study, ultimately informing the research methodology and aims and objectives of the study.

2.0   Key Terminology

The terminology surrounding the topics of bilingualism and multilingualism, teaching strategies and language policy are both complex and unclear, for example, there is no one clear definition of bilingualism as the term has many facets and levels, as such, this literary review aims to clarify the main terms and the context in which they are used within the research, before then discussing, in depth, how these issues impact upon the Welsh medium modules in CSM.

2.1   Bilingualism

Defining bilingualism is complex and attempting to create a narrow definition of the broad spectrum of different meanings of 'bilingualism' is not as simple as it may seem. Wei (2001) identified 37 terms for a bilingual person, ranging from 'dormant bilingual' (a bilingual person who no longer keeps the first language in use) to 'balanced

bilingual' (a person who has equal mastery of two or more languages) and various stages of proficiency in between. 'Bilingual' as a term is generally accepted as describing a person who has possession of two languages, however, for the purpose of this research, the term bilingual will refer to a person who has varying degrees of proficiency in two or more languages. The research will use definitions of bilingualism as identified by Wei (2001) where appropriate, including: balanced bilingual, where an individual is equally proficient in both/all languages (this is rare), and productive bilingual, as an individual capable of speaking or writing in more than the language.

The term 'Bilingual Education' can be defined as the use of two languages in education, yet it is recognised that this definition does not take account of the complex nature of the field of bilingual education and the variety of 'types' of bilingual education being applied worldwide (Baker, 2001; Wei, 2001; Garcia, 2009). However, in this essay, the term 'bilingual education' will refer to the use of two or more languages in content instruction as defined by Wei (2011).

In this way, the Welsh medium provision in CSM is a bilingual programme as students who elect Welsh medium modules are instructed through the medium of Welsh in up to 33% of their undergraduate degree and the remaining 66% is undertaken through the medium of English. In this context, the term 'bilingual education' is used to reflect the use of two languages within the programme, with no consideration for the separate nature of Welsh medium elective modules.

2.2   Code-switching and code-scaffolding

Code-switching is a term used to describe the use of two or more languages by an individual in a single communication event (Baker, 2001; Myers-Scotton, 2006; Garcia, 2009;). Garcia's definition of code-switching identified two types of code-switching: intersentenial (where code-switching happens at the boundaries of sentences) and intrasentenial (where the switch occurs mid-sentence). However, many researchers have coined terms to describe the same or similar phenomenon including lexical borrowing and lexical insertion (Musk, 2010) and codemeshing (Canagarajah, 2011a); however, the study will adopt the use of the term code-switching, as defined by Garcia (2009).

Code-scaffolding is a development on the code-switching phenomenon which uses code-switching as a pedagogical strategy to develop the skills of learners whilst maintaining learning efficacy of content (Fennema-Bloom, 2009). Fennema-Bloom (2009: 34) defined code-scaffolding as using code-switching use as 'a strategic tool in the development and comprehension of the instructional content'. The research will use the terms; code-switching to describe the movement between languages within a single communication (spoken or written communication) for general communication; and code-scaffolding as the use of code-switching as a strategy for teaching in a bilingual environment. In this way, code-switching will be analysed as a phenomenon within the CSM Welsh medium modules in both students and staff, but code-scaffolding will only be analysed in staff as this is the use of L1/L2 switching for pedagogical ends.

2.3 Translanguaging

The term 'translanguaging' was first used by Welsh educator, Cen Williams, in the 1980's in a north Wales school training course for Deputy Head Teachers (cited in Lewis *et al.*, 2012) to identify the movement from one language to another in bilingual classrooms. Initially termed in Welsh as 'trawsieithu'' (translanguaging); ''translanguaging means that you receive information through the medium of one language (e.g., English) and use it yourself through the medium of the other language (e.g., Welsh). Before you can use that information successfully, you must have fully understood it'' (Williams, 1996: 64). This planned movement between languages to aid understanding and learning efficacy in the classroom can be seen as movement between two or more languages or '*multiple discursive practices'* (Garcia, 2009: 45) which allows bilinguals to 'make sense of their bilingual worlds'. This pedagogical strategy is already used by the Welsh medium CSM teaching team, to access academic articles and external data sources which are in the medium of English; therefore, the term translanguaging will be used within the research to describe practices of changing input and output languages within an activity as a pedagogical strategy.

3.0   Issues affecting Welsh medium modules in CSM

3.1   Bilingualism in Wales

According to Lewis (1976: page), "Bilingualism has been and is nearer to the normal situation than most people are willing to believe", although this could be argued to be from the perspective of the monolingual, as most bilinguals may already perceive

speaking other languages is the normality. Although there are often statistics to represent the numbers of speakers of a language in an area, for example, census data, there is much less statistical evidence regarding speakers of multiple languages (Grosjean, 1982). There is much research on patterns of bilingualism in certain areas, such as Brittany (French/Breton), Paraguay (Guarani/Spanish) and Wales (Welsh/English) as well as areas worldwide such as Ghana, Brazil and Colombia where bilingualism and multilingualism is the normality (Mackey, 1967; Grosjean, 1982).

Mackey (1967) argued that bilingualism was a product of economic and commercial need where migrant workers had to communicate to gain employment, therefore making bilingualism a requirement. Mackey (1967) goes on to define two outcomes of this situation, either the migrant worker adopts the language of the employer, or, both groups adopt a lingua franca, an additional language understood by both for means of communication. It can be argued that in the Industrial Revolution in Wales, the migrant workers from Europe who migrated to Welsh mining areas, adopted the latter approach and English became the lingua franca of many previously Welsh speaking towns and villages in south Wales (Crystal, 2012). This phenomenon of adopting a third language for communication is, according to Mackey (1967), attributed to the strength of eleven key languages. He argued that of the 3000 to 4000 estimated number of languages around the world, although Wei (2011) argues that this figure is much more likely to be around 6000 languages worldwide, 11 of them were spoken by 70% of the world's population and as such these 11 are the lingua franca languages in many areas. There is much debate over the use of lingua franca in education, especially in the sciences and in business, where many institutions are now developing English medium instruction (EMI) modules in these fields.

Grosjean (1982) categorised countries into three linguistic categories: monolingual nations, bilingual nations and multilingual nations. Trudgill (1984) identified two *de facto* languages used in the UK: English (98%) and Welsh (1%). These being the two legally recognised languages while also recognising five further minority languages of Scots (2.5%), Ulster Scots (0.05%), Cornish (<0.01%), Gaelic (0.1%)and Irish (0.1%) as well as listing a number of main immigrant languages (10) and main foreign languages (3) used within the UK.

The acknowledgement of the Welsh language as a *de facto* language of the UK places the UK into Grosjean (1982)'s category of a bilingual nation which he identified as where the recognised constitution gives fair and equal status to the languages within public administration, parliamentary debates and the legal system; although, this is only true, in the case of the United Kingdom, of governance in Wales. The House of Commons has made progress in enabling Welsh to be used in the Houses of Parliament when in February 2017 it announced that Welsh would be allowed to be spoken at the Welsh Grand Committee for the first time in the 2017 (Cairns, 2017). This is a small but significant step towards the recognition of Welsh language in the Houses of Parliament and not just restricted to the Welsh Government. Mackey (1967) argued that there is often a difference between the official 'de jure' bilingualism and the reality of the *de facto* use of the two languages. This diglossic approach to language was defined by Ferguson (1959) as the use of separate languages for separate functions within one community manifesting itself in the use of one language for high level functions such as politics, letter and speeches and the use of low language for more menial functions such as giving orders to staff or speaking with friends. The fact that Welsh cannot be openly used in main debates in the Houses of Parliament may suggest that as a whole the UK is a diglossic bilingual society, however in Wales, the Welsh language is accepted as of equal status to English in the Welsh Government debates, literature, correspondence and for all aspects of life in Wales.

3.2   The bilingual learner

Prior to the 1970's much of the research on the effects of bilingualism concerned the negative effects of bilingualism on the child, based upon the premise that

> 'the brain effort required to master two languages diminishes the
> child's power of learning other things which might and ought to be
> learned'.

Jespensen (1922:148)

Early researchers found a lack of vocabulary and reduced cognitive and educational development (Kelley, 1936; McNamara, 1966) and whilst conducting tests on Welsh/English bilingual children found lower *IQ* scores and reduced verbal and non-verbal intelligence (Saer, 1923; Jones and Stewart, 1951). More contemporary research

has critiqued these finding as lacking consideration of the important external factors which also influence such tests, including cultural, economic and linguistic factors (Wei, 2001). McLaughlin (1978) concluded that much of this early research failed to understand that if a child has not mastered a language and they are then tested in that language, poor performance would be predicted.

But are the effects of bilingualism so simple to measure? Peal and Lambert (1962) argued that it was impossible to tell whether being bilingual aided higher intelligence or whether higher intelligence aided being bilingual, as such it is hard to argue the effects of bilingualism on the learners but recent research does suggest long-term benefits of speaking more than one language in terms of cognitive advantages, metalinguistic and social advantages including divergent thinking, communicative sensitivity, socioeconomic benefits and cultural and social awareness (Garcia, 2009).

The effects of bilingualism on which this research will focus, are linked to the benefits of bilingualism in learning and teaching strategies and how being bilingual can support and aid a student's cognitive development and understanding of contents.

3.3   Language production in Welsh medium learners

One of the aims of the Welsh medium provision in CSM is to develop students' ability to communicate in Welsh both confidently and professionally using technical terminology with the long-term aim of improving the likelihood of them having a career where they can use their Welsh language skills. To achieve this, students must develop a professional vocabulary from which they can easily recall technical and professional terminology on their chosen fields. Although Welsh medium provision in CSM is not recognised as a Content Language Integrated Learning (CLIL) programme, it demonstrates a number of similar desired outcomes as CLIL, in that it aims to improve both learning efficacy of the module content and increased ability in Welsh language in a professional/academic context. To achieve this, it is essential that we understand more about language production in bilinguals.

3.3.1   *Speech production models*

To fully understand the issues of language production and confidence in using Welsh in the workplace, it is important to identify the mechanisms of language production and

the challenges facing bilinguals in using their first language (L1) and second language (L2) both socially and professionally. This is made even more complex by the varied nature of the Welsh medium learners' linguistic profile, in that it is not always easy to define their L1 and L2 status and this is even more complex in a balanced bilingual learner.

There has been much discussion on the topic of language modelling, both for monolinguals and bilinguals. Levelt (1995) breaks down the process of a speaker producing language to communicate in a normal and spontaneous way, however, the issues of language production in the bilingual are further complicated by considering how bilingual speakers differentiate between languages and control output. Green (1998) developed the inhibitory control model (IC) which identified how bilinguals inhibited the production of more than one language when accessing words, allowing bilinguals to only access the 'correct language' for language production. This model works on a basic level; however, most bilinguals will attest that this separation of languages is not always as clear cut as the model suggests and can be evidenced by the existence of code-switching and codemeshing in a bilingual society. Dijkstra and van Heuven (2002) argued that rather than inhibit one language at the outset of language production, as suggested by Green (1998), bilinguals maintain lexical access to both languages but access to one language is more active than the other. This would support the concept of code-switching and codemeshing and works to explain how bilingual individuals can access both languages simultaneously.

Levelt (1995) developed a model of the process of a speaker producing normal, spontaneous language (Figure 1.0). Although it is possible to apply the original model to the research, it is improved when considering De Bot (2000)'s adaptation for bilingualism. There is a sound rationale for applying both the original model and the adaptation, as the original has years of psycholinguistic research to support its findings (Garrett, 1975; Dell, 1986; Kempen and Hoenkamp, 1987). However, De Bot's adaptation does take into consideration the complexities of bilingual language production, and although the model does not apply to written language production (hence Levelt's 'Speaking' Model) its strength comes from the understanding of the different parts of the linguistic production process.

To give a basic summary of how the model applies to speech production, Levelt (1989) applied the model as follows:

To generate speech, an individual must first initialise message generation in the 'conceptualizer'; this includes the idea and meaning of the message and the individual must use their 'knowledge' such as discourse model, situation and encyclopaedia to conceptualise the communication. This is then passed as a preverbal message to the 'formulator' where the individual pulls on their lexicon bank to ensure grammatical and phonological encoding. This creates a phonetic plan which is tested by the speech comprehension system and any improvements or corrections are fed back into the formulator or through passed speech into the conceptualizer.
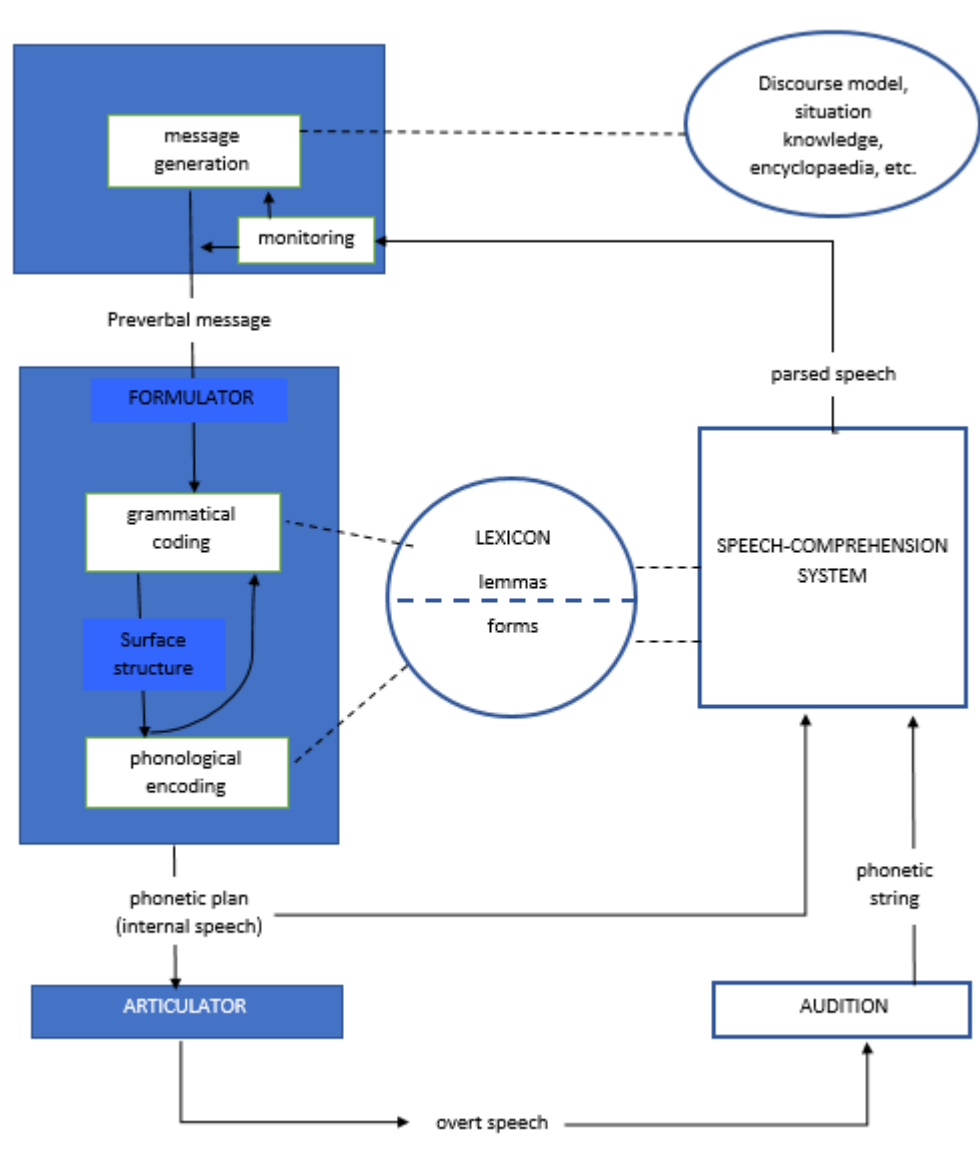
Figure 1.0: Levelt's Speaking Model (1989: Fig 1.1.)

Once the message is 'correct' it is sent to the articulator and turned into overt speech and audition feeds into the speech comprehensive system and the effectiveness of the speech is finally analysed for future improvement. This is a very simple model but is useful to understand the importance of lexical knowledge, grammatical encoding and phonological encoding impact upon an individual's ability to communicate and how the underpinning knowledge is used in the production of speech. De Bot (2000) identified how this model is too simplistic for speakers of more than one language and suggested that the following must be taken into consideration, if the model is to be applied to a bilingual:

- two language systems can be used (either separately or combined);
- cross-linguistic influences;
- varying proficiency in the two languages;
- that two or more languages could exist;
- that lexical deficiency could influence production;
- that differences in concepts between languages may exists.

De Bot (2000) goes on to suggest that the most important differences in monolingual speech production and bilingual speech production happened in the 'formulator' area of the production, as there could be crossover in lexicons, complex grammar and phonological encoding may be confused and in some cases lack of lexicon knowledge in a language can affect the speed of production and effectiveness of the message. Grosjean (1988) developed on these ideas with a more fluid model of lexical access in bilinguals termed 'BIMOLA model'. This model moves research toward a more holistic approach to bilingual language production and understanding. Grosjean (1988) BIMOLA model removes the concept of a switch between languages and allows for the accessing of more than one language simultaneously.

The work of Green (1986) can also influence our understanding of the language production process describing three levels of language activation: selected (the language chosen to control speech), active (the language active in processing which can be a different language to the selected language), and dormant (a dormant language stored in the memory, but not used in processing).

In the case of Welsh medium students in Cardiff Met, the selected and active languages can be the same in some students (Welsh/Welsh) and will differ in others (Welsh/English). It can also be argued that for some L1 Welsh-speaking students, when studying modules in English they may have different active and selected languages, but in reverse of when they study in Welsh as they may have English selected and Welsh active language. It is also important to acknowledge that there may be other dormant languages within the memory of the individual, however, the focus of the research is the production of language in a Welsh/English educational setting and as such the research will look at only these two factors. The complexities of language production in bilingual CSM students can be summarised below.
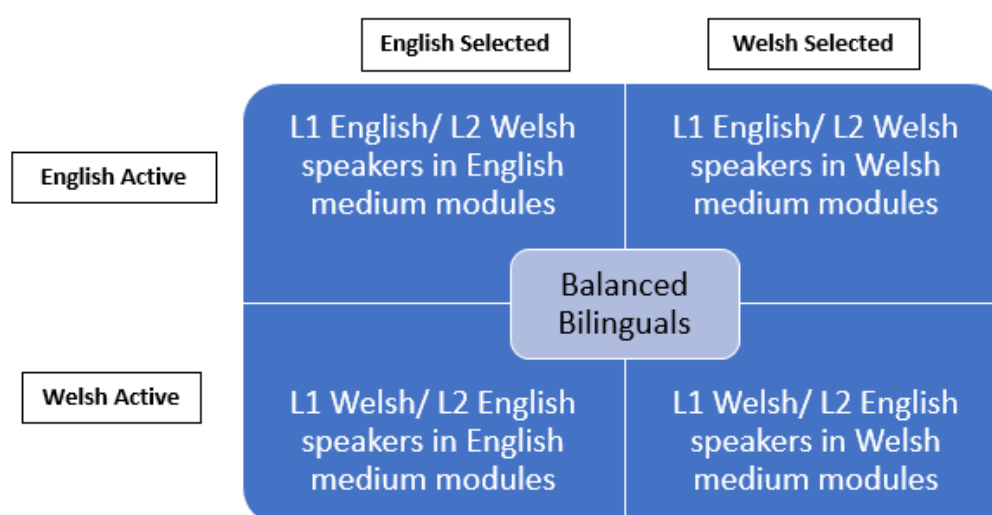
Figure 2.0 – Matrix of language activation in Welsh medium CSM students

The mix of selected and active language and the language medium of the module will have an impact upon the way speech production occurs within these individuals. The balanced bilingual (if exists such a phenomenon) are placed centrally over all boxes as their ability to 'balance' their active and selected language preferences would suggest that they would be able to use either language in both their active and selected language choices and as such are not constrained by the selected and active language modelling in the same way as L1 / L2 bilinguals.

Returning to Levelt's model, the coding and articulation of Welsh medium students in speech production can be considered and applied to a classroom situation. Although the majority of Welsh medium CSM students have learned 'informational meaning' especially illocutionary functions, metric structure and segmental structure of speech

in Welsh from an early age (100% of students have either learned Welsh from birth at home or from a very young age either pre-school or primary school) the implications of understanding how language is produced will help us understand how to improve language production. To clarify the complex nature of Levelt's model and apply it in a simplified way to the research, the following is an illustration of two different applications of the model to two bilingual learners; one Welsh active/Welsh selected student (Student A) and one English active/Welsh selected student (Student B).

If both students, A and B, wanted to say "*mae dadansoddiad adennill costau yn dangos pan yw cwmni yn dechrau creu elw*" (*a breakeven analysis shows when a company begins to make profit).* In the first Instance, it is a comparatively simple chain of events as the student takes from their 'knowledge' of the world that companies make profit at a certain point. This information may be from the study of the subject or from their general knowledge. The information is then 'pre-processed' in the 'conceptualizer' where an intended message is formed into pre-verbal conceptual 'chunks'. This is then processed by the formulator. It is at this point that the lexical items required for the construction are retrieved, and the first point where the two examples differ. Student A, with both active and selective Welsh language, may identify and select the lexicons quickly and easily, whereas, Student B, with an English Active and Welsh selected language, may need to search, translate or even fail to find the correct terminology. This is especially true when using specific terminology which would not have been used in previous education or social settings.

The formulation of the sentence as a grammatical unit occurs at this stage and is temporarily stored in the buffer which is then fed back to the speech comprehension plan and then on to the articulator which activates the speech mechanism. It is here that code-switching, codemeshing and translation can occur, but this has its own drawbacks. The translation from English to Welsh (or Welsh to English in the case of L1 Welsh speakers in English modules) can result in incorrect sentence structure, incorrect grammar and the reliance on code-switching to 'make sense' of the communication.

In this simplified example, it can be argued that the pre-cursor to successful speech production is a solid foundation of lexicon knowledge including knowledge of required terminology along with metric and segmental structure. Therefore, the pedagogy of

teaching Welsh medium modules must take into account the development of a 'bank' of lexicons which are subject-specific along with the use of code-switching, code-scaffolding and translanguaging to support both linguistic development and ensure the efficacy of content acquisition. However, there is also an additional issue which arises from this model, that of the best pedagogical approach to teaching L1 Welsh speakers. The model suggests that those with the same active and selected language, for example, Welsh active and Welsh selected, would not necessarily benefit from code-switching or translanguaging as a means of strengthening learning efficacy. In these cases, it may be a more effective teaching strategy to explain the meaning of terminology or the concept without the use of code-switching, allowing the learner to engage in the one language. Due to the complex linguistic nature and differing backgrounds of the students in CSM, the literature would suggest a mixed method of approaches, including both bilingual and monolingual approaches, which take into account the differing needs of the learners with regards to language choice and production.

It could also be argued that other students in CSM, such as international students studying in English, may benefit from further study in this area to improve English language acquisition and language development during their studies.

4.0   Bilingual teaching pedagogy

Much research has been conducted into the use of bilingualism in the classroom and the topic has evolved over time, leaving a trail of terminology in its wake. This is touched upon by Lewis *et al*. (2012) who make an excellent point that the theorists of bilingualism and translanguaging have created a plethora of new terminology, especially in the topic of translanguaging, which has led to a 'maze of terminology' which can be hard to navigate. For the purpose of this study, the three main areas of focus are translanguaging, code-switching and code-scaffolding.

4.1   Translanguaging

The use of translanguaging as a teaching strategy is being recognised worldwide (Garcia, 2009) and as such, research into the use of translanguaging as a teaching strategy in bilingual settings around the world is emerging. Much of the research focuses on the practices of teaching staff and the efficacy of these strategies in terms

of developing content knowledge and the development of L2 language skills (usually English).

The recent research of Mazak and Herbas-Donozo (2015) is a case study of one professor's use of translanguaging in a bilingual (Spanish – English) science classroom in Puerto Rico. An ethnographic study of the translanguaging and pedagogical practices of instruction in a bilingual university setting, the case study documents the use of English and Spanish on an undergraduate degree course. Observations were undertaken throughout one term of classes (11 in total) with audio recordings and manual notes. In these classes, textbooks were often in English but discussion of text in Spanish, leading to the use of translanguaging in the teaching strategy. The observation of artefacts such as presentation slides and course handouts together with interviews with the lecturer were all part of the research. Originally the focus of the research was 'code-switching', but this led the researchers to a wider understanding of the translanguaging element of the pedagogy which changed the focus of the research. The research found that translanguaging gave students access to a wider academic community and support in accessing and understanding the resources in their L2 (or L3 in the case of multilingual students) was provided within the classroom activities. The context of the research is similar to the situation in Cardiff Met, as the socially accepted lingua franca for business is English and many resources provided to CSM students are in English with both presentations and class discussion in Welsh. Important observations from the research included identifying practices which create translanguaging space (Wei, 2011) and created 'social space for the multilingual language user'(Wei, 2011a: 1223) thus allowing bilingual students time and freedom to process information in more than one language and make sense of new information in their social and cultural paradigms. The focus of this research was on spoken language and the frequency of translanguaging and code-switching in the staff member, mainly identifying patterns of code-switching. However, translanguaging was developed as a secondary output as the research developed; this was due to a broader understanding of the role of translanguaging as a teaching strategy in a bilingual classroom which had not been addressed by the researchers until the research commenced.

Although direct comparisons can be made to the situation in CSM, Mazak and Herbas-Donozo (2015) focused on spoken language only and did not look at written language,

and although this is useful to CSM students, there is need to acknowledge that in CSM code-switching also occurs in the written language. Mazak and Herbas-Donozo (2015)'s research also focussed on the frequency of code-switching and where it occurred within patterns of discussion of the lecturer (i.e., code-switching occurs for specific terms only, intersentential or intrasentential) but did not focus on code-switching habits of learners which need to be factored into this research project. Another important point raised in this research was that code-switching by lecturing staff validated the use of different languages allowing for a more relaxed approach to language in the classroom; making language less of a focus and concentrating more on content, allowed students to use their bilingual 'space' as discussed by Garcia (2009) as allowing additional time within an activity to allow students to process the information within a bilingual context, both linguistically and culturally. . However, it does raise the question of whether code-switching for habit rather than a planned teaching strategy impacted upon the outcomes.

This recognition of the need for bilingual 'space' is supported by the work of Lewis *et al*. (2012) in their paper which addresses the new concept of 'translanguaging' in the classroom context in comparison to other terms such as code-switching (Garcia, 2009) and 'dynamic bilingualism' (Garcia and Kleifgen, 2010) identifying ideological differences between practices. Lewis *et al*. (2012) review the secondary research underpinning the academic understanding of translanguaging and code-switching and their practical application in bilingual schools in Wales. They found that there is a clear separation between code-switching and translanguaging as pedagogical strategies and the paper clarifies the use and application thereof in a Welsh school. The paper identifies the varying language arrangements within bilingual schools in Wales, which also breaks down the various approaches to bilingual teaching available in Welsh primary schools, including the way in which two languages are used in the classroom to aid learning and acknowledges the benefits of code-switching within pupils and staff as a means to maximise learning efficacy. The strength of this paper is that much of the evidence is based upon Welsh language research in Welsh schools, Lewis (2010) identifies elements of 'co-languaging' (as defined by Garcia, 2009) within secondary, further and higher education in Wales, however, even though it provides an in-depth look at the theoretical aspects of translanguaging and code-switching, with reference

specifically to Wales, the paper relies solely on secondary research and would have benefitted from primary research to strengthen the findings.

This leads us to ask, 'how do we support students in using their bilingualism in their education?'. Canagarajah (2011b) conducted a study of the use of translanguaging strategies by a Saudi Arabian undergraduate student in essay writing. Using thematic coding of the application of the strategies into four types: recontextualization, voice, interactional and textualization strategies, the study identifies how feedback from tutors and peers supports decision making and critical thinking, assessing the effectiveness of communication and metacognitive awareness. Using a case study of one Saudi Arabian student's codemeshing of mixed Arabic and French in English medium essays, the study was an emic approach (insider perspective) conducted through stimulated recall interviews, examination of artefacts (essays and draft essays) and generating constructs through interpretation of qualitative data. Using thematic coding and adopting a grounded theory approach to create teachable strategies for translanguaging in the classroom. The study identified four strategies used to categorise the student's codemeshing, covering the four basic components of writing, that is, contextual, personal, social and textual, and identified interrelationships between these categories. Canagarajah (2011a) identified that a dialogical approach helped students question their own writing choices rather than impose rules. This allowed the student to assess the effectiveness of their own communication and develop metacognitive awareness. From this the author identified a number of pedagogical implications; developing teaching practices from the strategies used by the students' themselves allows students to use their personal experiences to influence their learning. The study broaches the issue of 'safe space' and discusses how the researcher's attitude to codemeshing translanguaging may have influenced a positive approach by students, although it is important to question whether this would apply in other situations. Students must negotiate the conventions and policies of the organisation and using codemeshing and translanguaging in other contexts may not always be as widely accepted. This is certainly evident in CSM as submitting formal assessments in any language other than English or Welsh would not be accepted. Cardiff Met Staff Guidance on Welsh language states that all students have the option of submitting formative and summative assessments and to sit examinations in either

Welsh or English (Cardiff Metropolitan University, 2017), but there is no formal policy on how Welsh can be used by bilingual learners in English medium modules. In contrast, translanguaging is acceptable practice on Welsh medium modules and supports the creation of bilingual 'space' (as defined by Garcia, 2009) which creates an opportunity for students to maximise their learning through their bilingual skills.

Therefore, it is important to acknowledge that translanguaging: allows students access to a wider academic community and supports their use of these resources; creates 'space' allowing bilingual students to process information in more than one language; affords students opportunity to make sense of new information in their social and cultural paradigms; and acknowledges the benefits of code-switching in maximising learning efficacy. However, it is important not impose a one-size-fits-all approach, as we should not presume to know the rationale for an individual student's linguistic choice.

4.2 Code-switching and code-scaffolding

Addressing the value of code-switching as a pedagogic approach to teaching in a bilingual setting, Fennema-Bloom (2009) identified the complex rationale for code-switching to maximise learning efficacy of students in a Mandarin Chinese-English bilingual content instruction setting in the United States. The research consisted of interviews with five teachers which focussed on their use of code-switching and perception of its impact on learning efficacy. The study identified 3,184 separate occurrences of code-switching during 30 hours of classroom observations. From this, the recording identified where code-switching occurred and categorised into five distinct groups: Type I: Instructional for content acquisition; Type II: Reformulation; Type III: Instruction for language acquisition; Type IV: Facilitation; and Type V: Habitual. This was broken down into two separate lexical insertions: habitual discourse (such as *'okay'* and *'you know'*) and content subject vocabulary (such as *'atom'* or *'guard cell'*). One-word intrasentential code-switching can also be considered as lexical borrowing (loanwords) that have passed into the lexicon of the class (Romaine, 1995, 2004). The research concludes that Types I to IV focus on code-switching for language acquisition and content acquisition and have purpose within the classroom, however, Type V had no positive effect on the learners and may have a negative effect on learning efficacy.

Fennema-Bloom (2009)'s study focused on the use of code-switching in teaching and little was discussed of subsequent student code-switching; is there a direct positive correlation between code-switching by teachers and code-switching in students? Does a teacher's language habit impact on the students' language usage? We are still left with the question, if code-switching by teaching staff occurs in subject-specific terminology, does this impact on the learner's ability to use the term in their L1 (or L2) depending on the nature of the classroom? There is a gap in the research here as to the impacts upon learners using code-switching and the development of terminology in one or both languages.

Fennema-Bloom (2009) concludes that pedagogic code-switching becomes a technique available in content instruction within Garcia (2009)'s notion of translanguaging. This is a grey area as there is no formal policy set out within the Welsh medium modules in CSM for the use of CS within Welsh medium modules and therefore is an area which would benefit from further investigation.

A similar study by Cahyani *et al.* (2016) of pedagogical and socio-cultural functions of code-switching in teachers focussed on content learning in bilingual classrooms in Indonesia. It investigated how and why teachers used code-switching on a bilingual degree programme in accounting and business administration. In this research, there were very few instances where teachers presented the information in both languages; different languages were used for different purposes. Code-switching fell into four categories: knowledge construction, classroom management, interpersonal interactions, and personal or affective meaning. The study demonstrated that the teachers were engaged in active translanguaging for learning efficacy and language choice was determined by the intention of the conversation, for example, Javanese was often used for humour or personal interaction and English used for giving praise or reprimanding. It found that learning was 'maximised when code-switching is done intentionally for pedagogical and socio-cultural purposes' (Cahyani *et al.*, 2016: 11), serving to support the learning efficacy and promote good interpersonal relationships.

There was no explicit policy for language use, therefore the use of language choice was left to the classroom participants which gives validity to the findings. The study concluded that there was a need for institutional policy encouraging translanguaging as a pedagogical strategy in teaching bilingual programmes. Although Cahyani *et al*.

(2016) recognised a gap in the research with regards to the experience the bilingual learner and the perceived benefits to them. This research aims to develop this understanding of student perception and experience of the use of CS within Welsh medium modules in CSM.

Applying code-switching to Welsh-English bilinguals in Wales, Musk (2010) distinguished between two different code-alternations: unmarked code-mixing and marked code-switching. The first occurs where boundaries between Welsh and English were only loosely maintained (informal), whereas marked code-switching was used as a meaning-making resource, for example, in quotations or educational contexts. This ethno-methodological study found that the default medium used by the participants was mixed code with Welsh as the base language and English insertions. However, there were also occasions of code-switching as a 'meaning-making signal and resource' demonstrated through re-iteration or quoting others for purpose of emphasis. The groups identified their lack of Welsh vocabulary as a reason for code-switching, with reference to specific terminology (e.g., National Insurance Number) and also from media sources. The study allowed participants to engage in 'natural conversation' although the presence of a camera and knowledge of being observed must be taken into account. The study conducted by Musk (2010) also lacked depth in terms of why code-switching occurred in the participants and this will be a consideration in the design of the data collection and focus of the doctoral research in CSM, as identifying where students code-switch and for what purpose would give depth of understanding to the students' linguistic nature and use of bilingualism.

Code-switching has been linked with language disfluency and is often cited by bilinguals as their reason for lexical borrowing (Musk, 2010). It is therefore important to understand language production in bilinguals. But can code-switching support content learning efficacy? Bahous *et al*. (2014) conducted an explorative study of code-switching in an L1 Arabic American-style HE establishment in the Lebanon, where multilingualism has formed part of Government policy since 1997, expecting students to be trilingual (English, Arabic, French) as early as primary school. Recent concerns in academic contexts that this trilingualism negatively affects students' language use and learning prompted the study into code-switching in HE. The linguistic nature of the Lebanon is diglossic as defined by Fishman (1967), in that English is mainly used as the

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language of instruction and Arabic kept as a social/personal language. However, the study looks at how French and Arabic are interjected into lectures in various disciplines. The study aimed to answer the research question, 'When, why and how do faculty members and students code-switch in subject matter classes in a HE institute in Lebanon?'. It was also found that students used code-switching in non-academic communication (theme two) such as expressing opinion on issues and/or speaking informally about personal issues, with 70% of students saying they code-switch when they want to express themselves better. Finally, the research identified unconscious code-switching (theme three), where teachers and students were unaware of their code-switching habits, thus implying a certain unawareness of the phenomenon within individuals.

The research is relevant to CSM as code-switching within students and staff is 'usual' behaviour and can be identified under all three themes of the findings. The study supports the use of code-switching as a pedagogic tool in aiding learner understanding and learning efficacy. The findings that 80% of students felt they learned better when CS occurred would support its use in Welsh medium modules in CSM. The study also acknowledges that many of the students had very basic English language skills (the bare minimum required for enrolment) as such, this could be applied to international students studying in CSM, as similar issues have arisen within CSM international programmes. Although the study supports the concept of code-switching as a tool for learning efficacy, it can also be argued that the Welsh medium students in CSM have a higher proficiency in English than the Lebanese sample, however, not all CSM students are confident productive Welsh speakers and this study supports the use of code-switching as a pedagogic tool within Welsh medium modules.

5.0   Conclusion

To conclude, there is a strong rationale for the study of bilingual teaching methodologies in Welsh medium modules in CSM, including the use of translanguaging techniques, code-switching and code-scaffolding. Present anecdotal findings suggest that both translanguaging and code-scaffolding are used as teaching strategies in the Welsh medium modules, however, there is no research in this area to prove that they increase or support learning efficacy. Furthermore, the use of habitual code-switching or a diglossic approach to language use need to be investigated to discover its impact

upon the students' speech (and written language) production and discover whether a lecturer's code-switching has any impact upon a student's perception of language use in the classroom.

Therefore, using similar techniques to Fennema-Bloom (2009) Canagarajah (2011b) and Mazak and Herbas-Donozo (2015), the research design will investigate the usage and occurrence of code-scaffolding and code-switching in the Welsh medium modules in CSM. In addition to this, discovering more about the language/speech production of bilinguals on CSM undergraduate degrees, including the consideration of code-switching within written language production, would be a development upon both Levelt (1989) and De Bot (2000) by identifying and measuring intrasentenial and intersentenial code-switching as defined by Garcia (2009) within CSM Welsh medium students' written academic submissions, including examinations and formative assessments.

The aim of the research will therefore be to investigate the use of bilingual teaching methodologies within Welsh medium modules in CSM to evaluate their efficacy in supporting content learning and supporting Welsh language development.

The objectives for the study are:

- To record instances of translanguaging and code-scaffolding within Welsh medium CSM modules.
- To identify instances of code-switching within students written work submissions and to classify as either intersentenial or intrasentenial code-switching.
- Discuss with staff their use of code-scaffolding in the classroom and why they use this technique.
- Identify student code-switching and map against student levels of fluency/bilingualism as defined by Wei (2001) and to identify why code-switching occurred through individual interviews.
- Research the relationship between existing Welsh language support mechanisms and students' perceptions of the development of their Welsh language skills.

To conclude, following the research of Cahyani *et al.* (2016), it must be considered that the use of bilingual teaching methodologies and support for the development of a bilingual programme needs some more formal structuring, including the possible creation of institutional policy acknowledging translanguaging as a pedagogical strategy in the teaching of all bilingual programmes at Cardiff Metropolitan University. The researcher concludes that the aim of Welsh medium is to provide learning efficacy, promote good interpersonal relationships and develop Welsh language skills in students, which Cahyani *et al.* (2016) found was achieved when code-scaffolding was undertaken for both educational and social purposes.

7070 Words.

6.0   References

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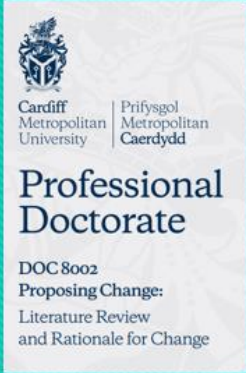
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Appendix DOC8002 PRES1

DOC8002 PRES1 Literature Review and Rationale for Change (slides)

Adapting the systems

O I found that I had to adapt the systems to suit my method of working, including

   O Putting complete Harvard reference in –rather than have to look it up again

   O Putting in page numbers and noting direct quotes in RED

   O Books did not work with this system – it only suited articles

   O I had to make more general notes for books and went back to handwritten notes in a dedicated note book (see example)

Personal observations from the experience

○ Although I have improved, I still feel that I can make further adjustments and create a better system especially for book reviews.

○ Everything took longer than I planned, as it took a long time to complete this module.

○ I realise that trying to work full time and complete academic writing is very challenging- I used all of my summer holiday to undertake this task.

○ I did work simultaneously on data collection for the pilot project which I am glad was completed at the same time … however

○ In hindsight, completing the Lit review has impacted upon my design for the final research project and maybe it would have been better to have completed this before undertaking any research.

Poster Presentation

○ I presented a positioning poster at Coleg Cymraeg Cenedlaethol Annual Research Conference in 2016

  ○ Negative feedback

  ○ Criticised for outputs and also research design re: student / staff agreement

○ This made me re-evaluate my whole idea and directly impacted upon the design of the pilot project
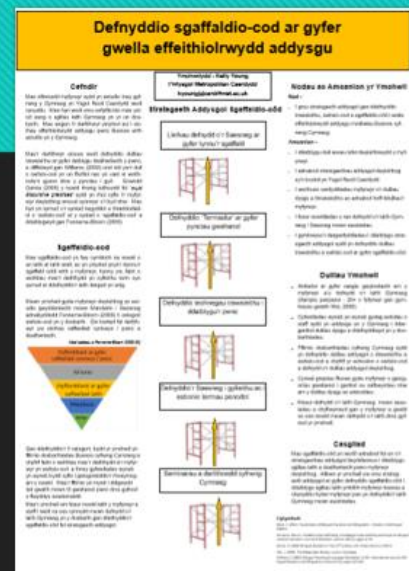
Critical review of my work

○ Initially, I was too reliant on using a previously tested research method

  ○ i.e. Fennema-Bloom(2009); Cahyani et al.(2016),

○ I recognised that there would be resistance from student and staff to being observed / recorded

○ Also recognised that the data collected would be interesting (maybe more PhD oriented) but hard to apply to change management model

○ I had to ask myself, what did I want to change? The answer, I want to improve the student experience of developing their Welsh language skills, therefore…

○ Moved away from observations on code-switching to a more qualitative approach using focus groups and Interviews with students to discuss the development of their Welsh language skills during the Welsh medium modules of their degrees.

○ Focus was on what had been their experience to date and if / how they wanted us to improve that experience.

Academic Underpinning

- The Literary review has developed my understanding of
  - Existing knowledge in bilingual teaching methods and their application
  - The variety of data collection methods used in comparable research
  - Bilingual communication systems and language formation
  - The pedagogy of bilingual teaching and the use of translanguaging and code scaffolding as teaching methodologies
  - The complex nature of communication for bilingual students within CSM when applying active language and selected language theory

The Pilot Project

- To critically evaluate the present provision for the development and support of Welsh medium students in completing formal assessments in Welsh, identify best practice in the linguistic support and development of Welsh medium students and propose a long term strategy to ensure students receive linguistic support within Welsh medium modules in CSM.

Objectives

- To identify a range of students to participate as case studies in the research (use of existing students from a range of backgrounds)
- To identify what support is offered at present and evaluate the student engagement and perception of the support (questionnaires and focus groups)
- To observe teaching sessions on the 'Tystysgrif Iaith' supplementary course, assessing attendance, engagement and student satisfaction (observation and interviews with tutor and participants)
- To measure pre and post support whether it has had any impact on the quantity of formative assessments completed in Welsh by participants (identify % of work completed in Welsh and interviews with participants about linguistic choice)
- To propose long term options for change within CSM Welsh medium courses (potential for the development of credit bearing modules which support linguistic development)

Ethics

Ethics approval awarded in 2016

Data collected in 2017

Completion of DOC 8003 – Summer 2018

Final Project – Ethics awarded 2017

> Data collection in development

Reflexive observations

O From undertaking this modules I can say that …

- O I have gained confidence in my critical writing skills, although there is still room for improvement I can systematically research and critically reflect on academic literature
- O Because of this I am a better dissertation supervisor as I can now guide L6 students in improving their criticality and reflective writing skills, which I found difficult in the past. Adapting a "what, so what, now what" (Rolfe *et al.*, 2001) framework
- O I have improve the way in which I support students in using and reading articles at L5 and L6
- O Personally, I can read and analyse articles quicker and more effectively making my research more productive

Areas for further development

- O Time Management – I am very aware that I regularly miss deadlines due to work pressures – I need to make more personal time for research (evenings / weekends) as the Uni are discussing the reduction / removal of Time for Research support hours
- O Input more Change Management theory into the next module on and how I will apply it in the project
- O Develop my general understanding of research methods and data analysis techniques, when reading some articles they use terms and data analysis techniques I don't fully understand
- O Stop taking on overtime as it is disrupting my research time
- O Consider publishing a positioning article in Gwerddon.

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Cardiff Metropolitan University | Prifysgol Metropolitan Caerdydd

Professional Doctorate

DOC 8003
Preparing for Change:
Proposed Project Design and Pilot

Kelly Young

st20086384

Contents

1.0 Introduction

This assignment will evaluate the underpinning theoretical perspectives which inform and effect the research framework and data collection, identifying the rationale for the initial research idea to pilot project.

This report is structured to reflect the journey of research which has evolved during the Professional Doctorate. Therefore, the module will outline, discuss and evaluate the research proposal in terms of the ontological, epistemological, methodological and data collection methods applied to the research and how this has evolved over time. The way in which research was undertaken has been influenced by many factors including social, political and ethical issues which must be considered during social research (Walford, 1991).

2.0 Initial research proposal

The Initial Research Proposal leaned toward 'qualitative' and 'deductive' research (Saunders *et al.*, 2016) using observational quantitative data to analyse bilingual students' linguistic choice within Welsh medium modules. The initial research design was skewed towards 'quantitative' and 'deductive' research using hard data of linguistic choice in assignments and observations of 'times a language was used'. This was born from identifying that numerous researchers had applied an ethnographic approach to identifying when and where code-switching and/or code-meshing was used in a classroom setting (Fennema-Bloom, 2009; Musk, 2010; Bahous *et al.*, 2014; Cahyani *et al.*, 2016). Each of these studies used observation (with or without either video or sound recording) plus interviews with participants to identify when and why code-switching occurred.

The focus of these studies was to understand how code-switching was used in teaching staff with little discussion of code-switching in students. These studies used observation and quantitative analysis which left open the questions of 'why' code-switching occurs and 'how does this impact' on the learner's ability to use these lexicons in both or either language? The researcher identified a gap in knowledge as to the impacts upon learners of teaching staff using code-switching and the development of terminology in one or both languages. These studies directly influenced the initial project design as there has been no study of this kind to date on Welsh medium instruction in business and management and an insight into when and why lecturers code-switch and for what pedagogical means could help inform teaching practices in Welsh medium modules in the Cardiff School of Management (CSM).

The initial research design was similar to the research of Mazak and Herbas-Donoso (2015) and Gardner-Chloros *et al.* (2013) which aimed to identify the nature of code-switching through

observation and article review in an international setting, however, the focus of the initial research project was Welsh medium classes at CSM with article reviews of student work.

The initial proposal was to create a base line measurement of code-switching within Welsh medium module lessons (taken over a sample of all academic years) in the CSM at the beginning of the academic year. Following baseline assessment, interventions with lecturing staff including training, discussions and exemplar lessons would be undertaken with a final assessment of code-switching on the classroom taken at the end of the year. Results would be compared to identify if any changes in frequency or type of code-switching (Fennema-Bloom, 2009) had occurred. If change had occurred, interviews with staff and students would take place to identify the teaching strategies which may have had most impact upon this and therefore begin to identify models of best practice. This would follow Kemmis' (2009) approach to action research; the research was planned as a longitudinal study over two years or until a model of best practice for code-scaffolding and translanguaging had been developed.

In 2016, a poster was accepted for presentation at the Coleg Cymraeg Cenedlaethol (CCC) Annual Research Conference and at the Inaugural International Conference on Bilingualism in Education (IBE Conference), both in June 2016 (Appendix A). This poster was a positioning paper which set out the proposed research philosophy and methodology. The feedback from both presentations was mixed as identified in Table 1.0 below.

1.0 Table of Feedback from Poster Presentation

Feedback	CCC Research Conference 2016	IBE Conference 2016
	Frequency (no. of delegates)	
Total No. of delegates who approached the poster	16	20
Feedback that it was an interesting subject	15	12
Useful subject to understand	12	12
There should be more research on this	12	16
The methods should be revised	4	9
I don't see how your data works	4	10
There is no obvious link between data and outcomes	3	6

From this basic analysis, it was evident that many delegates felt that the research was interesting and useful subject, however, there was criticism on the research methods and data analysis. Table 1.0 identifies that 64% of delegates at the two conferences gave negative comments regarding data collection, however, this descriptive level of data analysis does not allow for an understanding of why this was felt by the respondents. This was developed further during a

conversation at the CCC Conference with a secondary school teacher from mid Wales, she commented that *'students won't like it, and I am pretty sure staff won't want you to record it'*. She challenged the data collection instruments of observation and most especially recording the observations, stating that she felt that the students would not react naturally whilst being recorded, and staff may intentionally change the frequency of code-switching to ensure their practice was not seen as unprofessional.

During the IBE Conference, other delegates raised similar concerns about the data collection methods, especially focussing on the recording of sessions, however, during this conference the debate on the data collection and analysis was critical and probing. More questions were raised re the value of the research and how the data collection of frequency of code-switching related to a framework of good practice of bilingual teaching methodologies. During a conversation with an educational consultant from Canada, she critiqued that that the proposals did not identify the reason for code-switching in students and whether this would produce a workable change solution for the teaching of the Welsh medium modules.

It was at this point that the final element of feedback, the question on what use was the proposal in creating change in the organisation, was considered; on deliberation, it was concluded that although there was precedent for this type of research in bilingual teaching methods and strategies, the proposal itself was not viable and would not facilitate an outcome favourable to managing and implementing change within the organisation.

Through discussions with colleagues, students and poster delegates, there was a realisation that a broader picture and opportunity for development was emerging, and the research was missing potential opportunities, owing to the 'deductive' research approach being employed. The research was calling for a more flexible approach which would allow the investigation of the nature of the problem in more depth, identify other avenues of information and consider stakeholder influence and impacts upon the organisation in a broader context than the creation of a model of bilingual teaching methodology. The feedback identified the requirement for a more 'inductive' and 'pragmatic' approach (Saunders *et al.,* 2011*)* and also changed the ontological perspective of the research as basic assumptions of the Welsh medium team at CSM were shattered by the following statement by a speaker at the IBE Conference:

> "pupils who have a second language are less likely to apply for jobs where their lesser language is required, if they have not had feedback on their linguistic ability during their studies"
>
> Crisfield (2016)

This statement was in direct contrast to the practices of the Welsh medium team at CSM which included minimal or limited grammatical feedback in Welsh so as not to deter any students from opting to study in Welsh. This new understanding moved the fundamental perspective from analysing code-switching to a more inductive perspective of how the CSM provides linguistic feedback to students and how Welsh language support could be improved. This was the focus of the revised project proposal.

3.0 Revised ontological and ethnographic perspectives

It became evident through the initial research that a re-focus on the extent of the Welsh language support on offer to Welsh medium students in CSM was required and to ask 'is the University support for Welsh medium improving the students' linguistic skills?' and if not, 'how can we develop a support system which is accepted by the students themselves'. In terms of ontology, the research was now founded in a more interpretivist approach (Waring, 2012) whereby understanding the nature of the students' attitude towards the Welsh medium support offered by CSM and whether this was effective in developing confidence in their bilingual skills. As each students' reality is 'mind dependant' and individual to them, there will be multiple realities existing within the same experiences (Braun and Clarke, 2013). Waring (2012) discussed this concept as how we see the world is wholly dependent on our place within it and suggested that the values and beliefs of the researcher are inseparable from the research process itself. As such, consideration for the impact of these values or assumptions must be made in the context of my role as a bilingual Senior Lecturer within the organisation and in direct contact with the majority of the participants, thus deemed 'insider research' (Trowler, 2014; Coghlan & Brannick, 2010) and also my personal history and experiences will have an effect on the research (Wei, 2001; Wright-Mills, 2000) as according to Wei (2001:479) the researcher's attitude towards bilingualism is not as simple as seeing it as an advantage or disadvantage but much subtler. The assumptions will be written in first person to reflect the personal nature of the assumptions.

Assumption one: Bilingual experiences and background

Although I was born in England, I was raised in a small village in mid Wales where Welsh language was spoken by over 60% of the population (ONS, 2012). I attended a Welsh medium primary school, however there were a large number of English migrant families in the village and the experience was one of Welsh medium in the classroom but a more English experience in less formal settings (the playground). The secondary school I attended was a bilingual school where subjects were offered either in English or Welsh as separate classes. Post A-level, I did not use my Welsh language skills in a professional context for almost 20 years as I lacked confidence in

my written and spoken Welsh and grammar. In 2010, I was afforded the opportunity to re-train as a Welsh medium lecturer through the Welsh language Sabbatical Scheme (Cardiff University, 2018) where I gained confidence in using Welsh in a professional context. These personal experiences are a basis for study and give me a personal insight into the complex nature of linguistic skill and the relationship between confidence in a language and its professional use. It is from this assumption that I want to develop my students' abilities and confidence in using Welsh in a professional context and this has influenced my belief in the need to continue our students' linguistic development throughout their degree so that the University produces graduates willing and able to work through the medium of Welsh.

Assumption two: My assumptions as a lecturer / researcher

I am employed by Cardiff Metropolitan University (Cardiff Met) and funded for 5 years as part of the Coleg Cymraeg Cenedlaethol's staffing scheme (CCC, 2016). My role is split over two Universities as two 0.5 roles which can cause conflict of interest and timetabling complexities however, contractually I am treated as a full time, permanent member of Cardiff Met staff. My decision to focus my study on Cardiff Met is based on viable numbers and access being easier in Cardiff however the findings could be applied to the other University and student feedback of experiences is relevant from both institutions, especially to compare their experiences. I have been employed as a lecturer in both Further Education (FE) and Higher education and have worked in a Senior Management role within an FE college, promoting and supporting students who were transitioning from welsh medium education to English medium education. I have seen the challenges faced by bilingual students who are adapting to changing their 'preferred learning language' (Young, 2012) and, also, the employability benefits of being bilingual in Wales. My role as lecturer and having direct contact with the students allows me to understand their attitudes and preferences in depth as I have a working relationship with the majority of potential participants. However, I also acknowledge that this role may also influence my students' decision in participating in the research and that their response could be influenced by my role as research (see 7.0 Ethical issues for more details).

Assumption three: the context in which my participants and I operate

My lecturing position has been funded for five years by the Coleg Cymraeg Cenedlaethol (CCC) as a way to 'pump prime' Welsh medium provision in Cardiff School of Management (CSM). All of the students who will be asked to participate study some element of their degree programme through the medium of Welsh and a high percentage of those students also receive a Welsh language scholarship from the (CCC) to encourage their continuation of study through the

medium of Welsh. As Welsh medium modules are optional to all students, there is an assumption that these students have made a conscious decision to choose to study in Welsh and therefore they are engaged and motivated to pursue the use of Welsh language into their future career.

Taking all three of these assumptions into consideration, the relationship between researcher and participants, although complex and potentially fraught with conflict also offers opportunity for insight into the participants 'reality' and to analyse the finding whilst being aware of the positioning of the researcher at the impact of the relationship (Waring, 2012).

As such the research epistemology moves towards a more transactional and subjectivist (Waring, 2012: 18) perspective whereby the researcher and the research are 'interactively linked so that the findings are literally created as the investigation proceeds'.

The impact of these revisions can be seen in the setting of the research questions. According to O'Leary (2005) the research is defined by the research questions as it sets the parameters, direction and creates a frame of reference for the project. When setting research questions, it is important to consider Trochim (2005) definition of 3 types of research questions; descriptive, relational and causal. This research will naturally start with a descriptive level question as it is important to set a baseline and understand the present situation, it will them move into a relational level, where we start to understand the link between the linguistic nature of the student and their experiences and finally moving onto a causal level, where we determine cause and effect of the experiences. Using this format, the following research questions have been set:

Research question 1 (Descriptive): What Welsh language support is currently available for Welsh medium students in CSM and how do the students engage with the support?

Research question 2 (Relational)**:** In what ways has the experience of support been different for different students and how effectively is the University developing the Welsh language skills within the curriculum?

Research question 3 (Relational and Causal)**:** How effective are the internal and external support mechanisms in creating confidently bilingual graduates who work bilingually post-graduation?

Research question 4 (Causal)**:** How can the findings change the strategic direction and planning of support for Welsh medium CSM students?

These questions are formed from the Ontological and Epistemological standpoint which then informs the methodological approach. O'Leary (2005) describes this as a way of moving forward to finding answers to the questions.

4.0 Revised methodological perspective

In the field of education, it is argued that qualitative research finds itself in direct contrast to quantitative research in that quantitative research is considered as 'hard', 'objective' and 'positivist' and qualitative considered 'soft', 'subjective' and 'constructivist' or 'interpretive' (Freebody, 2003). It can be argued from this standpoint that these methods are mutually exclusive with opposing philosophies and research methodologies; however, this section will discuss the merits of the two methods of research and evaluate their value within the field of education, including their use within a mixed methods research design.

The focus of the research must meet the academic requirements of the Professional Doctorate and as such the development of a more pragmatic philosophy, in that 'concepts are only relevant where they support action' (Kelemen and Rumens, 2008) was considered. The complexity of the nature of the research and with numerous key themes emerging, it was important to focus only on the issues which would lead to support the change proposal. In addition to this, applying an interpretive epistemological approach (Saunders *et al*., 2016) allowed the research philosophy to 'focus on problems, practices and relevance,'…'problem solving and informed future practice as contribution', …and the 'practical meaning of knowledge in specific contexts' (Saunders *et al.,* 2016:137). However, focussing solely on philosophies linked to organisational change, would also restrict the opportunities for research. It was at this juncture that philosophically the research required more 'Social Research' methods and to focus using qualitative research methods, however, according to Kirk and Miller (1986: 5) 'Hard distinctions between qualitative and quantitative research can be misleading' and this, coupled with the complex relationship between research methods and epistemological positioning (Van Maanen, 1979) led to the adoption of a more 'mixed methods (Saunders *et al.,* 2016) approach to the research methods and data collection.

A mixed method approach meets the needs of the new research philosophy as understanding the impact of the Welsh medium support and education on individual students to garner a picture of the group as a collection of individuals is the intention of the research. The students have varying linguistic abilities in both written and spoken language in both English and Welsh and understanding these varying abilities or 'spikey profiles' allows the research to focus more on the 'variable and personal nature of social constructions' (Waring, 2012:18) and their impact upon the findings. The research will then consider the use of questionnaires, observations, focus

groups, interviews, documentary analysis to create a final data collection proposal for the pilot research project.

The final methodological consideration is given to choosing the participants for the research, as argued by Cohen *et al.,* (2007:100) the 'quality of a piece of research stands or falls not only by the appropriateness of methodology … but also by the suitability of the sampling strategy'. As the research focuses on Welsh language support and Welsh medium students' engagement, the use of purposive sampling as defined by Saunders *et al., (*2016) will be applied to all elements of the research. It is though the researcher's knowledge of, and interaction with, Welsh medium students and staff that the target population will be sampled. Menter *et al.,* (2011) argued that if targeting 100% of a target population this becomes a 'census', however, the researcher acknowledges that the initial invitations to engage with the research will be on a census basis, the expectation is to have a less than 100% response and therefore the participants will be on a volunteer basis / self-selective (Saunders *et al.,* 2016). The existing relationship between researcher and potential participant and putting in place strategies for follow-up could suggest a response rate as high as 70 to 80% Cohen *et al.,* (2007) however it is difficult to predict final number of respondents and statistical representation should be dependent on the research question and objectives (Patton, 2014). Saunders *et al.,* (2016) defined this as 'judgement sampling', which applied to this research a response rate of 40% would be sufficient to be considered a statistical representation of the target population.

5.0 Justifying the methodology

Gitlin & Russell (1994) argued that the aim of research within the field of education is not to aim to discover 'absolute truths' but to 'scrutinize normative truths' which are inextricably embedded in the organisational, historical and cultural contexts. Developing on this they suggested that to understand these normative truths research must; make provision for multiple voices in the analysis and reporting, ensure a link between understanding and practice, identify and analyse the positioning of the researcher and the respondents and thus the reliability and validity of the findings and finally, to place emphasis on the process of the research rather than the outputs or products. However, Shulman (1996) contested this move away from absolute truths and argued that much of educational research was vague and too generic and that case studies where focus was on a specific and clear insight into a particular situation was of use to understanding educational phenomenon.

According to Freebody (2003) educational research should be seen as a cultural science and as such it is essential to take into account the positioning, context and background of both the researcher and the participants. In this way, case studies have been a popular research method

in education for many years, according to Freebody (2003:81) a case study can be defined as a 'focus on one particular instance of educational experience and the attempt to gain theoretical and professional insights from a full documentation of that experience.'

Trowler (2014) suggested that research in your own organisation is a form of case study, however, it can be argued that research conducted by the 'insider researcher' (Humphrey, 2012) is a form of 'grounded theory method' (GTM) as it requires 'persistent interaction with (their) data, whilst remaining constantly involved with their emerging analyses' (Bryant and Charmaz, 2007). This approach was used in similar research by Canagarajah (2011) however, the researcher's one-size fits all approach does not work for this research project as the profiling students' linguistic skills moves away from this uniform approach.

GTM is an inductive method of research which extrapolates data from individual cases to form conceptual frameworks (Charmaz, 2006; Bryant and Charmaz, 2007) therefore GTM is a movement from specific details to a more abstract generalisation using interactive and on-going methods. Therefore, although the research has elements of GTM in its design, the methodology of the research project can be argued as being more 'abductive' as it combines both deductive and inductive methods, moving between methods allowing data to influence theory and theory to influence data (Suddaby, 2006) as seen in similar studies by Mazak and Herbas-Donoso (2015), and Gardner-Chloros *et al.* (2013).

In justifying the case study approach, Denscombe (2007) identified five features of a case study: spotlighting one instance of study, in-depth research, focus on relationship and processes, occurring in a natural setting and involving multiple sources and multiple methods. As such, the methodological approach of this study has all five features of a case study as it focuses on one instance of Welsh language support, will use in depth data collection techniques, focuses on the relationship between student and support with Welsh language, occurs in the existing university setting and will involve multiple sources and methods.

6.0 Data collection methods

For this study, there is a wide range of valid options of data collection methods. This section will discuss the rationale for the data collection methods chosen.

6.1 Archival and documentary research

When using archival and documentary analysis, recognition that the data was not collected for the purpose of the study is essential, coupled with a sensitive approach to the use of the data for the purpose of the study. (Saunders *et al.,* 2016). A documentary analysis can be conducted

as a background to the research to give context such as Mazak and Herbas-Donoso (2015) and Velasco and García (2014), or as a source of data on behaviours and use of language such as Canagarajah (2011). Consideration has been given to the use of documentary analysis, in the form of identifying code-switching in written work as the researcher has access to assignments and exam scripts which code-switch both intrasentenially and Intersententially (García, 2009), however, although this was part of the initial research proposal, this method now has no output which is of direct use to the new research proposal. Therefore, the documentary analysis consisted of a review of statistics from the CCC regarding completion of the 'Tystysgrif Sgiliau Iaith' (Welsh Language Skills Certificate, WJEC) (TSI) and an analysis of support available for Welsh medium students within CSM. As the statistics are published by CCC and the TSI is a compulsory element of student scholarship with the CCC, there is a need for the sensitive treatment of this information and as such only data directly relevant to the research will be published and thought given to how this is presented to ensure no loss of reputation for the CCC.

6.2 Questionnaires

According to Saunders *et al.* (2016: 438), questionnaires are effective when used for 'descriptive or explanatory research… such as that undertaken using attitude and opinion questionnaires'. Dillman *et al.* (2014) identified three types of data variable supported by questionnaires, namely, factual and demographic, opinions and attitudes, and behaviours and events. They argued that factual and demographic data were likely to be accurate, however, consideration is required for the context of questionnaire in garnering data on the latter two variables as timings of the questionnaire may influence the data collected. Saunders *et al.* (2016) also argued that the method of distribution is influenced by a variety of factors including whether the questionnaire is self-completed or interviewer-completed and the respondents' access to technology, postal services and telephones. They also identified factors which influence the choice of questionnaire from the perspective of the researcher including time frame, financial implications, availability and access to online tools.

The validity of the data is dependent upon the design, the response rate and pilot testing (Saunders *et al.,* 2016) and as such the use of questionnaires must be well planned, correctly distributed and pre-tested. According to Foddy (1994), the reliability of a questionnaire depends upon the respondent de-coding the question as intended and the researcher de-coding the response as intended. In this way, it was essential to ensure that the questions set are clear and unambiguous as to ensure that the coding and de-coding of questions and responses are as intended.

Taking these factors into consideration, the aim of an initial questionnaire within this research project was to identify demographic / experience of students in Cardiff Met and enable a broad categorisation of respondents into bilingual categories (as defined by Wei, 2001) to allow for the analysis of the data to be analysed in context of the learners' prior experiences. There then followed two further questionnaires which explored the experiences of their Welsh language support and the standalone additional assessment, Tystysgrif Sgiliau Iaith (Welsh Language Skills Certificate, WJEC) (TSI). Questionnaires were distributed at three points within the academic year, at the start of the academic year, mid-term and post-examination, to allow for context in terms of present experiences as student response may vary between beginning a module and post-completion as stress levels and anxiety of performance may impact upon their perceptions.

6.2.1 Designing the questionnaires

To ensure the effective and efficient collection of data through the questionnaire, it was decided that online questionnaire packages would offer an effective means of distribution and collection (Menter *et al.,* 2011) which would meet both the needs of the researcher with regards to time constraints, opportunity, budget and access; and to the participants in terms of ease of access, anonymity and technologically competent. Opting for asynchronous online communication (Salmons, 2014), the participants were sent links to the online questionnaire at three points in time throughout a single academic year, however, the questionnaires remained open until the end of the research phase, allowing for their completion at different times. This was to encourage as much uptake as possible. In real terms, most questionnaires were completed within 24 hours of the link being sent (78%) and the remainder completed on sending a reminder e-mail.

The questionnaire used Qualtrics software package (Qualtrics, 2018) as it offered the following:

- A secure password protected log in to the server linked to the University accessed through a University account
- Support through the University IT department
- No restrictions on the number of questions or surveys
- Translation options for Welsh medium / English medium versions with ability to switch at any time and retain the data
- Options for distribution through direct e-mail (not chosen) or though anonymous links (chosen).

The secure log in met the requirements of the Cardiff School of Education Ethics regulations and the design features and range of questions ensured a professional appearance, and background and ethical information, which is essential to ensure participation (O'Leary, 2005).

When designing the types of questions and the flow of the questions, it was important to consider ease of use, clarity and time taken to complete the questionnaire (Saunders *et al.,* 2016). The questionnaire design included a variety of questions types, including categories, Likert Scales, open questions and yes/no/don't know responses (see Appendix B). The aim of the questionnaire was to profile the participant and to analyse the data within these categories. The data would then be analysed as a group but also broken down into 'profiles' of linguistic character and analysed to see if there was a relationship between linguistic ability and perceptions of experience.

The questionnaire was piloted with a group of Welsh medium students at a different university who were attending or had attended the TSI and who were opting to study part of their degree programme in Welsh. This offered the opportunity to pilot the research instrument (Baker, 1997) to ensure that the questionnaire as a proposed instrument is not inappropriate or too complicated (De Vaus, 2014). It was also noted that as the sample for the pilot study was reflective of student experiences at a similar university and on a similar programme, the findings from the pilot programme may also be incorporated into the analysis, if required.

6.3 Observations

Mixed methods including observation coupled with either interviews and/or focus groups has been a widely accepted data collection method (Fennema- Williams,1996; Bloom, 2009; Musk, 2010; Cahyani *et al.,* 2016) within a bilingual educational setting, however, the complex nature of the relationships between student and the engagement in Welsh language support requires a sophisticated data collection approach. Observation can be defined as the 'systematic viewing, recording, description, analysis and interpretation of people's behaviour' (Saunders *et al.,* 2016: 354) and as such can be an insight into people's behaviour. The traditional method of 'participant observation' (Saunders *et al.,* 2016) is used to determine the relationship between actions and meaning, however, it can be argued that observation alone does not allow researchers to fully understand the nature of these relationships. As such the research design included observing classroom activities of participants in the TSI support classes to identify the level of student engagement in a 'structured observation' (Saunders *et al.,* 2016) using quantitative analysis techniques coupled with focus groups and interviews which gave a depth of understanding as to what meaning is linked to these behaviours.

Consideration of the 'observer as participant' (Saunders *et al.,* 2016) method, through revealing the identity and role of the observer and the observer participating in the activities was given, however, this made note-taking and observation of body language and engagement of participants difficult. Therefore, a more 'structured observation' approach was adopted,

allowing for a more detached stance and predetermined measurements (Saunders *et al.,* 2016). Either form of observation raises data validity issues such as observer error, observer bias and the observer effect which can impact upon the data collection as messages can be misinterpreted. Within this research, observer error, where the body language of a participant is misinterpreted, can happen if the participant is cold, tired or hungry, bias occurs when the research sees what they expect or want to see, and the observer effect if the participant changes her behaviour to meet the perceived expectations of what the researcher wants to see. Using this method of data collection as part of a mixed method approach minimised the effects of these issues upon the data.

6.4 Interviews

The research design applied two different forms of interview: one-to-one/face-to-face interviews and one-to-many/focus groups as defined by Saunders *et al. (*2016). Both types of interview were non-standardised through the form of semi-structured questions which supported the collection of explanatory and evaluative data (Saunders *et al.,* 2016).

The aim of these interviews was to develop an understanding of the social, linguistic and practical issues surrounding the students' engagement (or non-engagement) with the Welsh language support available at Cardiff Met from the perspective of the lecturer, students undertaking the TSI and students who had chosen to disengage completely from the support course.

The staff interview was conducted as a face to face, one to one semi-structured interview (Saunders *et al.,* 2016) with the tutor who has been co-ordinating and teaching the TSI course for five years in four different Universities, to garner the perspective of the lecturer in terms of the overarching themes which they believed had impacted upon student engagement and successful completion. As previously discussed, purposive sampling as defined by Saunders *et al.* (2016) is applied as the tutor is the only staff member who was engaged in this activity and therefore was chosen specifically for the activity. However, this made ensuring full tutor anonymity difficult as her role was well-known. It is due to this that the published data will need to be considered carefully and checked directly with the tutor for consensus.

The second interview with students who opted to leave the TSI course was also conducted as semi-structured interview (Saunders *et al.,* 2016), offering an opportunity to speak freely without feeling shamed or reluctant to answer honestly. The aim of this interview was to understand why the students chose to withdraw from the course and whether additional support would have been beneficial or not.

Finally, the focus groups were conducted with students who were engaged with the TSI course and additional support mechanisms. These groups were split into five groups according to programme of study, year of study and, when the group was too large in number, social grouping. The purposive sampling in this case included Welsh medium CSM students studying BA Business and Management, BA Marketing Management, BA Tourism and Hospitality Management and BA Event Management. The decision to also include students from the School of Sport and the School of Education was made to offer a broader perspective and to be able to compare and contrast the students' experience of the TSI course and their experiences of Welsh medium education within their respective Schools. Dillman *et al.* (2014) argued that context and timing can affect qualitative data collection, therefore, it was decided to postpone the focus groups until after the summer examination period to ensure that the pressure of examinations and assessment stress was not a factor in the data collection, and that the full experience of the TSI course, including assessment methods could be explored in the focus group discussions. This left a very small window of time for the focus groups to be conducted to ensure that students who had completed their final assessments were still available to participate. The venue chosen for the focus groups was a relaxed environment, natural to the student, conveniently located at a time where the students were naturally in the group, that is, at the end of a compulsory examination or final class session of the term.

6.5 Final design

To conclude this section, the phases of data collection are identified below.

Table 2.0: Phases of Data Collection

Phase one May 2016	Documentary analysis of support of Welsh language skills available to Welsh medium students
Phase two June 2016	Planning, design and piloting of online bilingual questionnaire 1, 2 and 3
Phase three December 2016	Distribution via email of online questionnaire 1 to 100% students studying the Tystysgrif Sgiliau Iaith, the results of which informed phase four and phase eight design
Phase four January 2016	Planning, design and conducting of semi-structured interviews (x2)
Phase five January to March 2017	Observation of Tystysgrif Sgiliau Iaith teaching sessions (x3)
Phase six March 2017	Distribution via email of online questionnaire 2 to 100% of students studying the Tystysgrif Sgiliau Iaith, the results of which informed phase four and phase eight design
Phase seven May 2017	Distribution via email of online questionnaire 3 to 100% of students studying the Tystysgrif Sgiliau Iaith, the results of which informed phase four and phase eight design
Phase eight May 2017	Planning, design and conducting of focus groups (x4)

7.0 Data analysis techniques

Data in their raw form have little meaning to most people (Saunders *et al.,* 2016). Analysis of raw data requires different approaches based on the type of data to match the characteristics of each data set, as the mixed-methods approach collected a range of different data types, namely, quantitative data through the questionnaires and qualitative data through observations and interviews (including focus groups). This section will discuss the data analysis techniques employed for each primary data set.

7.1 Questionnaires

The design of the questionnaire is one of collecting categorical data which is both nominal data and ordinal data (Berman Brown and Saunders, 2008) as the data cannot be numerically quantified, can be classified into more than two sets and some data can be ranked and some cannot. It is important therefore to select appropriate means of preparing, presenting,

describing and examining the data to meet the needs of the research and the needs of the reader (Saunders *et al.,* 2016).

The initial aim of the questionnaires was to identify the respondent in terms of their linguistic profile and categorise their linguistic nature using Wei (2001)'s bilingual categories. Baker (2001) defined being bilingual as the ability to use more than one language but that does not mean the two languages are used in the same way. Wei (2001) developed a more sophisticated list of different categories of bilingual, ranging from 'receptive bilingual' (a person who understands a second language but does not speak or write it) to a 'balanced bilingual' (as someone who has an equal mastery of both languages). The research has used a simplified adaption of Wei (2001)'s definitions to categorise participants in term of their linguistic nature. These categories have then been used to look for links between the linguistic nature of the participants and their experiences and engagement with Welsh language support.

By using Qualtrics software the categorising can be done through the 'hiding' of data sets and respondents to allow for only chosen subsets to be analysed (Qualtrics, 2018) then presenting these data using the more appropriate graphs, tables and charts. These can be produced through the Qualtrics software (Qualtrics, 2018) or alternatively through transferring the data to a spreadsheet such as Excel and creating appropriate graphs, tables and charts.

The data from the questionnaire were then used to identify trends and issues which informed the design of the interviews and created the themes which the research continued to follow.

7.2   Interviews

Collecting qualitative data allows a subject to be explored meaningfully, leading to social constructivism, a better understanding of shared group experiences and first-hand individual interpretations of events (Saunders *et al.,* 2016). Such data are complex and because such a method allows participants to explore the topics posed, to offer opinions and to react to the opinion of others. It is essential, not only to understand the words spoken, but more importantly the meanings. All interviews were sound recorded and transcribed for analysis, however, it was important that the transcription was not only *verbatim* but also had context and expression (Saunders *et al.,* 2016). To account for this, the interviews were transcribed as the words were spoken and tone of voice and non-verbal indicators (laughing, shaking of the head) were also noted.

On completion of the transcribing process, a thematic analysis was conducted as a foundational qualitative analysis (Braun and Clarke, 2006) which offered a systematic and flexible approach

to the analysis of the data. To undertake the thematic analysis, the data was coded to identify the themes and trends within the data in line with the research approach and research questions (Saunders *et al.,* 2016). As the approach adopted was inductive, it was not possible to pre-empt the exact coding used, however, these codes were data codes and 'in vivo' (Saunders *et al.,* 2016) as they were the codes used by participants who were not aware of or did not 'naturally' use terms from existing theory and literature, or 'a priori' codes (Saunders *et al.,* 2016).

These codes were then analysed to identify themes, patterns and relationships so as to construct a 'broad category incorporating several codes that appear to be related to one another' (Saunders *et al.,* 2016: 584). The use of NVivo software (QSR NVivo, 2018) as a Computer Aided Qualitative Data Analysis Software (CAQDAS) to aid the analysis was considered. Yet, the linguistic nature of the participants meant that data collection was in both Welsh and English with code-switching and lexical borrowing throughout the data sets. As such, the use of a CAQDAS, such as NVivo, was trialled experimentally with one data set to test its suitability to mixed bilingual Welsh/English data. The NVivo software offers versatility and flexibility with a large range of searching possibilities (QSR NVivo, 2018). This was deemed suitable when applying bilingual search criteria to a bilingual data set. However, the use of NVivo was complex and time consuming and the researcher chose a more traditional paper-based method of coding and analysis to compile the analysed data (tables and spreadsheets).

On completion of the analysis, the data were presented using a mixture of quotes, tables and graphs, where appropriate, which described the inter-relational nature of the participants' experiences, attitudes and opinions.

7.3 Observations

The structured observations looked for a specific set of body language and student engagement signals, observing the participants for signals such as:

- Looking at the projector screen
- Asking questions (prompted by tutor)
- Asking questions (un-prompted by tutor)
- Answering questions (prompted by tutor)
- Answering questions (un-prompted by tutor)
- Making notes
- Engaged in tasks
- Distraction signals (talking, texting, doodling)

The observation was in the form of a timeline of the hour sessions, with notes on the participant engagement, i.e., body language and signals, of the participants throughout the sessions. Data

were analysed against any changes in signals throughout the session with a final analysis of how much of the class were engaged and for how long in each session.

This was presented in the form of graphs representing every fifteen minutes of each session with an analysis of the types and volume of signals which informed the analysis.

7.4   Final presentation

Wiersma (1995: 264) defined triangulation as 'a search for convergence of the information on a common finding or concept'. This supports the use of multi-data collection and integrated analysis and is supported by Mertens (1998) as the aim of research was to collect a sufficient amount of data to support the findings and underpin the conclusions. The analysed data were presented thematically, incorporating data from each data collection method which informs the theme and conclusion; this supports the validity and reliability of the analysis through triangulation.

8.0 Ethical issues

The BERA (2011: 4) Guidelines for Educational Research set the standards for researchers in educational settings to ensure that their research is conducted with an 'ethic of respect for the person, knowledge, democratic values, the quality of educational research [and] Academic Freedom'. The research design will adhere at all times to BERA guidelines to ensure an ethical approach.

Before conducting primary research as part of any academic programme at Cardiff Met, it is essential for the School Ethics Committee to approve the research proposal. In this instance, ethical approval was granted in November 2016. The application for ethical approval covers a range of issues including respect, privacy and avoidance of harm to others, voluntary participation and the right to withdraw, informed consent, researcher safety, confidentiality, data protection and storage. However, there are further generic issues which need consideration for the purpose of the research; these issues are discussed below.

8.1   Ethics agreement

The Ethics Committee Approval Agreement (Appendix C) demonstrates that the research design has been scrutinised to ensure that the research proposal meets the ethical standards of the University. Within this document, consideration is given to all of the elements listed above. This section deals with the rationale for the ethical application.

Ashley (2012: 35) defines informed consent as 'ensuring that you provide… adequate information about the nature of your research'. Such consent was achieved in two ways, first,

through the use of a participant information sheet. Such documentation informs participants of the nature of the research, how the data will be used, benefits, potential harm and of their right to withdraw from the research. Participants were also invited to complete a participant consent form prior to interview commencement. This paper-based system was not implemented with the online questionnaire; rather, the design of the questionnaire included an introductory page which included the information from the participant information sheet. The section re the right to withdraw was amended as the questionnaire was anonymous and although the 'right not to participate is unchallengeable' (Saunders *et al.,* 2016: 243), it would be impossible to identify an individual's response and remove their data. Hence, the amended 'right to withdraw' section was edited to reflect this, requesting that the questionnaire not be completed if the data were not to be used.

As the questionnaire was conducted online, the physical safety of the researcher was not an issue. During interviews and observations, considering the risk of physical threat/abuse or the risk of psychological trauma (Social Research Association, 2003) to both the researcher and the participants is paramount. The researcher considered these potential issues when planning the venue, timings and attendance of the interviews, with information passed to colleagues and supervisors for the researcher's personal safety.

In addition to the physical dangers, the potential for 'psychological trauma' was an issue. First, one participant would be discussing her role and the success of the course she delivers, therefore, it was important to ensure that no harm, either professionally or personally, would come of her participating. This is also linked with the potential for conflict of interest within this research design as both the researcher and participant are employed indirectly by the CCC and the subject being investigated includes a course which is funded by, and made compulsory to scholarship students of, the CCC. It is recognised that this may cause a conflict of interest and maintaining the privacy of participants may be difficult as their role is unique within the University. In addition to this, the researcher has a 'responsibility in the analysis and reporting of data' to ensure that the findings reflect the data 'fully and accurately' (Saunders *et al.,* 2016: 244). To this end, the data will be verified by the participant prior to publication to ensure that the two-way communication between researcher and participant is clear and unambiguous and the messages coded and de-coded as intended. It will only be published when the participant agrees that the findings reflect the intended message.

The final element of the ethics approval covers the safe storage of data. Saunders *et al*. (2016: 245) stated that it is 'essential for researchers to understand and comply with the legal restrictions and regulations that relate to the management of research data'. As such, compliance with the General Data Protection Regulations 2018 (ICO, 2018) and the Data

Protection Act 2018 (ICO, 2018) is a legislative requirement. Any personal data held can only be used for the purpose for which it was collected, limited to what is necessary, accurate, not held for longer than required and stored to ensure 'integrity and confidentiality' (ICO, 2018). To comply fully with above regulations, the data will also be stored on a secure server via the researcher's academic account at Cardiff Met. Any information which requires copying to portable drives will be password protected on the researcher's encrypted USB drive.

8.2   Further considerations

Further considerations include the background and context of the linguistic nature of both the researcher, integrity, objectivity and obligation to society and academia.

According to Wei (2001), researcher background, linguistic proficiency and relationship with the participants can impact on the research itself and thus it is important to acknowledge this to minimise the impact. According to Wei (2001), it is important to consider the linguistic nature of the researcher and her attitude towards bilingualism. To ensure this, the researcher has conducted a brief analysis of the issues which may impact upon the research. The researcher identifies as an 'early productive bilingual' in both Welsh and English where the development of the language was co-ordinate bilingual, with elements of ascendant bilingual which has recently developed into balanced bilingualism (Wei, 2001: 6). The researcher has experienced a wide range of experiences in developing her bilingualism and this allows the researcher a wider perspective and empathy with a wider range of bilingual abilities. This varied range of experiences may also negatively impact upon the research as participants with firmer monolingual experiences in Welsh only may not understand the study rationale.

As an 'insider' (Coghlan and Brannick, 2005), research can be a 'sensitive enterprise' as it can include 'prospective and current students, colleagues in one's home territory and elsewhere, and regulators in professional bodies and government circles' (Humphrey, 2012: 573). The main concern, according to Ryan (1996), is the potential role conflict when asking students to participate in research as a figure of authority making participation a requirement. As a bilingual lecturer undertaking research within my own organisation and with my own students, I need to ensure that they do not feel 'obliged' or in any way 'forced' to participate in the research and that I make it clear that participation will not influence their studies in any way.

According to Saunders *et al.*, (2016: 243), research quality is dependent on the 'integrity and objectivity' of the researcher in acting honestly, truthfully and accurately reporting findings without bias, deception or misrepresentation' and that any conflicts of interest should be declared. The conflict of interest has been acknowledged by the researcher, but participants must be equally aware as many have financial and academic obligations to the CCC. The

obligation to report accurately and truthfully for the benefit and improvement of the bilingual students at CSM neutralises any conflict of interest. That said, data will still be presented sensitively, mindful of the researcher's and participants' psychological health.

The final ethical consideration is to ensure that there is an outcome or benefit from the research for CSM and for Cardiff Metropolitan University as a society, and to ensure that there is no misconduct, including ensuring validity of data, avoiding sensationalising findings and distorting findings for the wider 'community for educational researchers' (BERA, 2011). As one of seven universities across Wales which received financial support from the CCC for Welsh medium curriculum development in the study of business (CCC, 2016), there is a responsibility to this broader community of academic professionals and researchers to ensure that the findings presented are accurate, fair, non-sensationalised and undistorted, allowing for the application of these findings to inform other institutions' practice or to form the basis of further study in this field.

9.0 Conclusion

The journey in research philosophy and design has not been as straightforward as first planned. The initial design for the research proposal was 'positivist' in philosophy with a 'deductive' strategy (Saunders *et al*., 2016) as the original proposal ideas were based on identifying a model of best practice in bilingual teaching methodologies and proving their efficacy in teaching business modules in Welsh. However, as the research began it was evident that a more 'inductive' and 'interpretivist' approach (Waring, 2012) was required to investigate the broader concept of Welsh medium linguistic support, considering that an individual's reality is 'mind dependant' and multiple realities exist within the same experiences (Braun and Clarke, 2013).

The final design was grounded in an ontological and epistemological position which was influenced by trials and pilot programmes in the early stages of the Professional Doctorate. The aim of these trials was to ensure that a suitable design and data collection method was applied in light of the chosen ontological and epistemological approach adopted. Reflecting on this process, allowed for the development of new designs and methods which was better suited to the pragmatic approach and student focussed epistemology adopted in the final part of the pilot project.

A case-study methodology was adopted using a mixed-methods approach including questionnaires, interviews and observations which would be analysed through thematic analysis and presented using graphs, charts, tables and quotations. Consideration was also given to sampling, distribution and validity of the data.

Ethically, the research proposal gained approval from the School of Education Ethics Committee in November 2016 and the research was designed to follow the BERA (2011) Guidelines for Educational Research. Additional ethical issues have been considered in the wider context of the researcher's responsibility to the wider community, employer and to other researchers. Research was undertaken between November 2016 and June 2017 and will be discussed, analysed and presented in WRIT 2.

Word count: 8696

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Appendix A – Poster

Appendix B - pilot questionnaire

QUESTIONNAIRE 1 – Personal profile of participants

A critical analysis of integrated and stand-alone Welsh language support for bilingual Business and Management students at Cardiff Metropolitan University

The purpose of this research project is to collect primary information in relation the provision of Welsh medium support in Cardiff Metropolitan University through the provision of Tystysgrif Sgiliau Iaith course and other linguistic support. This data will form part of an internal research project with by a member of the Coleg Cymraeg Cenedlaethol. If you would prefer not to take part in the project, then I thank you for your time and you need not complete the questionnaire. If you are happy to participate in this project, please can you complete the questionnaire. All information given will be treated confidentially.

 We are very grateful for your assistance.

Q1   Are you   Male   Female   Prefer not to say

Q2   Do you have a Coleg Cymraeg Cenedlaethol Scholarship? Yes   No   Don't Know

Q3a   Your Secondary School – tick one option which matches your experience the closest

✓

Welsh medium school

Bilingual school where subjects could be chosen in Welsh or English

Bilingual school where Welsh and English were used together in lessons

Bilingual school where Welsh and English were used in alternating lessons

English medium school

Other …Please specify

Q3b   Your 6th Form or College – tick one option which matches your experience the closest

✓

Welsh medium 6th Form or College

English medium 6th Form or College

Bilingual 6th form or College where subjects could be chosen in Welsh or English

Bilingual 6th form or College where Welsh and English were used together in lessons

Bilingual 6th form or College where Welsh and English were used in alternating lessons

Other …Please specify

Q4   In school how much coursework and how many examinations did you complete in Welsh?

✓

All or most of my work and exams were taken in Welsh (80%+)

The majority of my work was completed in Welsh but not all (50% - 79%)

Some of my work was competed in Welsh but less than half (20% - 49%)

Little or none of my work was completed in Welsh (0%-19%)

Q5   Where and when do you speak Welsh now? Please tick **ALL** that apply

✓

In University during seminars and tutorials

In University outside of formal teaching sessions

Outside of University socialising with friends

At home with family members

At home with friends

In another social situation … please specify

Q6   Below you will see statements, please tick whether you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I first learned to speak at home with family					
I first learned to speak Welsh in school					
My Welsh is still improving as I use it academically					
I am confident speaking in Welsh					
I am confident writing in Welsh					
I developed both English and Welsh skills from birth					
I developed my English language skills first					
I developed my Welsh language skills first					

The following questions are open questions, please write full answers

Q7   Why have you enrolled on the Tystysgrif Sgiliau Iaith?

Q8   What do you hope to achieve by completing the Tystysgrif Sgiliau Iaith?

Q9   What do you know about the Tystysgrif Sgiliau Iaith at this point?

Q10   Would you be willing to participate in further research for example focus groups and / or personal interviews?

        Yes   No   Don't know

If yes, please enter your student number and e-mail address below. Your information will be used only to contact you to arrange further interviews. It will not be shared with tutors and your answers and your information will be anonymised (i.e., student A) within the final publication. Participation in this research will not impact on the result of your TSI qualification in any way.

Student number:

Programme of Study / Degree Programme:

Year of study: 1st year   2nd Year   3rd Year   Other

E-mail address: _____

Thank you for participating in this study. Your contribution is appreciated.

Appendix C - Ethics Committee Approval Agreement

When undertaking a research or enterprise project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (e.g., NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics letter(s) of approval in order that your School has a record of the project.

The document *Ethics application guidance notes* will help you complete this form. It is available from the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents, please consult your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person(s) in your School or Unit.

PLEASE NOTE:

Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

Name of applicant:	Kelly Young
Supervisor (if student project):	Neil Hennessy / Anwen Jones
School / Unit:	School of Education
Student number (if applicable):	st20086384
Programme enrolled on (if applicable):	Doctorate in Education / Organisational Change
Project Title:	A critical analysis of integrated and stand-alone Welsh language support for bilingual Business and Management students at Cardiff Metropolitan University
Expected start date of data collection:	01/12/2016
Approximate duration of data collection:	2 years
Funding Body (if applicable):	Click here to enter text.
Other researcher(s) working on the project:	If your collaborators are external to Cardiff Met, include details of the organisation they represent.
Will the study involve NHS patients or staff?	No
Will the study involve human samples	No
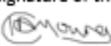
Does your project fall entirely within one of the following categories:	
Paper based, involving only documents in the public domain	No
Laboratory based, not involving human participants or human samples	No
Practice based not involving human participants (e.g., curatorial, practice audit)	No

Compulsory projects in professional practice (e.g., Initial Teacher Education)	No
A project for which external approval has been obtained (e.g., NHS)	No

If you have answered YES to any of these questions, expand on your answer in the non-technical summary. No further information regarding your project is required.
If you have answered NO to all of these questions, you must complete Part 2 of this form

---

In no more than 150 words, give a non-technical summary of the project

To critically evaluate the present provision for the development and support of Welsh medium students in completing formal assessments in Welsh, identify best practice in the linguistic support and development of Welsh medium students and propose a long term strategy to ensure students receive linguistic support within Welsh medium modules in CSM.

Objectives

- To identify a range of students to participate as case studies in the research (use of existing students from a range of backgrounds)
- To identify what support is offered at present and evaluate the student engagement and perception of the support (questionnaires and focus groups)
- To observe teaching sessions on the 'Tystysgrif Iaith' supplementary course, assessing attendance, engagement and student satisfaction (observation and interviews with tutor and participants)
- To measure pre and post support whether it has had any impact on the quantity of formative assessments completed in Welsh by participants (identify % of work completed in Welsh and interviews with participants about linguistic choice)
- To propose long term options for change within CSM Welsh medium courses (potential for the development of credit bearing modules which support linguistic development)

DECLARATION:

I confirm that this project conforms with the Cardiff Met Research Governance Framework

I confirm that I will abide by the Cardiff Met requirements regarding confidentiality and anonymity when conducting this project.

STUDENTS: I confirm that I will not disclose any information about this project without the prior approval of my supervisor.

Signature of the applicant:	Date: 10/11/2016

FOR STUDENT PROJECTS ONLY	
Name of supervisor: Neil James Hennessy	Date: 10/11/2016
Signature of supervisor:	

Research Ethics Committee use only	
Decision reached:	Project approved x
	Project approved in principle ☐
	Decision deferred ☐
	Project not approved ☐
	Project rejected ☐
Project reference number: CSE20161708	
Name: H. Jones	Date: 24/11/2016
Signature: H. Jones	
Details of any conditions upon which approval is dependant: Click here to enter text.	

PART TWO

A RESEARCH DESIGN
A1 Will you be using an approved protocol in your project?   No
A2 If yes, please state the name and code of the approved protocol to be used[1]
Click here to enter text.
A3 Describe the research design to be used in your project

Research method (s)

Questionnaire 1 to profile respondents undertaking the Tystysgrif Sgiliau iaith (TSI) course and identify previous experience so they can be categorised into 'types of bilingual' using Wei (2001) definitions to structure and inform the profiling.

Questionnaire 2 will be used post teaching sessions of TSI to identify experience of students in undertaking the course and identify motivations and engagement.

Questionnaire 3 – Used post assessment to assess suitability of assessment methods, whether the students felt prepared and if there are any recommendations for improvement.

Focus Group 1 – To be undertaken by a stratified sample of respondents to garner qualitative deeper understanding of the support available for students through the TSI and whether they have received other support and how they wold like the support to be delivered / offered.

Interview 1- students - To be undertaken by individual case studies to identify their personal experiences and gain further information on their personal experiences and preferences.

Interview 2 – Cris Dafis – to be undertaken with the tutor of the TSI to discuss his experiences of student attendance and engagement in Cardiff met Uni and gain the perspective of staff members towards to the TSI and support.

Sample and Sampling

The initial sample will be purposive (and this sampling method will be used for (Q 1,2, and 3) in that I will be sampling students who are enrolled on the TSI course and who are undertaking Welsh medium modules in their Undergraduate degree programme in Cardiff Met Uni.

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[1] An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff; a list of approved protocols can be found on the Cardiff Met website here

From the results of the initial questionnaire, I will be categorising respondents in terms of the nature of their bilingualism and their experiences to date, using this information to then choose a stratified sample of respondents for the focus groups to ensure that the widest range of experiences are included in the focus group discussions.

From the focus groups, I will be sampling respondents for interview based on the nature of their answers, the strength of feeling and engagement in discussions to identify potential case studies for further research. Again, I intend this to be stratified to ensure that the widest range of views are taken into account for the findings of the research.

Cris Dafis has been chosen for the purposive sample of teaching staff and he is the only person who teaches the course in Cardiff met Uni.

There will be further applications made for Ethics approval for more interviews with the Coleg Cymraeg Cenedlaethol, teaching staff on WM modules in the University, Welsh Government / Welsh Language Commissioner's Office etc. Please note that this is only an application for this section of research and is not the only research planned for the Ed D.

Analytical Techniques

Initially the main analytical technique will be to analyse the quantitative data and categorise respondents into formally recognised 'types of bilingual' according to definitions by Wei (2001) and to identify through thematic analysis their rationale for enrolling on the course.

From Questionnaire 2 and 3 the data will be analysed both quantitatively through statistical analysis and qualitatively through thematic analysis of the open questions.

The Interviews and focus groups will all be analysed using a thematic approach to identify themes and issues identified by respondents in their open questions. This will give more depth and non-biased approach to the data collection as the respondents will not be given option, but allowed to answer freely.

A4 Will the project involve deceptive or covert research?	No
A5 If yes, give a rationale for the use of deceptive or covert research	
Click here to enter text.	
A6 Will the project have security sensitive implications?	No
A7 If yes, please explain what they are and the measures that are proposed to address them	
Click here to enter text.	

B PREVIOUS EXPERIENCE
B1 What previous experience of research involving human participants relevant to this project do you have?
I have experience as senior manager in FE where undertaking research on student experiences and support was a part of the role with requirement to produce reports to Welsh Government and College Corporation. I have also researched the viability of Welsh medium modules in FE including student feedback on sessions as part of my MA ESDGC.
B2 **Student project only**   What previous experience of research involving human participants relevant to this project does your supervisor have?
Both supervisors are experienced in research with human participants through their PhD research and further research.

C POTENTIAL RISKS
C1 What potential risks do you foresee?

There are no physical risks to participants foreseen by the study.

Other risks
As the TSI course is delivered by one member of staff (Cris Dafis) funded by the Coleg Cymraeg Cenedlaethol, if this staff member withdrew from teaching the course there is a risk that access to participants may be reduced / removed by the replacement lecturer.

Risk of not enough participants engaging in the research especially the focus groups and case studies.

There is a risk that the information collected will be biased by the existing relationship between the participant and the researcher.

There is a potential conflict of interest between the Coleg Cymraeg Cenedlaethol interests and those of the researcher in terms of the nature and viability of the TSI course and as such this should be acknowledged.

Students have a preferred language for the completion of questionnaires, focus groups and interviews and thus are unwilling to contribute in English or Welsh.

C2 How will you deal with the potential risks?

If a replacement staff member was required, the Coleg Cymraeg Cenedlaethol would be responsible for replacing them. As such it may be necessary to gain their approval for the research to ensure continuity in the support of the access to students. Also, as the TSI is only part of the research, there would be opportunity to restrict the research to CSM students only and remove the aspect of observation of session from the research. The research would then use the focus groups and interviews to ask participants to reflect on their experiences and engagement with the TSI, rather than observation of engagement in the classroom. Although this changes the research method and focus slightly, the research project remains viable.

The researcher will conduct the initial questionnaire electronically by emailing students links to a 'Qualtrics' surveys. This survey will be in both Welsh and English (optional) and the enrolment information will be used to send an email to all students who have enrolled on the TSI. This should allow for a large sample to choose for the focus groups and case studies. From this I will then identify individuals for further research. I have discussed this research with groups in CSM and have had a very positive response from the potential participants as to their willingness to be part of the research. There is also opportunity to extend this external to Cardiff Met Uni if required. If there are still not enough participants, the research may be conducted on paper in TSI sessions, however further Ethics approval would be applied for, before this action was taken, as there would be additional issues of risk to consider regarding pressure on students to complete questionnaires.

To reduce bias and the impact of the researcher on the information provided by participants, the researcher intends to extend the initial research outside of the student groups who are taught by the researcher and include participants from other schools in Cardiff met Uni. This should minimise the impact of the researcher on influencing the data. It will also be made clear to the participants that this research

required honest an open answers and the information will be treated anonymously and will not have any impact on their grade for the TSI course.

The researcher will discuss the research proposal with the CCC to ensure that conflict of interest is managed and minimised. It is important to ensure that CCC is aware that the research is focussed on student support in Welsh medium modules and that the TSI course is only an element of this, not the focus of the whole doctorate.

All research activities will be developed bilingually with a Welsh and English option. The choice of language will also be analysed to identify the participants' preferred linguistic choice and to assess their willingness to engage in Welsh medium activities. ALL FORMS/ACTIVITIES WILL BE OFFERED IN BOTH WELSH AND ENGLISH TO ALL PARTICIPANTS.

When submitting your application, you **MUST** attach a copy of the following:

- All information sheets
- Consent/assent form(s)
- An exemplar information sheet and participant consent form are available from the Research section of the Cardiff Met website.

Kelly Young

st20086384

Contents

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List of Abbreviations

Ascendant English (AE)

Ascendant Welsh (AW)

Cardiff Metropolitan University (Cardiff Met)

Cardiff School of Management (CSM)

Coleg Cymraeg Cenedlaethol (CCC)

Compound Bilingual (CB)

Co-ordinate Bilingual (Co-B)

Early Bilingual (EB)

National Student Survey (NSS)

School of Health Sciences (SOHS)

Successive Bilingual (SB)

The Welsh Joint Education Committee (WJEC)

Tystysgrif Sgiliau Iaith (TSI) (*Welsh Language Skills Certificate*)

1.0   Introduction

The pilot project has been designed as a case study as defined by Denscombe (2007) as a research project which is one instance of in-depth study, focusing on relationships and process occurring in a natural setting involving multiple sources and methods. The pilot project has been conducted as 'insider research' (Humphrey, 2012) as it is within the researcher's organisation and conducted with students and staff with whom she has regular direct contact.

The aim of the project is to critically analyse the integrated and standalone Welsh language support for bilingual students at Cardiff Metropolitan University's (Cardiff Met) Cardiff School of Management (CSM). This requires evaluating the current provision for the development and support of Welsh medium, identifying best practice in the linguistic support and development of Welsh medium students and proposing a strategy for Welsh language support within CSM. This can be broken down into the following research questions:

Research Question 1: What Welsh language support is currently available for Welsh-medium students in CSM and how do the students engage with the support?

Research Question 2: In what ways has the experience of support been different for different students and how effectively is the University developing the Welsh language skills within the curriculum?

Research Question 3: How effective are the internal and external support mechanisms in creating bilingually-confident graduates who work bilingually post-graduation?

Research Question 4: How can the findings change the strategic direction and planning of support for Welsh-medium CSM students?

An abductive approach (Suddaby, 2006) is evident through the critical analysis of the data collection methods and the revision of the data collection methods

throughout the research project. This assignment will describe, analyse and evaluate the data collection and findings, and identify the influence and changes then made to later data collection and analysis.

Owing to the bilingual nature of the research, data was collected in both English and Welsh. All direct quotes used will be verbatim in the language the data was presented. The analysis includes passages in Welsh which are then analysed in English. The decision for using the original language was made re reducing the risk of misinterpretation through translation.

2.0   Data collection

2.1   Online questionnaires

The online questionnaires were designed to garner 'descriptive or explanatory' data (Saunders *et al.,* 2016: 438) which would inform the direction and themes of the research and give opportunity for maximum participation from students as the distribution was through the university e-mail accounts of students enrolled on the TSI course.

The aim was to get a response rate of around 40% to allow for profiling of students into groups, however, Saunders *et al.* (2016) suggested that sample size of non-probability sampling such as purposive sampling is ambiguous and should be at the discretion of the researcher.

Questionnaire 1 was completed by a total of 27 participants (54% of total cohort). However, four records were incomplete or included corrupted data, therefore, the analysis is based upon 23 participants. Profiling of the questionnaire participants (Appendix H) is set out in Table 1.0 below.

Table 1.0: Profile of the Participants

	Total	Compound	Co-ordinate	Ascendant English	Ascendant Welsh	Early	Successive
	23	8	15	5	11	8	15
Total in profile	23	23		16		23	

The above process resulted in participants being profiled into one or more groups, as the total participants exceeds the sum of the profiles. This was expected as bilinguals often exhibit numerous characteristics of bilingualism (Wei, 2001), however, we can assume that there is no crossover between Compound Bilingual (CB) and Co-ordinate Bilingual (Co-B), Ascendant English (AE) and Ascendant Welsh (AW) and Early Bilingual (EB) and Successive Bilingual (SB) categories, as the characteristics for the profiles are in direct opposition to one another.

Questionnaires 2 and 3 were redesigned to be simple and easy to complete following the feedback from pilot participants. This reduced the number of questions, simplified the flow and aimed to make them concise and quick to complete. The concern at this point was to minimise 'research fatigue' (Clarke, 2008) of the participants and to ensure participation for the remainder of the research. It was also at this time that CSM announced that research with all third-year students should be avoided during the National Student Survey (NSS) data collection period to minimise any negative impact on the NSS data. To conform with the organisational request, the third-year CSM students were omitted from the e-mail list for Questionnaires 2 and 3, resulting in a lower response rate.

Questionnaire 2 was completed by 12 Cardiff Met participants, however, data was also collected from 8 pilot participants, totalling 20 respondents. This allowed useful analysis to occur, however, the data has been analysed both separately and as a total, to ensure that Cardiff Met data is not skewed by the pilot data.

The response to Questionnaire 3 was the lowest response rate with 10 Cardiff Met participants and 3 pilot participants. As this aim of these questionnaires was to establish attitude towards and relationships between Welsh language support and linguistic development and usage, this data is still relevant. However, it is useful to note the poor response rate and therefore the 'rich' data collected from the focus groups will be used to triangulate (Saunders *et al.*, 2016) and support the data from the questionnaires.

2.2 One-to-one interviews

Only two 1-1 interviews were conducted; an interview with the TSI tutor and an interview with a student who had opted out of the TSI course.

The first interview was conducted with the tutor of the TSI course, purposively sampled because of his role in coordinating and teaching on the course. Agreement for his participation had been sought both from the individual and, at his behest, from the Coleg Cymraeg Cenedlaethol (CCC) who employ him as tutor and coordinator for the TSI course. Confirmation of agreement was received by e-mail following e-correspondence and telephone discussions. These discussions raised concerns as to the nature of the research, the aim of the research with regards to the TSI qualification and the measures in place to protect both the tutor and the CCC from any loss of reputation. The interview took place in December 2016 in a classroom within the CSM.

Though a single interview cannot represent the views of all TSI tutors across Wales, it is important to note that this tutor covers all of south Wales, and that his perspective is unique to those universities in which he operates. Therefore, expanding the sampling to include other tutors from different Universities may have skewed the results as the research was intentionally focused on the experiences and perception of the tutor's contact with Cardiff Met students.

The 1-1 interview with the student who had unenrolled from the TSI was also purposive sampling. In this instance, the tutor within the School of Health Sciences (SOHS) had approached her student and gained the necessary agreement for participation in a 1-1 interview. Subsequent analysis showed that the data provided lay outside the scope of this research, contributing very little to the overall project. Hence, the data has been omitted from this report.

2.3 Observations

The plan was to attend three separate TSI sessions to observe the students' interaction and engagement. Identifying student engagement is not simple, as Bangert-Drowns and Pyke (2001) suggest, engaged learners need to be cognitively, behaviourally and emotionally engaged in their learning, but to measure these three types of engagement is complex. Trowler (2010) suggest that engagement is the time, effort and resources put in by students to enhance their learning outcomes. They argued that student engagement is more than

merely the effort put in by students in the classroom, but true engagement comes from a two-way effort from the student and the institution to provide a fully 'engaged' experience. The paper went on to suggest that positive engagement is displayed through attendance, participation and enthusiasm (behavioural), interest (emotional) and meeting or exceeding assignment requirements (cognitive). Using these as the basis of the observation, an observation sheet was designed (Appendix A) which structured observations over sets of 15 minutes looking at body language including posture, attention, questioning, response and participation in activities. It was decided to observe 'measurable' signals, such as participation in classroom activities, looking at the screen, active note-taking, prompted and unprompted questioning of the tutor, prompted and unprompted answering of questions and whether the students were distracted through private discussions or smart technology.

This data was collected in two ways, as qualitative (number of students completing an action) for the majority of the 15 minutes noted as 'screen/activity', 'note-taking' and 'distraction') and activity (questioning and answering). It was also decided that qualitative observation through notes would be made to capture any activities or actions which had not previously been considered by the research design (Appendix G).

While conducting the observations, several issues arose with the data collection. Attendance was an issue; no students attended the first scheduled observation. Trowler (2010) identified non-attendance as an indicator of 'behavioural' non-engagement of students and as such the first attempt at observation succeeded in one aspect, to identify that, of the 41 potential attendees, no one attended. This voided the first structured observation; however, it is in its own right valid to potentially identify this non-attendance as lack of student engagement. The second issue was the cancellation of the third observation by the tutor which meant that only one set of data was collected through observation. This data, however, when analysed, was of little use to the researcher. This, coupled with a finite number of TSI sessions available and the lack of researcher availability to attend observations, meant that it was decided the two missed observations would not be re-scheduled.

At this point the decision was made to focus on the 'rich data' that could be garnered from the focus groups (Saunders *et al.,* 2016). The focus of which was moving to understanding student engagement, motivation and attitudes towards the TSI course and additional support offered for Welsh language development at Cardiff Met.

2.4   Focus groups

The one-to-many interviews or 'focus groups' were conducted with 24/41 (58.53%) of those TSI students registered for 2016/17. The focus groups were conducted over a two-week period in May 2017 at either Llandaff or Cyncoed Campus. The TSI course was chosen as the focus of the purposive sampling, as the documentary analysis identified the TSI course as the main opportunity for CSM Welsh-medium linguistic development and support. Any student who had not undertaken the TSI course would find it difficult to participate in the focus groups.

The 24 participants were split into four focus groups: CSM Business and Marketing A, CSM Business and Marketing B, CSM Tourism and Events Management C, School of Sport (Sport and Physical Education). Conducting a focus group with non-CSM students would give a broader and more comprehensive, university-wide understanding of the student attitude and experience.

The focus group interviews were transcribed and uploaded into NVivo Pro (Version 12). The data was analysed for thematic links which led to the creation of 34 main 'nodes' or themes (Appendix H). The data was then coded to the appropriate themes and analysis of the data conducted through both manual analysis and 'queries' function within the programme.

Participant data was set up to identify linguistic profiles and thus, could be linked to the three sets of profiles: Co-ordinate or Compound bilingual, Ascendant Welsh or Ascendant English bilingual, Early or Successive bilingual (Appendix B). Using these profiles, data could be analysed to identify attitudes towards Welsh

language support and Welsh-medium modules within these profile groups and identify, if any, differing attitudes towards the provision.

3.0 Thematic Findings

3.1 Welsh Language Skills Certificate – Classroom-based sessions

The TSI was developed by the CCC and first awarded in 2013. It was adopted as a formal Welsh Joint Education Committee (WJEC) qualification and was first awarded in 2017 as a WJEC certificate (CCC, 2018). The aim of the award is to provide candidates with evidence of their Welsh language ability (writing and speaking). Employers such as Welsh Government and ITV Wales have pledged their support for the qualification which is open to all students studying in Wales and is a compulsory element of the Coleg's scholarship programme (CCC, 2018).

The CCC works with all Welsh universities, providing tutorials for support with the TSI assessments. The Coleg also provides online resources which are accessible from 'Y Porth'. However, according to Interview 1, tutorials are designed to support students with the assessments rather than develop their Welsh language skills to meet the assessment requirements.

The WJEC publish an annual report on the Welsh Language Skills Certificate (TSI) which details the pass rates, marking criteria and feedback from examiners. It is noted that the WJEC have published the annual report for the TSI 2018, however, the primary research was conducted with the 2017 cohort and as such the findings of the 2017 report are applicable to the study. The 2017 report finds that the gender split in candidates is roughly 25% male to 75% females. This imbalance is also reflected in the pilot data collection. The annual report for 2017 identifies that Cardiff Met had 35 candidates sitting the assessment in 2017 (WJEC, 2017), which is 6 candidates fewer than had registered for the session internally (as noted from the student list provided by the tutor which noted 41 candidates) and represents 13.1% of total candidates. This failure to apply for candidature might be due to personal reasons, however, the TSI tutor noted that

he advises against the examination whenever he feels that the student is not likely to pass (Interview 1).

The mean failure rate across the seven Universities who fielded candidates was 13.9% in 2017, an increase of 5.9% on the previous year. Extrapolating this average to the 35 Cardiff Met candidates means that five (4.865) candidates failed the assessment. This failure rate is broken down into the two elements of the assessment: oral presentation and written examination. The failure rate of the oral examination is 2.2%, a total of only six candidates across Wales failed to achieve a pass in the oral presentation. The failure rate of the written examination was 12.7% or 34 candidates. This reflects the points made in Interview 1 that the assessments ought to be two separate elements, each with its own certification. This would allow candidates to evidence either their oral or written skills. In this way, another 28 candidates across Wales might have been eligible for the certificate having proven only their oral ability.

This data also reflects the findings of the pilot questionnaires, which noted that 5% of students lacked confidence in their spoken Welsh skills. A substantial 27% lacked confidence in their written Welsh skills, which is double that of the failure rate of the written element of the TSI. Lack of confidence might be an issue here. However, it is still reflective of the difference in skills and perceived skills of students of their spoken and written Welsh language skills.

TSI candidates are offered five optional seminars with the TSI tutor (Interview 1) that focus on five separate topics: the assessment, idioms, structure and syntax, mutations and verbs. Table 2.0 shows the attendance record at support sessions.

Table 2.0: Attendance at TSI Support Sessions 2016/17 from Questionnaire 2

		Total (n=20)	USW (n=8)	Cardiff Met (n=12)
Sessions attended	Session 1	16 (80%)	5 (62.5%)	11 (91.6%)
	Session 2	7 (35%)	5 (62.5%)	2 (16.6%)
	Session 3	6 (30%)	5 (62.5%)	1 (8.33%)
	Session 4	6 (30%)	5 (62.5%)	1 (8.33%)
	Session 5	5 (25%)	4 (50%)	1 (8.33%)

Cardiff Met candidates attended a mean average of 1.33/5 sessions; the mean attendance for USW was 3/5. However, the median for Cardiff Met shows that the participants attended session 1 most frequently, with eleven attending session 1 and a total of five attendances at the other four sessions. USW demonstrates a higher level of attendance across all sessions with only session 5 having one student fewer that the other sessions. The high attendance at session 1 in Cardiff Met could be due to the way in which sessions were arranged. Interview 1 recognises the issues with running drop-in sessions, stating that:

> *"rhaid i fi gynnig … pob sesiwn unwaith ar Ddydd Llun, dweder yn y Met, unwaith ar Dydd Mercher a unwaith ar Ddydd Gwener yn y gobaith bydd un ohonyn nhw yn gyfleus i rhai o'r myfyrwyr. Y broblem yw, wrth gwrs, wedyn (bod) myfyrwyr yn dod i fi'n neud yr un sesiwn drosodd a throsodd a throsodd achos bod fi'n gweld nhw mewn dribs a drabs."* [Interview 1]

Here the tutor identifies the complexities of running drop-in sessions across various universities in a restricted timetable of Mondays, Wednesdays and Fridays. These timetabling issues mean that the students attend in 'dribs and drabs', therefore, the TSI tutor runs the assessment workshop 'over and over and over'. This may account for the high number of participants noting that they attended session 1, as this session was run most frequently.

As discussed in Burkill and Eaton (2011), the observation of the TSI session identified student body language, the asking and answering of questions, which would suggest that the students were actively engaged in the session observed, and the behaviours of the students that indicate student engagement with the activities.

The findings of the observation were that students were engaged and active learners during TSI sessions, which was in direct opposition to the TSI tutor's comments re student engagement:

> *"…mae'n anodd o'm mhrofiad i. Mae gan nifer o fyfyrwyr ddim lot o ddiddordeb chwaith mewn gloyw iaith, naill ai bod nhw gweld en ormod o 'big deal' neu ma nhw'n teimlo fel bod ei Cymraeg nhw hen ddigon da."* [Interview 1]

This would indicate that through the tutor's experience of teaching Welsh language skills (WLS) as part of the TSI, he feels that developing WLS is not a priority for a large number of students. However, the notes from the session identify that at 30 minutes into the session 100% of the students were still actively note-taking, 2/6 students had engaged in 30-40-second discussions when answering questions and the other four had answered using two or three words. At 45 minutes, it was observed that during a task, students had both answered and asked questions unprompted, engaged in longer task discussions and that 5/6 students asked questions at the end of the session, lasting 8-10 minutes.

During the session, two videos were shown to the students and observations during the videos were based on eye contact with the screen, note-taking and body language. Students were engaged in the videos and this was supported by 5/6 students asking direct questions to the tutor on completion of the video. These behaviours would indicate that students were engaged with the learning, contrary to Interview 1 perceptions.

This contradictory evidence could be based on a number of factors. The observation took place during a non-compulsory session which the students had actively chosen to attend. The act of attending in its own right would indicate a high level of engagement. Additionally, the questionnaires found that although 91% of respondents had attended TSI session 1 at Cardiff Met, this decreased dramatically to less than 1% attendance for the following four sessions. As the observation was conducted on session 1, it could be inferred that the relationship engagement of those attending would fit with Moore *et al.* (2008)'s characterisations of high student motivation. It is also noted that an additional observation was undertaken but with zero attendance; the lack of attendance at both the observed session and sessions 2-5 can be identified as a characteristic of a non-engaged student. Muir (2009) found that 42.9% of students are absent from classes as they either see no perceived benefit or lack intrinsic motivation to attend. Moore *et al.* (2008) identified non-attendance as low student motivation where students opt to engage in other non-academic pursuits.

The researcher's presence may have affected student behaviour, as they knew they were being observed. The overt nature of the observation and the completing of consent forms would have alerted the participants to the nature of the observations and may have caused the participants to 'act' or behave in a more engaged manner than they would have naturally, creating the Hawthorne effect (Adair, 1984). This is a risk associated with overt research and of being an insider researcher (Coghlan and Brannick, 2010; Trowler, 2014) and the reason for choosing not to rearrange the two unsuccessful observations. The true value and validity of the observations were in question. It was therefore decided to focus on the questionnaires and interviews as data-collection methods.

3.2   Welsh language skills development

Of interest to the researcher was the opportunity to determine students' perception of WLS feedback within Welsh-medium modules and whether the feedback had an effect on their confidence in using the Welsh language for informal and formal assessments. From the four group interviews, the topic of Welsh language feedback was noted to have 8.53% coverage, with all four groups discussing the issue and there being 27 separate references to Welsh language feedback by contributors. This was one of the two most discussed topics across the focus groups. This suggests that the participating students felt engaged in this topic and wanted to share their viewpoints.

The Welsh-medium CSM lecturers had informally agreed to give minimal Welsh language feedback to students in assessments; rather, to focus on students' ability to communicate and articulate their viewpoints. This was intended to support those less confident in their Welsh and attract and maintain viable numbers on Welsh-medium courses. The Welsh-medium lecturers have relied on the TSI course to develop and improve the students' Welsh language skills during their undergraduate degree programme without the requirement of Welsh language skills feedback within formally assessed modules. Assumptions had been made on a number of levels, for example, it had been assumed that students would not want feedback on their Welsh language skills; the TSI course would provide the skills they needed to improve their grammar; and giving

feedback would undermine their confidence in using Welsh for assessment purposes. The findings will be discussed in relation to these assumptions.

The assumption that students would not want Welsh language skills feedback is linked to recruitment and retention issues. Many students on enrolling on Welsh-medium modules enquire as to the nature of the Welsh language use and assessments in the medium of Welsh. A high percentage demonstrate a concern for their Welsh language skills on enrolment and the avoidance of feedback has been a consequence of team attempts to retain student numbers. However, it became evident during the focus groups that although students may enrol with concerns about Welsh feedback, a high number of students would welcome more feedback on their Welsh language skills. Of the 27 responses to this topic, 13 students articulated that they felt they were not able to identify language issues within their own work because of a lack of feedback.

> *"does dim fel marcio yn cael ei wneud gyda chi lot, dwi ddim yn gwybod os dwi'n ysgrifennu yn gywir neu beidio."* [Focus Group FG2F]

and

> *"Mae lot yn dweud os ti ddim yn gwybod y gair Cymraeg jyst rhoi'r gair Saesneg mewn"* [Focus Group FG2J]

The above comments highlight student attitudes towards the marking and feedback of Welsh-medium assignments and as such identify a lack of student ability to identify potential language mistakes, which results in a lack of confidence in using Welsh in formal settings. This is compounded by the following quote:

> *"fel weithiau dwi'n siarad Cymraeg, s'dim ots da i fel ...fel OK not too bad, ond os dwi'n gwneud gwaith fel 'sgwennu traethawd neu beth bynnag, fi'n gwybod fel dwi'n sillafu a treiglo'n wrong ond wedyn fi byth yn gwybod beth sy'n wrong dwi jyst yn gwybod bod stwff yn wrong... os dwi yn cael swydd yn y future yn 'whatever' ac yn gofod gwneud stwff yn y Gymraeg fel 'sgwennu, di moyn gwella a di moyn gwybod beth sy'n wrong"* [Focus Group FG2D]

The above comment highlights the participant's concern re her ability to work through the medium of Welsh in future. This reflects Crisfield (2016) who argued that pupils who do not receive feedback on their language skills are less likely to

use those skills in a future career. From Questionnaire 2, half of Cardiff Met participants felt that they had 'no change' in their confidence in using Welsh in their university assignments, while the other half had improved their confidence 'a bit'. Although there were no participants who identified their skills as 'slightly worse' or 'a lot worse', a large proportion of participants felt no improvement had been made re their Welsh language skills. From the open-questions section of Questionnaire 2, 20% of participants identified a need for more language feedback and 10% identified a need for more modules in Welsh and/or Welsh lessons.

In addition to the findings above, Questionnaire 2 also identified that participants felt that there had been no improvement in their written Welsh skills (66.67%), Spoken Welsh (58.33%), Welsh grammar (58.33%), mutations (66.67%), structures and patterns (75.00%) and Welsh idioms and sayings (83.33%). This would suggest that the majority of participants felt that their Welsh language skills had not been improved by the TSI course nor by studying through the medium of Welsh.

At this point, it must be noted that there is a marked difference in responses from the respondents from different profile groups.

Out of the eight respondents who identified as Compound, Successive and/or Ascendant English bilinguals, 50% shared a common response of not wanting their Welsh skills assessed formally and also a positive attitude towards wanting more Welsh language feedback. Some identified wanting private feedback. This would typically be the participants who lack confidence in their skills, who have been out of Welsh-medium education for some time or have come from an English-medium household. Respondent FG1B reflects this in response to a question about feedback:

> *"Fel fi'n hoffi'r ffaith bo chi ddim yn heddlu iaith a fi'n credu beth oedd (FG1A)'n dweud fel falle cael sesiwn preifat neu tymod …, ro'n ni'n cwrdd am fel deg ugain munud … os oedd hwnna pob fel ar ôl cael aseiniad jyst cael hwnna falle"* [Focus Group FG1B]

In comparison, the 15 participants who identified as Co-ordinate, Early and/or Ascendant Welsh bilinguals shared two common features. Some 53.3% of respondents expressed a desire for more Welsh-medium modules to be made available on their programme of study rather than having standalone Welsh lessons, which were an unpopular option with these participants. Over 80% identified that their Welsh language skills had worsened since studying at university.

It was during Focus Group 3 that participant FG3B stated that, "*Dwi wedi gwneud lefel A Cymraeg yn yr ysgol, felly os o'n i wedi gwneud y Tystysgrif yn Blwyddyn un, byddaf wedi gwneud yn well, oherwydd mae sgiliau iaith fi wedi gwaethygu…*". At this point the researcher asked the rest of the group, "*pwy arall sy'n teimlo'r un peth, bod sgiliau iaith nhw wedi gwaethygu?*". The response to this question was that 80% of the focus group agreed that their Welsh language skills have declined since attending University. This was an unexpected response and prompted discussion on the difference between language standards in pre-university (Welsh-medium sixth form) and present Welsh-medium modules.

It could be argued that agreement with the statement might have been influenced by 'groupthink' (Janis, 1972). However, later in the interview, respondents were comfortable to disagree and contend each other's opinions, which would suggest that the overwhelming agreement that Welsh skills had worsened since studying at University was not influenced by a dominant focus group participant.

The above finding impacts profoundly upon the research findings as the rationale for the existence of Welsh-medium opportunities is two-fold: to allow for linguistic choice and to continue the development of Welsh language skills for potential use within a future career. It is this second element of the rationale for Welsh-medium education that is left in doubt from these findings and raises the question of whether the existing provision is creating bilingually-confident graduates who can work bilingually post-graduation.

3.3 Perception of TSI certificate for employability

The groups' responses identified a lack of a consistent approach to Welsh language skills feedback across the Schools and between individual staff members. One area in which participants were in agreement was that the TSI certificate would be useful for job applications and future employment. Although 25 respondents from three separate focus groups identified the scholarship as one of the main reasons for enrolling on the TSI, there were also 16 respondents who had stated that the TSI would be useful for future employment and as evidence of the students' Welsh language skills.

This perception of the TSI increasing the likelihood of getting a job requiring Welsh language skills was also reflected in Questionnaire 3 where ten respondents (77%) identified the TSI as increasing the likelihood of Welsh-medium employment, two respondents (15%) identified it as having no impact on Welsh-medium employment and one respondent (7.6%) identified it as having a negative impact on potential future Welsh-medium employment.

According to the CCC (2018), the TSI certificate is supported by many employers including ITV Wales and the Welsh Government, however, further information on these 'many employers' is not easily accessed by potential candidate and as such the lack of information on the exact numbers of these employers and also their location, may negatively affect the perception of potential benefit to the candidates.

Providing more information to potential candidates on those employers who support the TSI qualification might further increase the positive perception. It could be argued that future developments should include or build upon the TSI and its valued perception by candidates of increasing likelihood of gaining meaningful bilingual/Welsh-medium employment. Embedding the TSI within a module or developing additional language training for the TSI needs further consideration.

3.4   Code-switching

An incident during Focus Group 3, where participant FG3E is speaking in Welsh and cannot access/remember a common and well-known word, prompted the re-

assessment of the use of code-switching in the data analysis. The participant struggled to recall a simple word and asked peers for support and when given the required word stated, *'I know that word, of course I do, why couldn't I think of it?'*.

It was because of the above incident that a brief study of student code-switching was undertaken by creating a 'code-switching' node in NVivo to identify the number of times participants code-switched within the focus groups. Simplified from research by Fennema-Bloom (2009), the code-switching was categorised as either 'Habitual', identified as habitual or language ticks where the student was likely to have stored this word or phrase in their lexical bank, and 'Terminology', identified as switching by lexical borrowing of words or phrases which the student may not have the stored in their lexical bank.

Twenty-three participants (95.8%) demonstrated code-switching behaviours with a total of 371 incidences of code-switching (302 Habitual and 69 Terminology; Appendix H). The NVivo comparison below demonstrates the relationship between participants who code-switched and the type of code-switching.
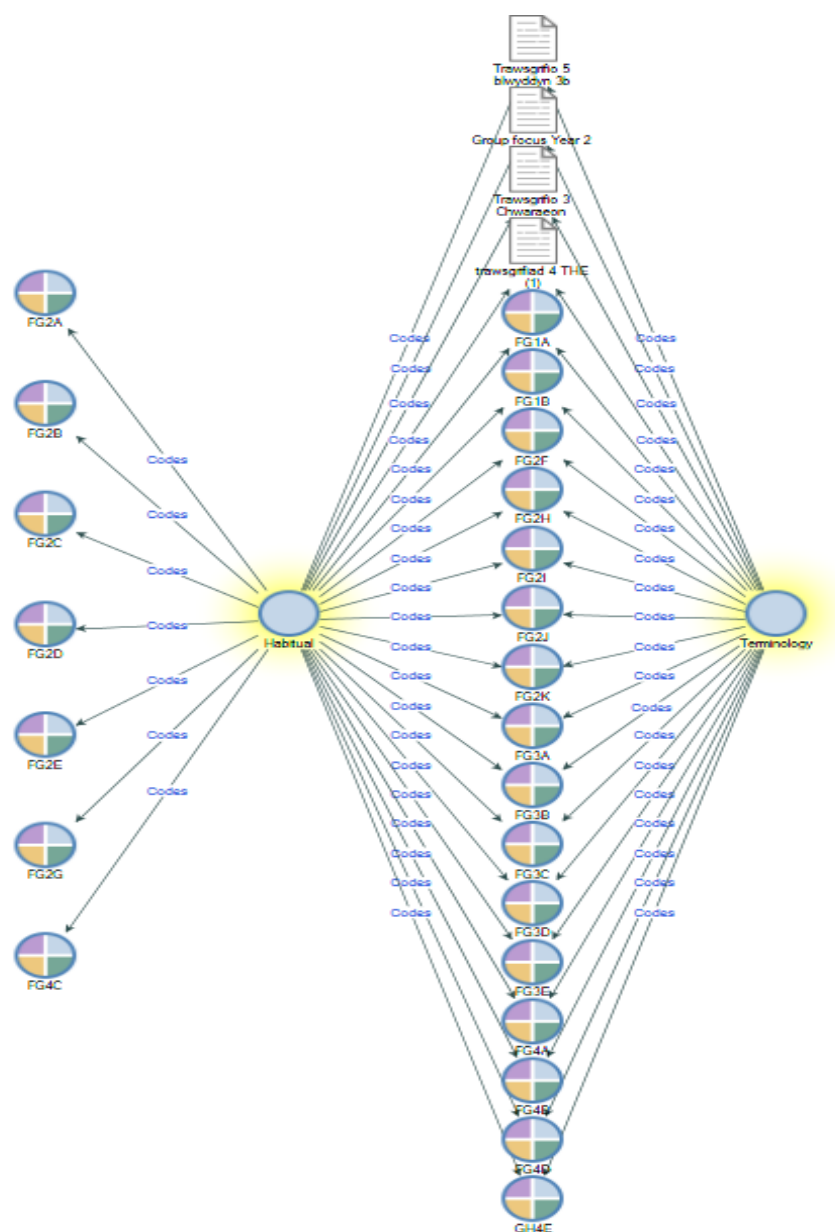
Image 1.0: Comparison of Code-switching Nodes and Participants

The NVivo comparison identifies the relationship between participants and code-switching nodes and clearly demonstrates that sixteen participants code-switched both in terminology and habitual where only seven participants code-switched as habitual only. By comparing this to the profile of participants (Appendix B), we can see that of the participants who code-switched for terminology 100% of them also habitually code-switched. Of the seven participants who habitually code-switched only, 71.5% (5/7) were profiled as Compound, Successive and/or Ascendant English, 14.2% (1/7) were Co-ordinate, Early and/or Ascendant Welsh bilinguals and 14.2% (1/7) were

'unassigned'/not profiled. This finding could indicate a link between profile and code-switching behaviour, however, analysis of this is not within the scope of this assignment. Further research of this phenomenon is a consideration for the final project.

The research also recognises that defining terminology code-switching in such a way is difficult to validate as the researcher does not know the participants' lexical bank of terminology. Therefore, the terminology code-switching has been identified where code-switching occurs for specific terms which are not used in daily conversation. There is an assumption here which is influenced by the researcher's own experience of Welsh usage within HE and her knowledge of the participants' linguistic abilities. This is subjective and further data collection focused on the participants' reasons behind code-switching would allow for more reliable data analysis.

3.5   Student choice

The research aimed to identify options for the improvement of Welsh language and Welsh-medium provision in the CSM. Participants were asked to identify their preferred option for Welsh language development from a range of standalone, online and embedded course options.

Responses to Questionnaire 3 showed that 46% of respondents wanted to embed Welsh language skills in either a core or optional module, 23% wanted Welsh language skills as a separate credit-bearing module, and 7.6% wanted a standalone non-credit-bearing course. One respondent indicated a preference to study 100% through the medium of Welsh. These issues were then raised with the focus groups for further development.

Out of the options presented to the focus groups, the most popular option was for the Welsh language to be embedded into a credit-bearing module, followed by increasing Welsh-medium module options and then online support. The focus groups did identify a strong negative response to optional sessions and standalone Welsh lessons, especially amongst the Co-ordinate, Early and/or

Ascendant Welsh bilingual respondents whose attitude towards Welsh lessons can be summarised as follows:

> *"If even (FG3A) has doubt in her mind … Anything optional (FG3A)'s there, I might not go, but with me it's definitely 'not go'."*
> [Focus Group FG3E]

Other responses included making the CCC scholarship dependent on attendance, which could improve participation, but overall there was a generally negative response to the idea of additional WLS lessons. It could be argued that future plans need to consider the embedding of Welsh language skills into compulsory, optional or specifically-designed credit-bearing modules to facilitate student attendance and engagement. It is recommended that further research into student preferences re linguistic development be included in the final project.

4.0   Critiquing data collection methods

4.1   Online questionnaires

The initial aim of the questionnaires was to allow for the profiling of participants into linguistic categories, adapting Wei (2001)'s definitions of bilingualism in individuals. Understanding each participant's bilingual level using their history to influence profiling would allow for the data to be analysed in the context of their profile.

The intention was to use set questions in each questionnaire to identify participants' linguistic profiles. Yet, following the pilot questionnaire, feedback identified that this profiling technique was too repetitive and caused a strong negative response from the pilot group. Comments such as 'waste of time' and 'completed this already' were received. Thus, the second and third questionnaires did not include the profile questions, and although profiling each questionnaire set might have been useful to the research, it was not deemed of any great importance as to warrant inclusion to the detriment of the participant engagement.

On reflection, it was also noted that the timing and frequency of the questionnaires somewhat impacted on the data collection. The pilot data was deemed appropriate to warrant analysis. On consideration, the two data sources were kept separate so as to identify potential anomalies between sources.

It is likely that 'research fatigue' in participants played its part. Furthermore, to comply with the University's policy re undertaking research involving Level 6 students during the NSS window, one third of the sample cohort was removed. For future projects, it is worthy considering using a single questionnaire, timed outside of the NSS data-collection window. It is unlikely that the final project will include a questionnaire as data from the focus groups and initial questionnaires gave richer data which was more relevant to the research sample size.

4.2   One-to-one interviews

The inclusion of the 1-1 interviews did give a broader perspective to the research, including being able to study the behaviour of TSI candidates from a tutor's perspective. The validity of the data collection from such a small sample would impact on the ability to create generalisations. As such, the inclusion of staff interviews in the final project data collection will be required to have a large enough sample to ensure increased validity while retaining an alternative perspective on the research data.

In retrospect, identification and inclusion of a larger number of students who had unenrolled from the TSI would have given a broader and more comprehensive perspective on the rationale for disengagement. That said, the student 1-1 interview did raise interesting points. It is important to recognise that this is the perspective of one single individual and cannot be considered to be representative of all students who have unenrolled from the TSI. It was for this reason that the data collected was not used in the pilot.

4.3   Focus groups

The use of focus groups was generally successful, garnered useful and interesting data which on analysis had both surprising and expected results. The

use of focus groups allowed for greater depth of discussion, and, owing to the semi-structured nature, new unexpected topics could be followed and developed. The use of focus groups will be a pivotal aspect of the final research design with the aim of developing a better understanding of the nature of linguistic delivery and development within CSM Welsh-medium modules.

Three critiques of the running of the focus groups can be made. With CSM Business and Marketing A, the researcher wanted to create a relaxed and comfortable environment and thus chose to conduct the focus group in a quiet area of the Students' Union at Cyncoed campus. Although this area of the bar was quiet, the digital recorder used to sound record the conversation, picked up more ambient noise than expected. This made the transcription more time-consuming than anticipated and some data may have been lost due to noise interference. As such, consequent focus groups were conducted in quiet, pre-booked classrooms.

The second criticism was the inclusion of too many participants in one focus group. Although Saunders *et al.* (2016) stated that focus groups should contain between four and twelve participants, they suggested that this is dependent on the nature of the discussion and more importantly, the skill and experience of the researcher. The CSM Business and Marketing B focus group was supposed to consist of two separate groups of six students, however, as the focus groups were conducted following examinations of compulsory modules, all twelve participants arrived at the same time.

The participants allocated the second session did not want to wait an hour, so it was decided to conduct one group with all twelve participants to minimise the risk of the participants withdrawing from the study. During the focus group no issues were identified as the focus group ran well. However, attempting to transcribe the audio recording identified issues such as participants speaking over one another, participants' voices being too quiet (from sitting too far away from the recording device, a small number of dominant participants taking over the discussions and difficulty in identifying each participant.

A fifth focus group had been arranged with students from the first-year Business and Management degree to garner a 'fresh' perspective of the support available to Welsh-medium CSM students. Unfortunately, only one participant attended the focus group. This poor attendance might have been due 'research fatigue' (Clarke, 2008), lack of engagement with the activity (Trowler, 2010) or simply the fact that it followed a final compulsory examination and participating in a focus group was not a priority. Future focus groups will be restriced to seven participants and greater thought given to the mental capacity of the students engaging in the research.

4.4   Data analysis

The use of various software packages (Qualtrics and NVivo) supported the structure and speed of data analysis, allowing for the data to be designed, collected and analysed more effectively and efficiently than using more traditional methods. There were linguistic barriers to use of software.

The online questionnaire software allowed for the questionnaires to be relatively complex, with unlimited, varied questions available. One drawback was that when making the questionnaire bilingual many elements of the software remain English. Although this was not an issue with regards to data collection, it does have an impact on the ethical implications of conducting bilingual research. There is a preference for fully functioning software in both languages rather than Welsh-medium questions on an English software package.

Having the ability to translate the questionnaires within the software meant that data was collected bilingually without the need to analyse the Welsh and English samples separately. Furthermore, the anonymous nature of the questionnaires meant that linguistic profiles could not be carried forward. This meant that the following questionnaires either had to have the same set of initial questions, which made the questionnaires too long and raised issues of research fatigue, or the profiles were abandoned. It was decided to abandon the profiling in questionnaires to minimise the perception of repetition and consequent research fatigue.

The use of NVivo was more problematic. This analysis has identified a number of issues when using NVivo with Welsh language and bilingual sources. The query functions such as 'stemmed words', 'synonyms', 'specialisations' and 'generalisations' are set up to recognise English, they do not recognise Welsh synonyms, stems and other derivatives and the bilingual nature of the text lacks links between languages. The software does not recognise the meaning of text and therefore cannot create links between Welsh and English words which have the same meaning.

Although the NVivo software helped to structure and process the analysis of the data, the analysis also required a human element to negotiate the data's bilingual nature. Hence, the use of NVivo is under review re the final project. Consideration is being made re the benefits and drawbacks of the software.

5.0 Conclusion

To conclude, the research has identified a number of issues within the WLS development of Welsh-medium learners, generally in Cardiff Met, and specifically in the CSM.

Research Question 1: What Welsh language support is currently available for Welsh medium students in CSM and how do the students engage with the support?

The research identified that three levels of support were available to CSM students in developing their Welsh language skills: online support through 'Y Porth', Welsh language personal tutoring and the TSI certificate. The TSI was the main source of Welsh language development for CSM students and was compulsory for those who received a CCC scholarship; few participants were aware of the online resources and personal tutoring provision.
CSM participants strongly indicated that a lack of Welsh language feedback within modules had left them unsure of their Welsh language skills both in assignment-writing and for future professional use, with just under 50% of respondents stating that they were not able to identify language mistakes in their

own work. This research indicates that feedback on Welsh language skills in Welsh-medium modules is negligible. Staff concerns re the effect on student confidence through receiving negative feedback are noted, but the research strongly indicates that participants would welcome more feedback based on their pre-university experiences.

The research found that although the compulsory nature of the TSI ensured students enrol, it does not engage students. Attendance was poor and student feedback suggested that the TSI alone was not sufficient to improve Welsh language skills.

The research concluded that although observation of the TSI session indicated that student engagement in the class was good, attendance, or lack thereof, in non-compulsory sessions indicated that student engagement is low and that participants noted the ad-hoc nature of the provision was confusing and often repetitive, especially repetition of the initial session. The research suggested that participants valued the TSI as a form of evidence of the Welsh language skills for job applications and future employment. It is important therefore to retain the TSI as part of the offering to Welsh-medium CSM students.

Several participants felt that making TSI sessions compulsory for the CCC scholarship-holders would have improved both structure and attendance at the sessions. However, student attitude towards additional courses was mixed. Further research on student preferences in the design and development of Welsh language support, either embedded into modules and/or standalone, could inform the final project. This could include consideration for a change in the way in which Welsh language skills are developed within Welsh-medium modules, meaning less reliance on the TSI as the means of Welsh language development, while retaining the TSI course for employability.

Research Question 2: In what ways has the experience of support been different for different students and how effectively is the University developing the Welsh language skills within the curriculum?

The research found that participants enrolled with concerns about their Welsh language skills and a lack of confidence in receiving Welsh language feedback. A high number of participants went on to state that they wanted more feedback on their Welsh language skills. Participants frequently noted that they lacked confidence and comprehension of the mistakes and quality of their written Welsh skills.

It is noted that attitudes towards the type, frequency and delivery of feedback differed between participants with an early bilingual profile and a successive bilingual profile. Early bilinguals tended to be comfortable with having in-class and post-assessment feedback. Some 50% of successive bilinguals did not want formal assessment of their Welsh language skills but would welcome private feedback.

There was an overwhelmingly negative response to having Welsh language skills assessed as part of a degree classification. As such, consideration for the overtness of Welsh language skills feedback, especially in the early development of students is essential. In general, it can be concluded that staff teaching on Welsh-medium modules should increase the amount of Welsh language feedback offered to students. The mechanism and frequency for this feedback should be adapted according to the individual student's profile.

The code-switching analysis would support the finding above, as it is a physical manifestation of the lack of confidence, knowledge or practice in using and speaking Welsh formally. It can be argued that code-switching is a natural bilingual phenomenon (Garcia, 2001). However, as one aspect of Welsh-medium education is to generate graduates who can operate at a professional level through the medium of Welsh, it could be argued that such frequency of code-switching could impact on the perceived professional communication skills of an individual. Further study of code-switching within the final project through identification of reasons for code-switching and developing teaching strategies to manage code-switching in Welsh-medium CSM modules would bring a depth of understanding to the next stage of the research.

Research Question 3: How effective are the internal and external support mechanisms in creating bilingually-confident graduates who work bilingually post-graduation?

In terms of skill development, the research found that the majority of participants felt that there had been no improvement to their written Welsh skills (66.67%), spoken Welsh (58.33%), Welsh grammar (58.33%), mutations (66.67%), structures and patterns (75.00%) and Welsh idioms and sayings (83.33%). This is compounded by 80% of Level 6 participants stating that their Welsh language skills had regressed while studying through the medium of Welsh at university. These findings are both unexpected and in direct opposition to what was initially expected from the research.

This finding is key re the planning of the final project as the rationale for Welsh-medium modules is to both offer linguistic choice and create bilingually-confident professionals. This research would suggest that this is not being achieved at this time. It can be concluded that the Welsh-medium modules in CSM need to support the development of the Welsh language skills identified above through either standalone Welsh language courses and/or support, embedding these skills into specific modules or the development of new modules which develop these skills as part of the module's learning outcomes.

6.0   Recommendations

The recommendations are inextricably linked with **Research Question 4**: How can the findings change the strategic direction and planning of support for Welsh-medium CSM students?

This section offers some key recommendations for consideration in the final project. A two-way approach is needed here re how the findings impact on the final project planning and design and how the findings influence potential changes in CSM Welsh-medium delivery.

6.1   Final project planning and design

a. Data collection methods will focus on in-depth interviews with Cardiff Met staff and focus groups/1-1 interview with Welsh-medium CSM Business and Management students to generate rich data while minimising the skewing of data by introducing external/non-relevant sources.

b. Further analysis of code-switching in student focus groups to develop understanding of when and why code-switching occurs so as to plan for better student support re reducing code-switching in spoken Welsh language.

c. Continue with the use of NVivo software for the data analysis of interviews despite its limited functionality.

d. Research potential for Welsh0medium pathway/standalone modules which allow for the contextualisation of Welsh issues as well as Welsh language development within the structure of the BA Business and Management.

6.2   Changes to CSM Welsh-medium delivery

a. Design of a new Welsh-medium pathway to increase number of modules available for Welsh-medium learning, including the embedding of the TSI course within the modules.

b. Trial a language-scaffolding/bilingual teaching strategy with first-year modules to support student linguistic development and confidence in using Welsh language.

c. Development of a Contents and Languages Integrated Learning (CLIL) approach for embedding Welsh language skills within modules.

d. Increase Welsh language feedback with the potential for developing CLIL-based module delivery.

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Appendix A – Classroom Structured Observation Sheets

Date:

Time:

Room:

	Gender	Course		Scholarship
	M / F			Y / N

Timing	Screen/activity		Notes		Questioning		Answering		Distractions	
	+ive	-ive	Active	inactive	prompted	unprompted	prompted	unprompted	phone	talking
0-15										
16-30										
31-45										
46-60										

<u>Notes</u>

0-15	
16-30	
31-45	
46-60	

Appendix B – Table of Profiled participants from Nvivo

	A : Gender	B : Course	C : Compound	D : Ascendant Welsh	E : Early
1 : FG1A	F	THE	Yes	No	No
2 : FG1B	F	THE	No	Yes	Yes
3 : FG2A	F	Business /Mkt	Yes	No	No
4 : FG2B	F	Business /Mkt	Yes	No	No
5 : FG2C	F	Business /Mkt	Yes	No	No
6 : FG2D	F	Business /Mkt	Yes	No	No
7 : FG2E	F	Business /Mkt	No	No	Yes
8 : FG2F	F	Business /Mkt	Yes	No	No
9 : FG2G	F	Business /Mkt	Yes	No	No
10 : FG2H	M	Business /Mkt	No	Yes	Yes
11 : FG2I	F	Business /Mkt	No	Yes	Yes
12 : FG2J	F	Business /Mkt	No	Yes	Yes
13 : FG2K	F	Business /Mkt	No	Yes	Yes
14 : FG2L	F	Business /Mkt	No	Yes	Yes
15 : FG3A	F	Business /Mkt	Yes	No	No
16 : FG3B	F	Business /Mkt	No	No	Yes
17 : FG3C	F	Business /Mkt	No	Yes	Yes
18 : FG3D	F	Business /Mkt	No	No	Yes
19 : FG3E	M	Business /Mkt	No	No	Yes
20 : FG4A	F	Sport	Unassigned	Unassigned	Unassigned
21 : FG4B	M	Sport	Unassigned	Unassigned	Unassigned
22 : FG4C	F	Sport	Unassigned	Unassigned	Unassigned
23 : FG4D	M	Sport	Unassigned	Unassigned	Unassigned
24 : GH4E	F	Sport	Unassigned	Unassigned	Unassigned

Appendix C – Questions for Linguistic Profiling Questionnaire 1

Q3a Your Secondary School – tick one option which matches your experience the closest

✓

Welsh medium school

Bilingual school where subjects could be chosen in Welsh or English

Bilingual school where Welsh and English were used together in lessons

Bilingual school where Welsh and English were used in alternating lessons

English medium school

Other …Please specify

Q3b Your 6th Form or College – tick one option which matches your experience the closest

✓

Welsh medium 6th Form or College

English medium 6th Form or College

Bilingual 6th form or College where subjects could be chosen in Welsh or English

Bilingual 6th form or College where Welsh and English were used together in lessons

Bilingual 6th form or College where Welsh and English were used in alternating lessons

Other …Please specify

Q4 In school how much coursework and how many examinations did you complete in Welsh?

✓

All or most of my work and exams were taken in Welsh (80%+)

The majority of my work was completed in Welsh but not all (50% - 79%)

Some of my work was competed in Welsh but less than half (20% - 49%)

Little or none of my work was completed in Welsh (0%-19%)

Q5 Where and when do you speak Welsh now? Please tick **ALL** that apply

✓

In University during seminars and tutorials

In University outside of formal teaching sessions

Outside of University socialising with friends

At home with family members

At home with friends

In another social situation … please specify

Q6 Below you will see statements, please tick whether you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I first learned to speak at home with family					
I first learned to speak Welsh in school					
My Welsh is still improving as I use it academically					
I am confident speaking in Welsh					
I am confident writing in Welsh					
I developed both English and Welsh skills from birth					
I developed my English language skills first					
I developed my Welsh language skills first					

Appendix D – Data Analysis Questionnaire 1

		Total	Compound	Co-ordinate	Ascendant E	Ascendant W	Early	Successive
General Information	Total in group	23	8	15	5	11	8	15
				23		16		23
	WM Education	15	0	15	4	6	5	11
	Bilingual Ed	8	8	0	1	5	4	6
	Scholarship	22	7	15	5	11	8	15
	80+ WM assessment	17	3	14	4	7	7	13
	50-79% WM assessment	4	3	1	0	3	2	2
	20-49% WM assessment	2	2	0	1	1	0	2
Use of Welsh	In lessons	22	8	13	4	10	8	14
	social in Uni	6	3	3	1	4	1	6
	social out of uni	12	5	9	4	6	4	10
	At home with family	14	6	7	2	9	7	11
	At home with friends	10	6	5	0	8	5	9
	Other	6	2	4	1	4	2	5
Confidence	Speaking Welsh	22	7	15	5	11	8	15
	Writing Welsh	17	5	12	3	9	7	12
Choosing TSI	Continue using Welsh	6	2	3	2	0	1	4
	Certificate	4	1	3	1	3	1	4
	Scholarship	9	5	3	1	5	6	6
	Future career	7	2	5	1	4	4	4
	Socialise	2	0	0	0	0	0	1
	Skill development	5	0	3	2	0	0	4
Hope to achieve	Improve communication	8	3	6	1	4	5	2
	Improve grammar	2	1	2	1	2	1	2
	Gain confidence	1	0	1	0	0	1	0
	Employability	4	3	3	2	2	2	4
	Standard/ General	11	1	7	2	5	4	6
Prior knowledge of TSI	Employability	2	0	3	1	0	0	2
	Proof of skills	6	1	4	2	2	2	1
	Skill development	3	2	1	1	0	0	2
	not much	2	0	1	0	2	2	0
	Assessment	10	5	5	0	5	7	6
	Required for scholarship	2	1	1	1	0	0	2

		Total	Compound	Co-ordinate	Ascendant E	Ascendant W	Early	Successive
General Information	Total in group	23	8	15	5	11	8	15
	WM Education	15	0	15	4	6	5	11
	Bilingual Ed	8	8	0	1	5	4	6
	Scholarship	22	7	15	5	11	8	15
	80+ WM assessment	73.91%	37.50%	93.33%	80.00%	63.64%	87.50%	86.67%
	50-79% WM assessment	17.39%	37.50%	6.67%	0.00%	27.27%	25.00%	13.33%
	20-49% WM assessment	8.70%	25.00%	0.00%	20.00%	9.09%	0.00%	13.33%
Use of Welsh	In lessons	95.65%	100.00%	86.67%	80.00%	90.91%	100.00%	93.33%
	social in Uni	26.09%	37.50%	20.00%	20.00%	36.36%	12.50%	40.00%
	social out of uni	52.17%	62.50%	60.00%	80.00%	54.55%	50.00%	66.67%
	At home with family	60.87%	75.00%	46.67%	40.00%	81.82%	87.50%	73.33%
	At home with friends	43.48%	75.00%	33.33%	0.00%	72.73%	62.50%	60.00%
	Other	26.09%	25.00%	26.67%	20.00%	36.36%	25.00%	33.33%
Confidence	Speaking Welsh	95.65%	87.50%	100.00%	100.00%	100.00%	100.00%	100.00%
	Writing Welsh	73.91%	62.50%	80.00%	60.00%	81.82%	87.50%	80.00%
Choosing TSI	Continue using Welsh	26.09%	25.00%	20.00%	40.00%	0.00%	12.50%	26.67%
	Certificate	17.39%	12.50%	20.00%	20.00%	27.27%	12.50%	26.67%
	Scholarship	39.13%	62.50%	20.00%	20.00%	45.45%	75.00%	40.00%
	Future career	30.43%	25.00%	33.33%	20.00%	36.36%	50.00%	26.67%
	Socialise	8.70%	0.00%	0.00%	0.00%	0.00%	0.00%	6.67%
	Skill development	21.74%	0.00%	20.00%	40.00%	0.00%	0.00%	26.67%
Hope to achieve	Improve communication	34.78%	37.50%	40.00%	20.00%	36.36%	62.50%	13.33%
	Improve grammar	8.70%	12.50%	13.33%	20.00%	18.18%	12.50%	13.33%
	Gain confidence	4.35%	0.00%	6.67%	0.00%	0.00%	12.50%	0.00%
	Employability	17.39%	37.50%	20.00%	40.00%	18.18%	25.00%	26.67%
	Standard/ General	47.83%	12.50%	46.67%	40.00%	45.45%	50.00%	40.00%
Prior knowledge of TSI	Employability	8.70%	0.00%	20.00%	20.00%	0.00%	0.00%	13.33%
	Proof of skills	26.09%	12.50%	26.67%	40.00%	18.18%	25.00%	6.67%
	Skill development	13.04%	25.00%	6.67%	20.00%	0.00%	0.00%	13.33%
	not much	8.70%	0.00%	6.67%	0.00%	18.18%	25.00%	0.00%
	Assessment	43.48%	62.50%	33.33%	0.00%	45.45%	87.50%	40.00%
	Required for scholarship	8.70%	12.50%	6.67%	20.00%	0.00%	0.00%	13.33%

Appendix E – Data Analysis Questionnaire 2

		Total	USW	Met		
	Total in group	20	8	12		
	Scholarship	17	5	12		
	session 1	16	5	11	5	11
	session 2	7	5	2	5	2
Sessions attended	session 3	6	5	1	5	1
	session 4	6	5	1	5	1
	session 5	5	4	1	4	1
	Don't know	2	1	1	3	1.333333

		Improved a lot		Improved a bit		No change		Slightly worse		A lot worse		Total
	Written Welsh	16.67%	2	16.67%	2	66.67%	8	0.00%	0	0.00%	0	12
	Spoken / verbal Welsh	0.00%	0	41.67%	5	58.33%	7	0.00%	0	0.00%	0	12
	Cywirdeb gramadegol	0.00%	0	41.67%	5	58.33%	7	0.00%	0	0.00%	0	12
Met -Improvements	Mutations	0.00%	0	33.33%	4	66.67%	8	0.00%	0	0.00%	0	12
	Structure and patterns	0.00%	0	25.00%	3	75.00%	9	0.00%	0	0.00%	0	12
	Idioms and sayings	0.00%	0	16.67%	2	83.33%	10	0.00%	0	0.00%	0	12
	Confidence in using in Uni work	0.00%	0	50.00%	6	50.00%	6	0.00%	0	0.00%	0	12
	Confidence in using in General	0.00%	0	50.00%	6	50.00%	6	0.00%	0	0.00%	0	12

		Improved a lot		Improved a bit		No change		Slightly worse		A lot worse		Total
	Written Welsh	25.00%	2	50.00%	4	25.00%	2	0.00%	0	0.00%	0	8
	Spoken / verbal Welsh	37.50%	3	25.00%	2	37.50%	3	0.00%	0	0.00%	0	8
	Cywirdeb gramadegol	25.00%	2	50.00%	4	25.00%	2	0.00%	0	0.00%	0	8
USW Improvements	Mutations	25.00%	2	37.50%	3	37.50%	3	0.00%	0	0.00%	0	8
	Structure and patterns	25.00%	2	25.00%	2	50.00%	4	0.00%	0	0.00%	0	8
	Idioms and sayings	12.50%	1	12.50%	1	75.00%	6	0.00%	0	0.00%	0	8
	Confidence in using in Uni work	12.50%	1	50.00%	4	37.50%	3	0.00%	0	0.00%	0	8
	Confidence in using in General	25.00%	2	37.50%	3	37.50%	3	0.00%	0	0.00%	0	8

		Total	USW	Met
	Opportunity to practice	3	2	1
	Needs more language feedback	4	1	3
	Help to maintain language skills	2	1	1
	Studying in Welsh has helped	4	1	3
Thematic analysis of open questions	Confident without support	1	0	1
	Mutation problems	2	0	2
	More modules in Welsh needed	1	0	1
	Terminology too complex	1	0	1
	Small class numbers is beneficial	1	0	1
	Need regular Welsh lessons	1	0	1

Appendix F – Data Analysis Questionnaire 3

	Total	USW	Met
Total in group	13	3	10
Scholarship	11	1	10

Sessions attended

	Total	USW	Met
Session 1	11	2	9
Session 2	7	2	5
Session 3	5	2	3
Session 4	3	2	1
Session 5	3	1	2
Don't know	2	1	1

Prepared for assessment

	Total	USW	Met
Yes, totally	9	2	7
Yes, Partially	4	1	3
No, not prepared	0	0	0

		A lot more Welsh		Some more Welsh		No change		Less Welsh		Much less welsh		Total
Welsh language usage in Assessments Met.	Written Assessments	20.00%	2	20.00%	2	60.00%	6	0.00%	0	0.00%	0	10
	Spoken assessments	10.00%	1	50.00%	5	40.00%	4	0.00%	0	0.00%	0	10
	Other assessments	10.00%	1	10.00%	1	80.00%	8	0.00%	0	0.00%	0	10
Welsh language usage in Assessments USW	Written Assessments	0.00%	0	0.00%	0	########	3	0.00%	0	0.00%	0	3
	Spoken assessments	0.00%	0	0.00%	0	########	3	0.00%	0	0.00%	0	3
	Other assessments	0.00%	0	0.00%	0	########	3	0.00%	0	0.00%	0	3

Influence on Welsh language usage MET

		Total	USW	Met	
Feedback on Welsh language skills	I get feed back in non assessed work	3	0	3	
	I get feedback in formal assessed work	4	2	2	
	I sometimes get feedback but not consistent	1	0	1	
	I don't get feedback and I don't want it	1	0	1	
	I don't get feedback but I would welcome more	5	1	4	
From the options which which would you choose, if any	Short course external to degree(as is)	2	1	1	
	Longer course, outside of degree	0	0	0	
	Embedded within an compulsory module	5	1	4	
	Embedded within an optional module	2	0	2	
	As a separate module of its own with credits	3	1	2	
	Something else, please specify	1	0	1	Course fully in Welsh
Benefits of the course, do you feel the course has …	Increase the likelyhood of you getting a job which requires Welsh after Uni	10	3	7	
	Made no difference to the likelyhood of you getting a job which requires Welsh after Uni	2	0	2	
	Reduced the likelyhood of you getting a job which requires Welsh after Uni	1	0	1	
Thematica analysis of open questions	Make it part of the degree course	1	0	1	
	Attendence issues with timetable /personal clashes	2	0	2	
	Requires on-going improvements	1	0	1	
	Change to less busy time of academic calendar	1	0	1	
	Use technology for practice eg videos etc	1	0	1	
	Make the assessments more realistic	1	0	1	
	More regular sessions	1	0	1	
	No change required	1	1	0	

Appendix G – Data Analysis of TSI Classroom Observation

Date: 10/11/2016
Time: 15:00 - 16:00
Room: O108 – CSM, Llandaff

Gender M/F	Course	Scholarship D Y/N
M	Business	Y
F	Business	Y
F	Business	Y
F	Business	Y
F	Speech and Language Therapy	N
M	Business	Y	Late

Timing	Screen/ Activity		Notes		Questioning		Answering		Distractions	
	+ive	-ive	Active	Inactive	prompted	unprompted	prompted	unprompted	phone	talking
0-15	5	0	5		1		4	0	0	0
16-30	6	0	6	0			2	2	0	0
31-45	6	0	6	0			2	5	0	2
46-60	6	0	6	0	4	4	4	3	0	0

Notes

0-15   Cris yn cyflwyno ei hyn ac yn cyflwyno fi ar ymchwil i'r myfyrwyr ac yn gofyn iddynt os ydyn nhw eisiau cymryd rhan yn yr ymchwil. Pawb yn cytuno ac yn cwblhau ffurflenni caniatâd.
Rhai cwestiynau o'r myfs am yr ymchwil fel bod yn ddi-enw beth yw'r ymchwil sydd wedi cael ei ateb gan ddweud bod yr ymchwil yn cael ei cyflwyno yn ddi-enw ond bydd angen i mi ystyried proffil myfs i wneud synnwyr o'r canlyniadau. Dydy Cris Dafis na'r CCC yn gweld canlyniadau personol yr ymchwil. Amserlen, yn ystod y blwyddyn hon ac efallai mewn i flwyddyn nesaf.
Cris yn ddechrau esbonio beth yw'r TSI a'r dulliau maesu / beth yw'r cymhwyster / meini prawf asesiadau
Pawb yn wrando, yn edrych ac yn ysgrifennu nodiadau.

16-30   15:15 – Myf 6 wedi cyrraedd – cwblhau gwaith papur – cytuno if od yn rhan o'r ymchwil.
Pawb yn edrych ar y sgrin, iaith y corff yn dda, pawb yn edrych fel mae'n nhw yn wrando ac yn ymgysylltu a'r sesiwn.
Cwestiwn 1 – pawb wedi ateb gyda nod pen neu ateb iei. Pawb yn cymryd rhan.
Ystafell oer iawn – cotiau ar gluniau neu dros ysgwyddau ...ddim yn helpu ystyried iaith corff.
Eto C2 – ateb nod pen.
C3 – cwestiwn uniongyrchol i pawb ar y tro. Pawb wedi roi cynnig ar ateb ond dim ond 2 / 6 ar hyn o bryd yn meddwl am bwnc neu wedi meddwl am yr asesiad.

31-45   Pawb dal yn ysgrifennu nodiadau
2/6 wedi sgwrsio am 30-40 eiliad wrth ymateb cwestiwn uniongyrchol.
4/6 wedi ateb gyda 2-3 gair

46-60   Adnabod gwallau
Mae'r tiwtor wedi dosbarthu enghraifft o un o'r asesiadau – cywiro gwallau iaith.
. mae'n rhoi amser iddynt i ddarllen ac i fynd trwy'r asesiad ac adnabod y gwallau.

Brawddeg 1 – neb yn ateb felly mae CD wedi gofyn 1 yn uniongyrchol. Ateb yn anghywir ond wedyn wnaeth 2 arall cynnig ateb heb i Cris gofyn yn uniongyrchol. 1 yn gofyn cwestiynau (3) am y frawddeg a gramadeg.
Nawr mae'r grwp yn dechrau ateb Cwestiynau heb promptio gan Cris. Mae nhw'n gofyn nifer o cwestiynau ac yn cynnig atebion.
Mae Cris yn gofyn un uniongyrchol i'r rhai sydd ddim wedi cynnig ateb i ddod a nhw mewn i'r sesiwn.
Ystafell dal yn oer. Myfs yn ddechrau edrych yn anghyfforddus.
Cris yn ddangos clipiau fideo o cyflwyniadau ac yn trafod safion iaith ac asesiad iafar.
Pawb yn wylio'r clipiau fideo.
Neb ar ffon symudol neu yn doodlan. Pawb yn wylio ac yn wrando.
Ar y ddiwedd – Cris yn gofyn am cwestiynau ar y cwrs, y sesiynau, modiwlau ac ati.

Mae 5/6 yn gofyn cwestiwn am y cynnwys, amseru, sesiynau, lleoliad sesiynau nesaf ac ati a mae'r c&a yn parhau am 8-30 munud.

Cris wedi ddiolch i bawb ac atgoffa nhw am y sesiynau nesaf, a dweud bod e'n mynd i ebostio nhw.

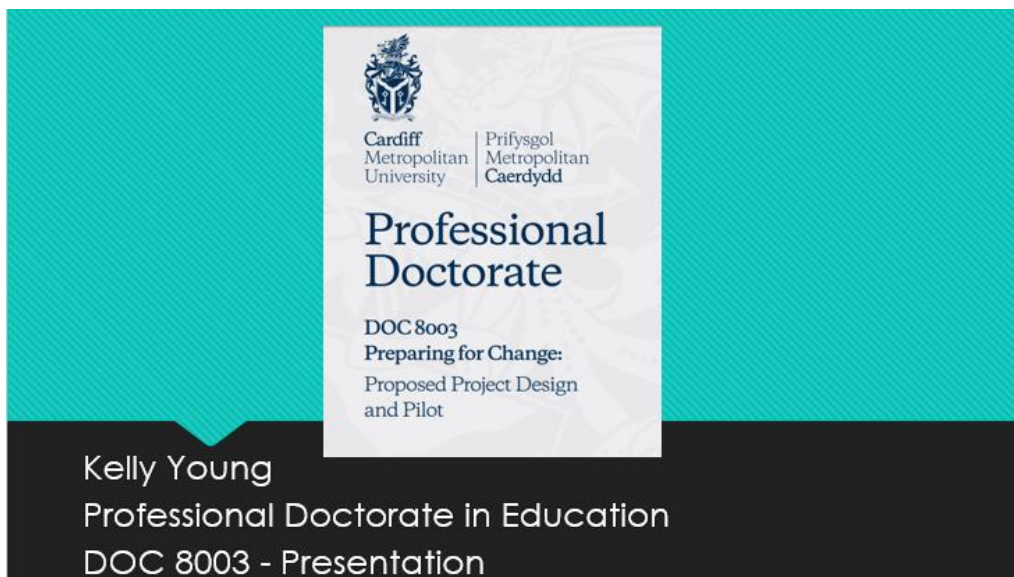# Appendix H – NVivo Nodes for Coding of Qualitative Data

Nodes   🔍 *Search Project*

Name	Files	References
Advantages of WM modules	2	8
Assessment issues within the TSI	2	5
Codeswitching	0	0
Comaprisons with international students	2	13
Disadvantages of studying Welsh mediu	1	13
Hard to access TSI sessions	0	0
Improving Welsh will be useful for emplo	3	6
Lacking confidence writing in Welsh	1	4
Lacking feedback on Welsh language skill	4	27
More Welsh medium provision	1	6
Negative attitude of others towards Wels	2	5
Negative impact on confidence	3	8
Problems transitioning from Welsh to Eng	2	14
Profiling linguistic skills	1	3
Scholarship liked to attendance on TSI	1	1
Skills gained through TSI	2	2
Suggested improvements	2	6
Support from other sources personal tuto	3	7
Trialled teaching formats	1	3
Using IT for language support	3	16
Using Welsh in University	5	22
Welsh ability variance within the class issu	2	3
Welsh skills have improved in University	3	9
Welsh skills have stayed the same in Univ	2	3
Welsh skills have worsened since leaving	2	5
What linguistic skills you would like to im	0	0
Why have you enrolled on TSI	0	0
Would not choose optional sessions	1	5
Would not choose Welsh lessons	1	3
Would not want to detract from other cre	1	2
Would opt for embedded Welsh skills in a	3	12
Would opt for more MW modules	1	8
Would opt for online Welsh support	1	6
Would opt for stand alone Welsh course	1	1

NVivo Nodes for code-switching

	Files	References
Codeswitching	0	0
Habitual	4	302
Terminology	4	69

DOC8003 PRES1 Research and Design Pilot

Underpinning knowledge

Pre-DOC8003

Identified research design theory as a weakness early into the Prof \Doc.

- "Tried and lost! Didn't understand it –I made a terminology section in the back of my book and read ½ chapter, lost the will to live, gave up! I think at this point, I am just getting back into research. This book may have been a bit too much to start. I need to start with a book that is written in plain English and more practical."

- Reflective Journal Entry in 2015

Now

- Have a workable knowledge of research methods theory and underpinning knowledge.

- Can define philosophy and justify choice with clear rationale

- Identify ontological and epistemological perspectives and identify research assumptions which impact upon the research

- Can have conversations about research with academics and understand their research

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Pilot project

- Gitlin & Russell (1994) argued that the aim of research within the field of education is not to aim to discover 'absolute truths' but to 'scrutinize normative truths'

- An abductive approach (Suddaby, 2006) is evident through the critical analysis of the data collection methods and the revision of the data collection methods throughout the research project.

- Case study as defined by Denscombe (2007) as a research project which is one instance of in-depth study, focussing on relationships and process occurring in a natural setting involving multiple sources and methods.

- 'insider research' (Humphrey, 2012) as it is within the researchers' organisation and conducted with students and staff with whom they have regular direct contact.

Practicalities of bilingual research

- Due to the bilingual nature of the research, data was collected in both English and Welsh, as such all direct quotes used will be verbatim in the language the data was presented.

  - As such, the analysis of the data includes passages in Welsh which are then analysed in English.

- The decision for this use of the original language was to reduce the risk of mis-interpretation through translation.

Trialled different strategies and data collection methods
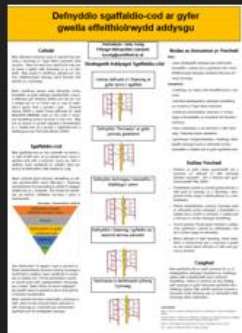
Lesson 1 : Keep it simple

- Having no prior experience, I now realise that I planned and undertook too much data collection for the pilot project.

- I had elements of data, such as the 1-2-1 interview with student which added no value to the core research – I decided to leave this out.

- On the positive side, I did conduct the interview, which allowed me to analyses the value of the student's data. I can now justify not including students from outside the scope of the Welsh medium research.

Lesson 2: the apprenticeship

- The focus groups were really interesting to run. It required a high level of people management and control of individuals from dominating the conversation

- Made some basic errors i.e. too many participants for my ability

- Transcribing is awful – very time consuming, is helped by having correct hardware (foot pedals) and software (speech to text) helps but it still takes time to proof and identify participants

- Bilingual nature of the focus groups made transcribing and analysing more complex than mono-lingual interviews

- Focus for transcription was to keep the data as close to the original spoken language as possible – code-switching, lexical borrowing, colloquialisms and context sounds and pauses were all important aspects to retain for possible analysis

Lesson 3: keeping an open mind

- Allowing the research to influence the research was an important aspect of my philosophy
- It was unexpected when my research led me back to my original ideas for analysing code-switching
  - This was led both a comment by participant FG3E
    - *'I know that word, of course I do, why couldn't I think of it?*
  - the code-switching demonstrated by participants of all focus groups
- I may re-visit this as an element of the final project analysis

Critique of the data collection

- **Questionnaires**
  - timing and frequency
  - 'research fatigue'
  - organisational policy
- **One to one interviews**
  - Small sample size
- **Focus Groups**
  - Recording ambient noise
  - too many participants
  - Lack of engagement with the activity (Trowler, 2010)
- **Classroom Observation**
  - presence of the researcher / insider researcher (Trowler, 2014; Coghlan & Brannick, 2010)

Software and analysis

- The Qualtrics online questionnaire software (Qualtrics, 2018) allowed for the questionnaires to be relatively complex with unlimited questions with a variety in the type of questions available.
  - the drawbacks were that when translating the questionnaire to be bilingual, many elements of the software remain English.
- The use of NVivo (QSR Nvivo, 2018) however was more problematic
  - the inability to use the query functions
  - required a 'human' element to negotiate the bilingual nature of the data
  - Lack of training on complex functions
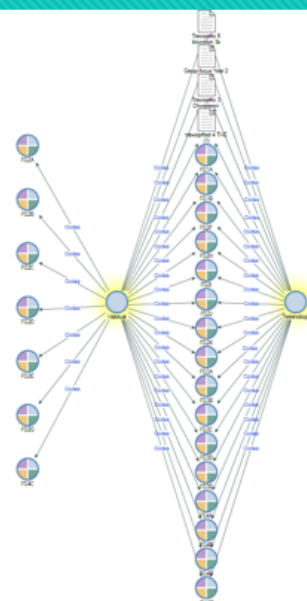
Unexpected findings

- The frequency of code-switching in the focus groups was higher than expected
  - "fel weithiau dwi'n siarad Cymraeg, s'dim ots da i fel ...fel OK not too bad, ond os dwi'n gwneud gwaith fel 'sgwennu traethawd neu beth bynnag, fi'n gwybod fel dwi'n sillafu a treiglo'n wrong ond wedyn fi byth yn gwybod beth sy'n wrong dwi jyst yn gwybod bod stwff yn wrong... os dwi yn cael swydd yn y future yn 'whatever' ac yn gofod gwneud stwff yn y Gymraeg fel 'sgwennu, di moyn gwella a di moyn gwybod beth sy'n wrong"
    - Focus Group FG2D
- Focus group 3 participant perceptions of their Welsh language skills was most unexpected;
  - "sgiliau iaith fi wedi gwaethygu" with 80% of the focus group agreed with the that their Welsh language skills have declined since attending University

Focus Group FG3B

Outline of the final project

- Trial of bilingual teaching strategies into BA (Hons) Business and Management at Level 4
- Developing language scaffolding model for application to BA (Hons) Business and Management
- Trial seminar group of Welsh medium learners where numbers are viable
- Assess impact of the above on student perceptions of the BA Business & Management programme
- Assess impact of the above on the student experience of learning through the medium of Welsh
- Proposed Welsh medium pathway for BA (Hons) Business and Management quinquennial review

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Final project action plan

Action	With	Sample	Start	End
Research CLIL, CBLT and language scaffolding methods (code-switching)	Secondary research	N/A	June 2018	September 2018
Develop bilingual teaching strategy and identify modules to trial	Requiring additional lecturing staff to undertake trail of bilingual methods	Purposive sample of CSM Welsh medium students only	September 2018	January 2019
Trail Welsh medium seminar group	BABMS only (THE have too many variants on programme – not feasible)	Purposive sample of BABMS Welsh speaking students	September 2018	January 2019
Conduct questionnaires to garner feedback on bilingual teaching methods and Welsh medium seminar	BABMS and THE students in CSM who study at least 10 credits in Welsh	Purposive sample (Census approach) BABMS for Seminar feedback both BABMS and THE for bilingual teaching methods feedback	December 2018	January 2019
Conduct focus groups to gain further understanding of student experience in learning through the medium of Welsh in CSM	BABMS and THE students in CSM who study at least 10 credits in Welsh	Purposive sample (Census approach) BABMS for Seminar feedback and both BABMS and THE for bilingual teaching methods feedback	January 2019	February 2019
Research opportunities for developing Welsh language pathway	Programme Director and lecturing staff (Welsh medium)	Purposive sample of interview with Programme Director and Lecturing staff	September 2018	January 2019
Research viability and political support for Welsh language pathway	Cardiff Met Uni Welsh Language Manager	Purposive sample of interview with Welsh Language Manager	December 2018	January 2019
Conduct focus groups with Year 2 and 3 BABMS Welsh medium students to gain further understanding of their experience in learning through the medium of Welsh in CSM	Compare experiences of students in year 2 and 3 with no language scaffolding and / or Welsh medium seminar group	Purposive sample of BABMS Welsh speaking students BABMS Year 2 and 3	December 2018	January 2019
Create Language scaffolding plan for BA Business & Management three year degree programme	Propose change	N/A	December 2018	February 2019
Propose Welsh language pathway for quinquennial review of BA Business & management programme	Propose change	N/A	December 2018	March 2019

Reflexive thinking

- Support students in developing online questionnaires which has moved co-workers from advocating paper versions to using on-line survey software
- Demonstrate NVivo as part of undergraduate dissertation module as a means of undertaking thematic analysis
- Looking forward to undertaking 'other' research post-Ed D rather than avoid it
- Have supported co-workers in their doctoral studies – getting ready to be an official supervisor – feedback from co-workers has been extremely positive
- Again, this has made me a better supervisor and lecturer in that I can support academically and empathise personally with those undertaking research

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