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Relationships between the Welsh Baccalaureate Advanced Diploma and Higher Education

Relationships between the Welsh Baccalaureate Advanced Diploma and Higher Education

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Glossary of acronyms

CI	Confidence intervals
CSI	Core Subject Indicator
FSM	Eligible for free school meals
GCSE	General Certificate of Secondary Education
HE	Higher Education
HESA	Higher Education Statistics Agency
LLWR	Lifelong Learning Wales Record
NPD	National Pupil Database
SEN	Special educational needs
STEM	Subjects allied to science, technology, engineering and mathematics
UCAS	Universities and Colleges Admissions Service
WBQ	Welsh Baccalaureate Advanced Diploma
WJEC	The WJEC is an awarding and assessment body providing educational services throughout England, Wales and Northern Ireland. It administers the WBQ on behalf of the Welsh Government

Glossary of terms

Core Subject Indicator (CSI)	The Core Subject Indicator (CSI) indicates whether a pupil achieved Level 2 in the core subjects: GCSE grade A*-C in (a) English or Welsh, (b) science and (c) mathematics.
GCSE Points	This score is based on the total number of GCSEs a pupil has achieved and is calculated using A*=8 points, A=7, B=6, C=5, D=4, E=3, F=2, G=1.
Post-1992 university	‘New’ universities established or renamed as universities after 1992.
Pre-1992 university	‘Old’ universities established as universities before 1992.
Russell Group	The Russell Group represents 24 leading UK universities that can be characterised by their commitment to undertaking high quality research and teaching.
UCAS Tariff	UCAS is the organisation responsible for managing applications to higher education courses in the UK. The UCAS Tariff is the system for allocating points to qualifications used for entry to higher education.

Summary

1. The development and successful implementation of the Welsh Baccalaureate Qualification (WBQ) represents one of the principal ways in which, following parliamentary devolution in 1999, Wales has developed its response to UK and international debates about the most effective ways of preparing young people for higher education.
2. The WBQ was introduced in September 2003 as a pilot scheme and has since been rolled out across a significant number of schools and FE colleges. The WBQ involves a distinctive approach to the organisation of the curriculum (and associated assessment), combining significant elements of general and/or vocational education (the Options, comprising existing qualifications) with the development of key skills, research/analysis through the Individual Investigation, knowledge of Wales' culture and its place in Europe and the wider world and wider social and work-related competences (the Core, comprising bespoke provision for the WBQ).
3. The essential rationale here is that focussed attention on skills and social development through the Core significantly improves the opportunities for young people to prepare effectively for progression to further and higher education and for entry to the labour market.
4. In June 2012, the Wales Institute of Social & Economic Research, Data & Methods (WISERD) was awarded the contract to undertake a research project in to the relationship between the Welsh Baccalaureate Advanced Diploma and Higher Education for the Welsh Government.
5. This report is concerned with one key aspect of the WBQ: namely, its effectiveness in preparing young people for higher education (HE). Therefore, it is concerned only with the WBQ Advanced Diploma (for which the Options are defined in terms of A-levels or equivalent qualifications).
6. The main aim of this evaluation is, therefore: To examine the relationship between the Welsh Baccalaureate Advanced Diploma and performance in HE, using robust social research techniques. Specifically, six questions were identified for the evaluation to address:

- Does completing the Welsh Baccalaureate Advanced Diploma prepare students for the demands of HE?
- Which elements of the Welsh Baccalaureate Advanced Diploma are most/least useful to learners in helping them to adapt to HE?
- Is the Welsh Baccalaureate Advanced Diploma a hindrance or enhancer of performance in HE?
- Is the Welsh Baccalaureate Advanced Diploma a driver for academic success?
- Are there ways in which the requirements of the Welsh Baccalaureate Advanced Diploma can be adjusted to make the qualification more suitable in preparing learners for HE?
- What are the implications of any suggested/planned changes to the Welsh Baccalaureate Advanced Diploma?

7. The evaluation uses a mixed methods design, incorporating a quantitative element based on existing large-scale datasets and a qualitative element that provides more detailed insights from 25 school students undertaking the WBQ in three school sixth-forms from across south Wales, 37 university students who achieved the WBQ and are now studying at three different types of universities in Wales, the WBQ coordinators from the three school sixth-form case study settings, and 12 staff members (admissions tutors, course directors, admissions managers) from the three university case study settings.
8. The report is divided into seven chapters. Following the introduction to the report, it outlines the research design and methodology for the evaluation. Chapter 3 then briefly outlines some background information relating to the WBQ, including the number of students taking the WBQ. Chapters 4-6 present the main findings from the evaluation, combining both statistical and qualitative data analyses. These findings are divided in to three elements: university participation; progress and outcomes in University; and the experiences of the WBQ amongst university staff and managers. As the report demonstrates, the WBQ and access to and progress at university are inextricably linked. Hence, the concluding chapter draws

together a number of conclusions and discusses the implications of the evaluation for the WBQ.

9. The evaluation reports two key, but interrelated, findings. The first is that there is strong evidence to suggest that the WBQ is enormously valuable in helping students to enter higher education. This benefit would appear to be largely due to the weighting given to the Core component of the WBQ as the equivalent of an additional A-level qualification (at grade A) for (some) university admissions.
10. However, the evaluation also finds evidence to suggest that students with the WBQ Core find they are less likely to achieve a 'good' degree result than equivalent students without the WBQ Core, once they are at university.
11. The report argues that these two findings may be related. Having the WBQ seems to improve the probability of getting in to university, all other things being equal; but this advantage seems to come at the expense of successful university outcomes.
12. However, the report also suggests that these relationships differ somewhat, depending on the nature of the students. Critically, low-achieving students appear to have the most to gain from having the WBQ in terms of university participation. Although overall levels of HE participation for relatively high-achieving students do not appear to be affected by having the WBQ, it does confer some advantage in terms of entry to Russell Group universities.
13. Despite these mixed results, there was general support amongst staff and students in schools and universities for the WBQ and its main aims. But equally, it was acknowledged that there need to be improvements in the content and delivery of the WBQ for these benefits to be fully realised.
14. The report identifies three main areas in which the WBQ could be improved: the way in which the WBQ is promoted and delivered within centres; making the WBQ more challenging, in terms of skills and knowledge; and greater tailoring of the WBQ Core components to the particular needs of students.
15. The evaluation also found support for the introduction of grading to the WBQ. However, it was also felt that unless there were changes to the

content and delivery of the WBQ within settings, the introduction of grading may have limited benefits. Similarly, within the HE sector, it was not clear what impact, if any, the introduction of grading would have on HE admissions, particularly since the WBQ is currently not included in the allocation of ‘AAB unlimited places’ in universities in England.

16. The report finally suggests that further and continuous monitoring and analysis is required in order to understand fully the relationships between the WBQ and university participation and progress. This is particularly important, as over time there will be improved data for more detailed analysis and increasing numbers of students in university who have the WBQ.

1 Introduction

1.1. Developing effective means to prepare young people for entry to higher education and/or the labour market through upper secondary and further education, has been a very contentious issue for educational policy-makers in North America, Europe and more widely for some time.

1.2. These international debates have been reflected in policy development within the UK too. Moreover, parliamentary devolution since 1999 has provided a context within which the approaches adopted in the constituent countries of the UK have diverged quite significantly. Accordingly, whilst there are certainly important common features, there are equally significant differences in the organisation of the curriculum, approaches to assessment and the qualifications available to 16- to 19-year-olds (and to wider age groups) between the home countries.

1.3. In Wales, the principal elements of policy innovation in this context have been the development and successful implementation of 14-19 Learning Pathways and the Welsh Baccalaureate Qualification (WBQ). More specifically, the latter involves a distinctive approach to the organisation of the curriculum (and associated assessment), combining significant elements of general and/or vocational education (the Options, comprising existing qualifications) with the development of key skills, research/analysis through the Individual Investigation, knowledge of Wales's culture and its place in Europe and the wider world and wider social and work-related competences (the Core, comprising bespoke provision for the WBQ).

1.4. The essential rationale here is that a focussed attention on skills and social development through the Core significantly improves the opportunities for young people to prepare effectively for progression to further and higher education and for entry to the labour market.

1.5. This report is concerned with one key aspect of the WBQ, namely, its effectiveness in preparing young people for higher education (HE) and, more specifically, university. Therefore, it is concerned only with the WBQ Advanced Diploma (for which the Options are defined in terms of A-levels or their equivalents).

1.6. Entry to HE in the UK is regulated through the universities' assessments of the academic potential of applicants, in which the latter's previous educational attainments (GCSEs and A-levels or their equivalents) play a key role. HE entry – especially by individuals from non-traditional and/or socially less advantaged backgrounds – is currently an issue of considerable concern, especially in the context of changes to the regimes of student fees. In this wider context, it is significant that a Pass in the WBQ Advanced Diploma Core has been accorded a status equivalent to an A grade at A-level in the HE entry process.

1.7. There has been strong support for the WBQ in some sectors of HE. However, there have also been some concerns within the universities, as well as more widely, in relation to the use of the WBQ in determining admission to university. There have also been some doubts expressed as to the effectiveness of the WBQ Advanced Diploma as a preparation for university-level study expressed by some university teachers and course directors. It is these concerns that provide the basis for undertaking a systematic evaluation (within the limits of the available data) of the WBQ Advanced Diploma as a preparation for successful participation in HE.

1.8. Previous research in this area has been limited and is largely confined to an internal and external set of evaluations. The first, internal evaluation was conducted by researchers at the University of Bath, who worked with the WJEC to undertake a formative evaluation to help develop the WBQ for national roll-out (University of Bath, 2006a-h). This evaluation produced eight themed reports relating to the piloting of the WBQ:

- Key Skills

- Management and Organisation within Centres
- Marketing and Promotion
- Responses and Recognition
- Staff Training and Support
- Student Attainment and Progression
- Student Support
- Teaching and Learning.

1.9. The University of Bath evaluation concluded that: “Challenges are also presented in the case of the WBQ innovation by its aim of inclusivity. By attempting to satisfy the needs of both academic and vocational areas, and in both higher education and employment, the task of ensuring firstly that all stakeholders are aware of it, and secondly that they respond positively to it, was likely to take some time to achieve.” (University of Bath, 2006d:1).

1.10. The second, external evaluation was conducted by the University of Nottingham (Greatbatch et al, 2006) with the aim of evaluating the design, delivery/implementation and the impact of the WBQ pilot. It provided several recommendations that are pertinent to this study:

a) to ensure the roll-out was evaluated
b) to use longitudinal research to look at the longer-term experiences of students as they move to employment and HE and
c) to address the concerns of those who feel the WBQ should be graded.

1.11. However, neither of these previous evaluations was designed specifically to make an assessment of the relationships between the WBQ and participation in HE. And nor has any further national evaluation of the WBQ been undertaken since the pilot stage.

1.12. Estyn published a *Good Practice Guide* for the delivery of the WBQ at level 3 in secondary schools (Estyn, 2012), which was based on

evidence collated from 22 secondary school visits in 2011, a questionnaire of 167 students and a questionnaire of an additional 9 secondary schools. This highlighted key areas that were seen to provide the skills needed for higher education (primarily through the individual investigation and visits to universities). The report also suggests that "grading the qualification would strengthen its position in the curriculum and with higher education gatekeepers" (2012:15), although what the evidence base for the latter claim is unclear, given no data was collected from the HE sector.

1.13. The only study which has focussed directly on the relationships between the WBQ and HE was carried out by the current authors (the Cardiff University Study). Whilst it developed effective methodological approaches, it is limited in its scope, because it is confined to a single university (Taylor et al, 2011). Nevertheless, this provided evidence to suggest that the WBQ Core was not the equivalent to an A grade at A-level. Indeed, the study suggested that students with the WBQ were significantly more likely to withdraw from this university and significantly less likely to achieve a good degree (Upper Second or higher) than equivalent students, with the same grades in their pre-entry qualifications, who did not have the WBQ.

1.14. It was on the basis of the Cardiff University Study that the Welsh Government decided to fund the present study, a relatively small-scale evaluation of the WBQ Advanced Diploma as preparation for successful participation in HE. Critically, this more recent evaluation included statistical analysis that was not confined to a single university in Wales (and therefore one group of university students); and included the opportunity to discuss with school and university staff and students about their experiences and perceptions of the WBQ in preparation for studying at university.

1.15. The main aim of this new evaluation was: To examine the relationship between the Welsh Baccalaureate Advanced Diploma and performance

in HE using robust social research techniques. Specifically, six questions were identified for the evaluation to address:

1. Does completing the Welsh Baccalaureate Advanced Diploma prepare students for the demands of HE?
2. Which elements of the Welsh Baccalaureate Advanced Diploma are most/least useful to learners in helping them to adapt to HE?
3. Is the Welsh Baccalaureate Advanced Diploma a hindrance or enhancer of performance in HE?
4. Is the Welsh Baccalaureate Advanced Diploma a driver for academic success?
5. Are there ways in which the requirements of the Welsh Baccalaureate Advanced Diploma can be adjusted to make the qualification more suitable in preparing learners for HE?
6. What are the implications of any suggested/planned changes to the Welsh Baccalaureate Advanced Diploma?

1.16. Following a successful tender process, the Wales Institute of Social & Economic, Research, Data & Methods (WISERD) was contracted to undertake the research between June and November 2012.

1.17. The next chapter of this report outlines the research design and methodology for this new evaluation. It also discusses some of the limitations of the data and analysis that follows. Chapter 3 then briefly outlines some background information relating to the WBQ, including the number of students taking the WBQ.

1.18. The report then goes on to present the main findings from the evaluation, combining both the statistical analyses and the qualitative data. These findings are divided in to two elements. Chapter 4 is primarily focussed on the relationship and role of the WBQ in entry to university – University Participation. The second main findings chapter, Chapter 5, then considers the relationship and role of the WBQ for students once they are studying at university – Progress and Outcomes in University. In Chapter 6, we concentrate on universities and report the

experience, views and attitudes of the WBQ amongst university staff and managers. As we will show, the relationships between the WBQ and participation in university, students' progress at university and the experiences of university staff are inextricably linked. Hence, in the concluding chapter, Chapter 7, we attempt to draw these conclusions together and discuss the implications of the evaluation on the WBQ.

2 Methodology

Research Design

2.1 Based on previous research in this area, we take ‘effective’ participation in HE as defined in terms of both (a) entry to university and (b) successful progression through a degree programme to graduation. Hence, the evaluation has two overarching aims: first, to examine the effect of having the WBQ on students for entry to university – their University Participation, and second, to consider the effect of having the WBQ on students once they are studying at university – their Progress and Outcomes in University.

2.2 These two aims are addressed in the collection and analysis of both qualitative and quantitative data. These provide complementary approaches to addressing the research questions that inform the study. Hence, in terms of the key questions set out in the Welsh Government’s Project Specification (see paragraph 1.14), Questions 1 to 4 are addressed using both methodological approaches, although the contribution of each method varies from question to question (for example, data were not available to address Question 2 very helpfully by means of statistical analysis). Questions 5 and 6 are also addressed on the basis of the research analysis, although we draw upon our wider expertise to help consider the implications of these more policy- and practice-oriented questions.

2.3 In order to describe the methods used in the study, we outline each methodological dimension in turn.

Qualitative Dimension

2.4 The qualitative dimension to the evaluation involved eliciting from key participant groups (sixth-form students, university students, teachers and

so forth) accounts of their experiences of undertaking or delivering the WBQ and of its effectiveness in terms of HE participation and progress. It should be emphasised, however, that data of these kinds provides a measure of the relationships between the WBQ Advanced Diploma and participation and progress in HE, *insofar as these are reflected in the experiences of participants*.

2.5 In summary, using focus groups and interviews, we elicited the accounts of the following groups of stakeholders:

- The experiences and perceptions of two groups of students – (i) 25 school sixth-form students who are currently undertaking the WBQ prior to participating in HE (or not) across three school sixth-forms in south Wales, and (ii) 48 university undergraduate students who undertook the WBQ prior to entering three universities across Wales;
- The attitudes towards and delivery of the WBQ amongst WBQ coordinators and/or heads of sixth-forms from three schools in south Wales;
- The experiences and policies of three senior admissions officers from different universities in Wales towards the WBQ; and
- The perceptions and attitudes towards the WBQ of nine admissions tutors and undergraduate course directors from a range of subject areas in three universities across Wales.

2.6 The original specification for the evaluation did not require data to be collected from a large number of schools and settings due to the resources and timescale available. Instead, the qualitative dimension was intended to provide insight and depth to support the quantitative analysis. This means that data collection undertaken did not aim to be representative on the basis of systematic sampling, but focussed rather on maximising the *quality* of data generated, thereby providing a robust basis for the development of insights into the experiences of key participants. Consequently, the qualitative dimension to the evaluation focussed on the selection of three case study school sixth-forms and

three universities. The names of the schools, universities and staff members have been anonymised throughout the report.

2.7 The school sixth-forms were purposively selected from across south Wales, each from a different local authority. In each school, the WBQ is effectively compulsory to all sixth-form students; but the length of time they have been offering the WBQ varied. One of the schools was one of the original pilot schools for the WBQ.

2.8 The three schools are located in three very different communities in south Wales and between them have a wide mix of students. However, it is important to note that given the focus on students in sixth-forms who are currently undertaking the WBQ, the majority of students in these sixth-forms would have been considering HE as a realistic destination.

2.9 In total, 25 sixth-form students were selected by the schools to participate in the study, selected to be representative of the wider group of sixth-formers in each school. All of these students were undertaking the WBQ. Furthermore, the majority of students in these school sixth-forms were taking A-levels alongside the WBQ Core, although one school had quite a large number of students undertaking BTEC qualifications alongside the WBQ Core.

2.10 Appendix A contains further details about the students in each of these three school sixth-forms who were involved in the study, including the following: what subjects and qualifications, other than the WBQ Core, they were undertaking; which universities they were (or thinking of) applying to; their preferred university choice (if applicable); and what other non-HE options they were considering after leaving school. It also provides a few details about each of the schools in relation to the socio-economic composition of the school intake and the length of time the school has been delivering the WBQ.

2.11 Due to the timescale and resource limitations the evaluation chose to focus on school sixth-forms, so FE colleges were not added to the case studies. This is important since a large proportion of young people who go to universities attend FE colleges and a large proportion of students taking the WBQ attend FE colleges. Their absence from this study does limit the range and type of experiences many students with the WBQ will have had.

2.12 The university case studies were also purposively selected to reflect the diverse HE landscape in Wales. Two of the three universities are pre-1992 universities (Universities A and C), with long established histories of HE provision. The other is a post-1992 university that has expanded considerably in the past 15 years (University B). The context for admissions to each of the three universities varies markedly, reflecting varying degrees of selectivity in giving places to applicants. Similarly, they each differ in their relationship to the use of the WBQ for entry to HE. (See Chapter 4 for more information.)

2.13 The university undergraduate students participating in this study were recruited through their respective Student Unions, and all received a small payment for participating. They were all studying undergraduate degrees and all had undertaken the WBQ prior to coming to university. In total, 48 university students participated, reflecting different stages of their undergraduate degrees and different subject groups in each university.

2.14 Appendix B contains more details about each of the undergraduates involved in the study, by university. This includes: their year of study; their degree subject (generalised to preserve anonymity of the universities); and what their post-graduate intentions were (if applicable).

2.15 The accounts of all the students were gathered through a series of focus groups in the selected schools and universities. The focus groups involved no more than 10 students at a time. All focus groups were

undertaken at their respective school or university sites. In the case of the university focus groups we attempted to ensure there was always a mix of students by degree subject in each group.

2.16 For each focus group there were always two researchers, one to facilitate the focus group and the other to record and note the discussions. All focus groups were audio recorded for further review and analysis. Focus groups tended to last between one and two hours. The discussion in each focus group was led by the facilitator who followed a topic guide rather than using directed questions.

2.17 The topics for discussion in the school sixth-form focus groups were:

- opinions and expectations of the WBQ prior to starting it
- motivations for undertaking the WBQ
- acquiring knowledge about university acceptance
- influence of WBQ on university choice
- suitability and inclusivity of the WBQ
- grading and standardisation of the WBQ
- perceptions of the WBQ
- management, structure and delivery of WBQ
- how prepared they are for university study
- value of the WBQ.

2.18 The topics for discussion in the university undergraduate focus groups were modified slightly, and were:

- motivations for undertaking the WBQ
- influence of the WBQ on university choice
- preparedness for higher education
- perceptions of the WBQ
- perceived academic value of the WBQ
- perceived economic value of the WBQ
- suitability and inclusivity of the WBQ for university study
- non-academic value of the WBQ.

2.19 Within each case study setting, we also gathered the accounts of a number of other key stakeholders who, it was assumed, may have some knowledge of the WBQ and its relationship with HE participation and progress.

2.20 In the school sixth-forms, these included the three WBQ coordinators in each school. Through the use of interviews, the coordinators were asked the following questions:

- Could you tell us a bit about your role within the school?
- How did you decide which students would be enrolled on the Advanced level WBQ?
- To what extent does the WBQ prepare students for university study?
- What other skills do you think should be incorporated into the WBQ Core to better prepare students for university study?
- How do students value the WBQ in comparison with their options?
- What have been students' reactions to the WBQ?
- Do you think the WBQ is suited to all students?
- How do you structure the delivery of the WBQ Core?
- How important do you think the WBQ is for students in getting in to universities? Are there particular universities you think do not accept the WBQ?
- How does the WBQ prepare students for the non-academic aspects of university?

2.21 In each of the three universities, we interviewed a number of staff members in relation to the participation and progress of students with the WBQ (summary details about these participants can be found in Appendix C). Although the precise job titles and role specifications varied from university to university, reflecting different administrative structures within each university, we interviewed three sets of staff:

a) *Central university admissions managers*: to ascertain the views of university managers on the status and role of the WBQ and in relation to university policy on the WBQ and admissions.
b) *Departmental admissions tutors*: to ascertain their level of understanding of the WBQ, departmental procedures and approaches to dealing with the WBQ in undergraduate admissions.
c) *Departmental undergraduate programme directors*: to ascertain their understanding and experience of students with the WBQ, particularly in relation to their progress and outcomes, and broader attitudes towards student preparedness.

2.22 In each case study university, one senior manager or administrator was interviewed about the WBQ face-to-face. For interviews of staff at the departmental level, we aimed to interview at least one admissions tutor and one course director from three different subject areas in each university by telephone (nine admissions tutors and nine course directors in total).

2.23 Despite contacting most eligible staff members in each university, only 12 agreed to participate in an interview. In the case of course directors, many did not feel they had sufficient knowledge of the WBQ or of which students did or did not have the WBQ, to be able to offer any insights for the study. In the case of admissions tutors, many did not consider an interview valuable because decisions and procedures as to how the WBQ is used for undergraduate admissions had been made centrally by senior managers within their respective universities.

Quantitative Dimension

2.24 The second methodological dimension to the study involves the analysis of the relationships between the WBQ Advanced Diploma and participation and progress in HE, *insofar as these are reflected in the patterns of association between variables that are believed to represent the social processes involved*. Here, relatively sophisticated statistical

analyses are employed, using data drawn from existing secondary sources. Statistical relationships were taken to provide good indications of possible causal relationships involved.

2.25 Critically, in identifying the WBQ's role we attempt to take into account analytically not only the wider educational experiences of individuals prior to university entry (previous attainment, educational trajectory, specific features of teaching, etc.), but also their social backgrounds (socio-economic status, gender, ethnic background, place of residence, family circumstances and so forth).

2.26 In order to achieve this, we rely on two sets of data. The first was HESA data, requested and obtained through the Welsh Government. HESA data is provided by universities and collated by the Higher Education Statistics Agency. This study uses data from the Student Records, information relating to individual students who were registered at a university in the following four years:

- 2007/08
- 2008/09
- 2009/10
- 2010/11.

2.27 In each year of HESA data, there is information on approximately 100,000 Wales-domiciled students, all at various stages of their courses, studying at any HEI in the UK. In all the analyses that we undertook, we were primarily interested in the participation and progress of full-time young undergraduate students (i.e. those who started university before they were 21 years old[1]) undertaking a First Degree.

2.28 From these four years of HESA data, we were able to identify whether an individual student withdrew from university during that time period or

[1] This is because the majority of older students in those years would not have been able to undertake the WBQ, since it was not available, or who entered university through non-traditional routes.

completed their undergraduate course. For the latter, we were also able to identify what degree classification they achieved[2].

2.29 In addition to these outcome variables, we were also interested to know their gender, their age, which university they attended, whether they had a disability or not, their ethnicity, and their family's social class[3].

2.30 Taylor et al (2011) and others have demonstrated the significant importance of prior attainment on university progress and outcomes. Taylor et al (2011) also demonstrate the complex way in which different measures of prior attainment, particularly in relation to the number and type of qualifications this is based on, have a bearing on the analysis. Central to this study, they also highlight the difficulty in determining the most appropriate measure of prior attainment when attempting to isolate the impact of having the WBQ on university progress and outcomes.

2.31 Despite these complexities, the analyses presented here are relatively straightforward. However, this is not because we have a solution to these complexities, but because the HESA data available in this study only provides us with one possible measure of prior attainment – that of the total number of UCAS Tariff points a university records for each registered student. We outline below the limitations of this measure. We also discuss possible issues of reliability in the recording of this data in the next chapter of the report. The issue here is that this is the only available measure of prior attainment available when using the HESA data alone. And despite its limitations, we would argue that it is more important that some measure of prior attainment is used in examining the influence of the WBQ than not at all, despite some reservations about its accuracy.

[2] There were some complications to this, as some students had more than one different degree result recorded for them over four years of HESA data. In all cases we took the highest degree classification awarded as their outcome.

[3] Other variables and characteristics were considered and are sometimes included in the following statistical models, but these are the main factors used in the analysis.

2.32 Central to the study, we also wanted to know whether university students had the WBQ or not. For universities in Wales, this is a mandatory field in the HESA data. Indeed, for HEIs in Wales, there was only 3% of missing data for this field compared to 73% missing data for HEIs elsewhere in the UK. This level of missing WBQ data, which may or may not have indicated that a student did not have the WBQ, meant that we were unable to examine the influence of having the WBQ on outcomes at universities outside Wales, as we were unable to determine whether students had the WBQ or not.

2.33 But even for universities in Wales, where the recording of the WBQ is mandatory, the HESA data did not always appear complete or accurate. Chapter 3 outlines these data limitations in more detail, but it does mean that we are limited in the analysis we were able to undertake when using HESA data alone.

2.34 The second set of data we use in this study is the National Pupil Database (NPD) in Wales. In particular, we were interested in every 15-year-old during the two academic years for 2005 and 2006 who attended a state maintained school in Wales. These two cohorts of school students have been linked by the Welsh Government to the HESA Student Records outlined above. This means that we were able to identify young people, when they were 15, who subsequently went to university *at some point between 2007/08 and 2010/11* or not[4]. The use of linked administrative datasets to examine participation in HE is relatively new and this is the first time this has been undertaken in Wales (see Chowdry et al, 2012, for the use of equivalent linked data in England).

2.35 In the NPD dataset, we had information on every individual pupil who attended a state maintained school[5]. This included their gender, their

[4] Of course, these students may have attended university after 2010/11.
[5] In Wales the number of children attending independent schools is very modest (approximately 2% of all children in Wales), although for studies of HE participation they can be very important. However, these students are not included in the NPD.

ethnicity, whether they had special educational needs and whether they were eligible for free school meals (when they were 14- and/or 15-years-old).

2.36 The NPD data also provides two measures of GCSE results for each student that we use in our analysis[6]:

a) the number of points that a pupil has, based on the number of GCSEs (or equivalent) they have and the grades achieved in those qualifications[7]; and

b) an indicator of whether a pupil met the Core Subject Indicator (CSI)[8].

2.37 The Welsh Government also provided an indicator of whether these two cohorts of pupils had achieved the WBQ Advanced Diploma. Unfortunately, within the timeframe of this study, it was not possible to determine whether a student had achieved this in a school sixth-form or in an FE college. This has some analytical implications, which we outline in more detail below.

Analytical framework

2.38 With the availability of these two datasets, we were able to undertake a number of different analyses. These are illustrated in Table 1. As can be seen, the various analyses differ in terms of the source of data, the basis of the sample, the country of HE participation, the source of the WBQ indicator, the measures of prior ability and the student characteristics that we are able to factor into our analyses.

2.39 Table 1 also shows that we undertook two sets of analyses relating to the progress and outcomes of students studying an undergraduate degree in university. It should be evident from Table 1 that we use both,

[6] The Welsh Government only publishes these data at an aggregated level.
[7] This points score is based on the total number of GCSEs (or equivalent qualifications) a pupil has achieved and is calculated using A*=8 points, A=7, B=6, C=5, D=4, E=3, F=2, G=1 (or equivalent).
[8] The Core Subject Indicator (CSI) indicates whether a pupil achieved Level 2 in the core subjects: GCSE grade A*-C in (a) English or Welsh, (b) science and (c) mathematics (or in equivalent qualifications).

as they each offer a number of qualities that the other approach does not provide. For example, Progress and Outcomes I allows us to examine the progress and outcomes of all Wales-domiciled students completing their degrees between 2007/08 and 2010/11 in universities in Wales. Progress and Outcomes II only allows us to examine the outcomes of a smaller group of Wales-domiciled students who were aged 15-years-old in 2005/06 and who completed their degree before 2010/11. However, the latter allows us to examine the outcomes of these students at *all* universities in the UK and not just those in Wales. But a limitation of this is that we only use GCSE results as a measure of prior attainment, and so forth.

2.40 Owing to uncertainties relating to the robustness of some of the data, we are only able to undertake multivariate analysis of the Participation and Progress and Outcomes II analyses. In both cases, we employ binary logistic regression, similar to that undertaken in Taylor et al (2011). This allows us to estimate whether having passed the WBQ Advanced Diploma increases or decreases the probability that a student goes on to enter HE or not, compared with students who do not have the WBQ, whilst controlling for other known indicators of participation. Similarly, it allows us to estimate whether having the WBQ increases or decreases the probability of a university student achieving a good degree at university.

2.41 For each regression model, we present the effect that each factor has on the probability that an individual has the outcome we are examining in terms of an odds ratio. It should be noted that these models are based on population data for a given year and country – i.e. they are not based on a sample of pupils. Therefore, tests of significance are not really necessary – the odds ratios are a true reflection of what occurred. However, we still present the 95% confidence intervals for the odds ratios and indicate which factors would have been regarded significant if the data was based on a sample of the population. We believe this is still

informative, as it gives some indication of the confidence we would have to see the same patterns and associations in other years.

Methodological Limitations

2.42 As suggested earlier, it would have been desirable to carry out a more extensive programme of focus groups and interviews, thereby extending the range of respondents, and in terms of the number of school sixth-forms, FE colleges and universities involved in this part of the study. However, the data collected involves sufficient respondents, we believe, to permit the development of significant insights into the processes being investigated.

2.43 The other main set of limitations to the study relate to the availability and quality of existing data for the quantitative dimension of the study. It should be remembered that the administrative data that forms the basis of the quantitative analysis employed here were not collated for such analytical purposes. Consequently this poses a number of constraints on the analysis.

2.44 One such limitation was the quality of HESA data. In many cases, we found data for individual students was missing or appeared to have been incorrectly recorded. Of most significance, was whether a student at university had been accurately recorded as having the WBQ and the accuracy of their total UCAS Tariff for their entry qualifications. We found systematic differences between universities in the accuracy of this reporting (although no universities appeared to have entirely accurate data), and we found that reporting of these variables was generally worse in the first few years of the WBQ being available to students.

Table 1: Analytical framework for quantitative dimension

Analysis	Data	Sample	Country of HEIs	Source of WBQ indicator	Measure of prior attainment	Covariates	Outcomes (dependent variables)
Participation	NPD-HESA	All 15-year-olds attending state maintained schools in Wales during 2005 or 2006	All UK	LLWR[1]	GCSE points CSI achieved	Gender Ethnicity SEN Eligible for FSM Cohort year	Participation in to HE Participation in to undergraduate course Participation in to old university in Wales Participation in university outside Wales Participation in Russell Group university
Progress and Outcomes I	HESA	All Wales-domiciled undergraduates studying in HEIs in Wales who completed their studies between 2007/08 and 2010/11	Wales	HESA	Total UCAS Tariff points	Age Gender Disabled Ethnicity Welsh language skills Highest social class of parent(s) Individual/type of university	Early withdrawal from HE Degree classification Good degree (First or 2i)
Progress and Outcomes II	NPD-HESA	UG students who were aged 15 and in state- maintained schools in 2005 2006	All UK	LLWR	GCSE points CSI achieved	Gender Ethnicity SEN Eligible for FSM Cohort year	Good degree (First or 2i)

[1]The Lifelong Learning Wales Record (LLWR) is the Welsh Government's database of participation in post-16 learning through Further Education, work-based learning or local authority community learning providers. It is used here only to indicate completion of the WBQ.

2.45 Another limitation of the HESA data was the level of detail available for individual students. Unlike the Cardiff University Study (Taylor et al, 2011), we only had access to students' degree outcomes, and not their marks for each year of study. Similarly, the amount of information about students' entry qualifications was limited, and did not include, for example, a breakdown of the number of qualifications and their individual grades that a student had prior to entry. Some of this information is obtainable from HESA, but within the timescale and capacity of this study it was not possible to provide and then use a complete profile of entry qualifications for students. Consequently, much of the analysis that follows tends to use two measures of prior attainment: (i) GCSE qualifications (where we were able to link HESA data to records in the National Pupil Database) and (ii) total UCAS Tariff (as recorded in HESA[9]).

2.46 Other limitations of the analysis relate to the availability of other possibly important variables that are associated with university participation, progress and outcomes. Even where such data appears to be available these have their own constraints. For example, although HESA records the social class/occupation of a student's parent(s), this data is missing for a large proportion of students and relies on self-reporting by the student in the UCAS application process.

2.47 Throughout the analyses not only are we limited by the availability and robustness of the data we have, but also on the number of students who had the WBQ. This is primarily because many of the analyses we undertake are dependent on students who undertook the WBQ in 2006/07 and 2007/08, which is relatively early in the roll-out and participation in the WBQ across Wales. Consequently, owing to the relatively small numbers of WBQ students who have participated in university and completed their undergraduate degrees before 2010/11,

[9] Although it is important to note our previous observations about the accuracy and reliability of this information.

we are unable to disaggregate the available sample beyond a number of key covariates. Probably of most importance is that this does not allow us to examine the association between having the WBQ and degree outcomes by the university they attended. This would have allowed us to consider whether the WBQ has a different ‘effect’, according to the kind of university a WBQ student attended.

3 The Welsh Baccalaureate Advanced Diploma

3.1 We begin this chapter of the report by outlining the numbers of students in Wales who have undertaken the WBQ Advanced Diploma over recent years. We then go on to describe briefly the characteristics of students who have completed the WBQ, particularly in the first few years of its implementation. This descriptive analysis is important in contextualising the analysis and findings that follows in the next two chapters since, as discussed in the previous chapter, much of our analysis concentrates on early cohorts of WBQ students.

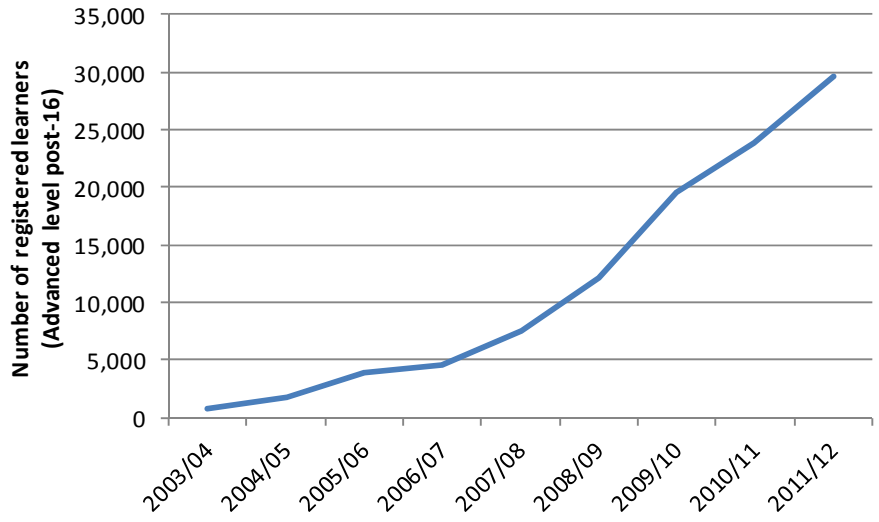
3.2 As indicated in Table 1, we use various sources of data to indicate whether a student has the WBQ or not. It is therefore very helpful to cross-reference these numbers to see if there are any issues of validity in the recording of that information. However, this is not as straightforward as it would seem. For example, there are differences between the numbers of registrations versus awards. Similarly, the number of registrations and/or awards may relate to all students or to students aged 17-18 years.

3.3 Figure 1 shows the number of registered Advanced WBQ learners in school sixth-forms and FE colleges has increased considerably in the last nine years. Alongside this growth has been an increase in the number of centres that provide the WBQ, from 76 in 2007/08 to over 240 centres in 2011/12. This is to be expected, given that roll-out of the WBQ in post-16 learning commenced in September 2007. It is also important to note that the WBQ is a two-year programme, and these figures include all learners at all stages of the WBQ programme. No figures are available that distinguish at which stage of the WBQ a learner is registered.

3.4 Consequently, we are also interested in the number of WBQ awards made each year. This is more problematic as awards can be made at

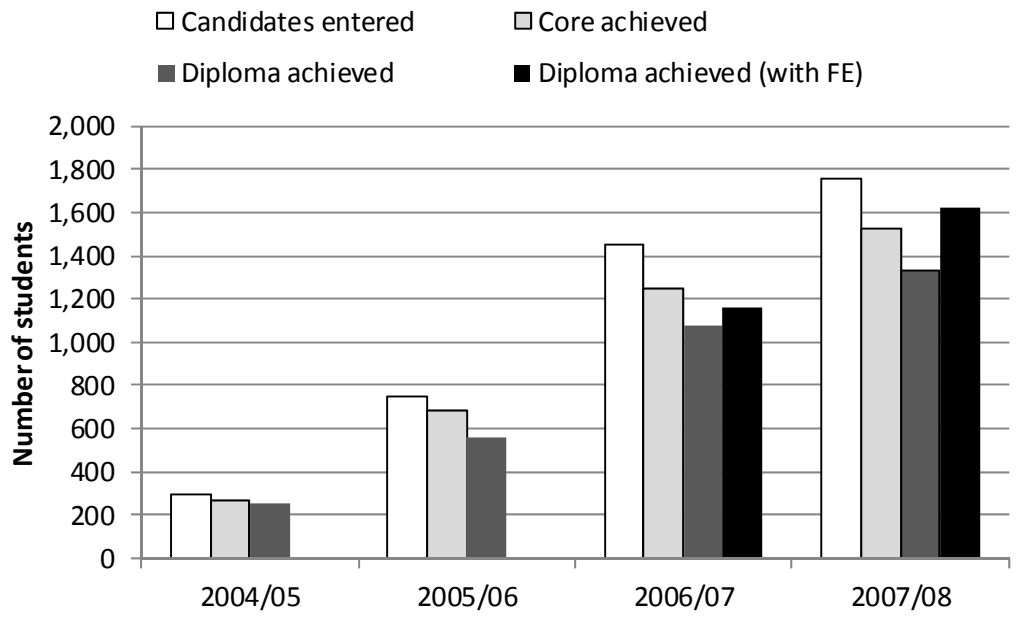
various points in the year, and can indicate whether students have passed the Core and/or passed the Diploma[10]. Figure 2 summarises the number of awards made between 2004/05 and 2007/08 based on data we received from the WJEC.

Figure 1: Number of WBQ Advanced Level Learners



Source: WJEC, learners registered in October of relevant year.

Figure 2: Number of WBQ Advanced Level Awards



Source: WJEC, unless stated figures are for school sixth-forms only.

[10] Passing the Diploma requires passing the additional Options (e.g. two A-levels or equivalent).

3.5 However, it should be evident from Figures 1 and 2 that there is some uncertainty in how these figures should be interpreted. For example, in 2006/07 there were 4,477 registered learners for the Advanced level. If we assume between a third to half of these were in their final year of the WBQ (approximately between 1,492 and 2,238 registered learners) this is higher than the number of candidates entered for that year, which according to Figure 2 was 1,454. Presumably, this discrepancy could reflect the effects of the roll-out of the programme and the cautiousness of centres in enrolling students during the early years of their participation in the WBQ and/or drop-out. Such factors would suggest that more students are likely to be in their first- rather than second-year of the WBQ programme. In the above example, 1,454 awards would suggest that 68% of enrolled students were in their first-year.

3.6 However, the number of candidates entered is only available for school sixth-forms, and does not include those registered at FE colleges. Figure 2 does provide the number of Diploma awards made that includes those in FE colleges, but obviously this excludes those who were registered but who failed the WBQ Advanced Diploma.

3.7 In order to compare these figures, we estimate that approximately 75% of all candidates entered pass the Diploma (this is based on school sixth-form students only). If we were to assume there was a similar pass:fail ratio in FE colleges, we estimate that in 2006/07 there would have been 1,563 candidates entered for the WBQ Advanced level in school sixth-forms *and* FE colleges. This is still considerably lower than half the number of registered learners in that particular year. Even after controlling for the exponential increase in registered learners over time, the number of candidates entered is still lower than our revised estimated for the number of registered learners.

3.8 We see the same pattern for 2007/08. This means there is some uncertainty over what the actual numbers of WBQ students were at that time. Of course such discrepancies may have a simple explanation or be

due to early issues for reporting data. And this is not necessarily a concern of this study. The issue that this raises is in checking the reliability and robustness of the data we have for our analysis.

3.9 Table 2 outlines the number of 15-year-olds in 2005 and 2006 in the NPD. It also includes the number of those 15-year-olds who then went on to successfully complete the WBQ Core at Advanced Level at least one year and normally two years later. Assuming that most of these students would have been awarded the WBQ two years later (i.e. 2007 and 2008) these numbers are still lower than we would have expected from Figures 1 and 2. However, the extent to which these numbers are lower than expected is complicated by the problems rehearsed above.

Table 2: WBQ Core Awards in NPD

Year	Total number of 15-year-olds	WBQ Core awards	
		Number	Percentage
2005	37,370	1,004	2.69%
2006	35,108	1,251	3.44%

3.10 A further problem we have is the mismatch in the reporting of students with the WBQ between the linked NPD-HESA data. Table 3 is a simple cross-tabulation of the numbers of students who do or do not have the WBQ according to the two sources of data, the NPD (columns) and the HESA data (rows). This clearly demonstrates a significant discrepancy in the records of whether students have the WBQ or not. So for example, according to HESA there were 613 WBQ students, but according to the NPD there should have been 1,310. But this is not simply an issue of under-reporting in the HESA data. Table 3 also clearly illustrates that individual students appear to have been incorrectly recorded as having the WBQ in HESA, when according to the NPD they did not have it (328 students). Similarly, there are 694 students who according to HESA data did not have the WBQ, yet according to the NPD they did. Although issues of reporting WBQ data in HESA may have improved in the past

few years it does raise questions about the way universities report on the prior attainment of their students.

Table 3: Mismatch in WBQ Data for NPD and HESA

		NPD		TOTAL
		No WBQ	WBQ	
HESA	Missing	4,829	331	5,160
	Not awarded	12,439	694	13,133
	Awarded	328	285	613
TOTAL		17,597	1,310	18,906

3.11 However, the mismatch in WBQ reporting highlighted above is compounded by the uncertainty in the number of WBQ awards and registrations (etc) discussed above. Consequently we cannot be confident whether the mismatch is due to HESA reporting, NPD reporting, or the data linkage process itself.

3.12 From further analysis, we are fairly confident that the matching of the NPD and HESA at an individual student level is accurate. Furthermore, by comparing the reporting of the WBQ alongside the UCAS Tariff points score for each student in the HESA data, there would seem to be some systematic variation in the apparent accuracy of WBQ reporting by individual universities in Wales.

3.13 Unfortunately, this in turn raises questions about the accuracy of reporting in HESA of students' total UCAS Tariff. To illustrate this, if we deduct 120 Tariff points from all students who, according to HESA Student Records, had the WBQ, a number of them would end up with *negative* Tariff points. The occurrence of this phenomenon can be found in all HEIs in Wales, but was found to be concentrated in two particular institutions. We also find that this 'discrepancy' does seem to decline

over time, suggesting improved reporting by universities to HESA[11]. However, given much of the analysis we are able to do here, using the linked NPD-HESA data or HESA data alone, relies on the analysis of early cohorts of students who have since finished and been awarded their undergraduate degree, this improvement does not help in our analysis. Furthermore, for the reasons highlighted above, we cannot be certain whether the discrepancies are due to reporting of the WBQ or reporting of the UCAS Tariff. Similarly, we can only illustrate this discrepancy amongst students who have less than 120 UCAS Tariff points in total, but that does not mean the discrepancy does not exist for other students too.

3.14 Given these issues, particularly with the HESA data, we are constrained in the kinds of analyses that can be undertaken. Instead, where we draw upon the quantitative dimension of the study, we tend to rely on the use of the linked NPD-HESA data, for which we assume (a) the most accurate source of data for reporting WBQ awards is the NPD and (b) the most appropriate measure of prior ability must also be from the NPD, i.e. based on GCSE points instead of the more appropriate post-16 qualifications (see Table 1 in Chapter 2).

3.15 Table 4 now goes on to describe the main characteristics of students who had the WBQ, on the basis of the NPD data. These figures are for the two cohorts of students who were 15-years-old in 2005 and 2006. This shows, for example, that WBQ students compared with non-WBQ students were more likely to be female, were less likely to be eligible for free school meals, were more likely to be non-White, and were less likely to have any registered special educational needs. Given these comparisons are for all other 15-year-olds in 2005 and 2006, it is not surprising too that WBQ students were more likely to have met the GCSE Core Subject Indicator and have, on average, higher GCSE points scores.

[11] In more recent years this is now automated as part of the exchange of qualifications to universities from the examination awarding bodies.

Table 4: Descriptive Characteristics of WBQ Students

Descriptive characteristics		Number of students		Percentage	
		Total	WBQ	% Total	% WBQ
Gender	Female	36,301	1,252	49.2	55.5
	Male	37,428	1,003	50.8	44.5
FSM	No FSM	60,638	2,067	82.2	91.7
	FSM at 14 *or* 15	3,728	55	5.1	2.4
	FSM at 14 *and* 15	9,363	133	12.7	5.9
Ethnicity	Missing/refused	2,145	49	2.9	2.2
	White	69,397	2,086	94.1	92.5
	Non-White	2,187	120	3.0	5.3
SEN Status	No SEN	62,388	2,114	84.6	93.7
	SEN	11,341	141	15.4	6.3
GCSE CSI	Not met	45,094	692	61.2	30.7
	Met	28,635	1,563	38.8	69.3
GSCE Points Average		41.3	57.6		
Total		**73,729**	**2,255**	**100.0**	**100.0**

Source: NPD

3.16 Students with the WBQ would, by definition, have gone on to post-16 education. An important limitation of the NPD data we have is that we are unable to say how different students with the WBQ are from other students who were also in post-compulsory education. We would expect, however, that students in post-compulsory education would share similar characteristics to those identified above for the WBQ students.

4 University Participation

4.1 In this chapter we discuss the relationships between the WBQ and participation in higher education. Throughout this discussion we draw upon both the quantitative and qualitative dimensions of the study. In terms of the quantitative analysis we use the first of the analytical frameworks ('Participation') outlined in Table 1.

4.2 For most students interviewed (school and university students), they tended to report a lack of motivation for undertaking the WBQ. These attitudes were often influenced by a negative response to the WBQ amongst other, often older, students, "*Everyone made it out to be something horrible and boring so no one was really excited to do it"* (Undergraduate student, University B).

4.3 Typically these initial perceptions were due to a lack of awareness about the structure, content and value of the WBQ; "*I didn't know much about it if I'm honest*" (Sixth-form student, School C).

4.4 However, during the course of undertaking the WBQ these initial perceptions tended to improve, particularly as students realised that the qualification may help them access higher education; "*I wasn't [motivated] at the beginning because a lot of people from the year above were saying negative things, and when I actually started doing the work it was pointless. But then when I actually started looking at unis I realised [it] actually could help me get in, and then my motivation increased*" (Sixth-form student, School B); "*Well, definitely me and just about every other student thought it was a waste of time up until we finished it, and then everyone was kind of glad that we did it [because it helped them get in to university]*" (Undergraduate student, University C).

4.5 WBQ coordinators were also aware that the perception of the WBQ has generally changed over time as attitudes and experiences of the WBQ

have developed; "*Initially in the first couple of years we called them the Welsh Bacc rebels*" (WBQ Coordinator, School C).

4.6 These more positive attitudes towards the WBQ were almost always associated with accessing and participating in higher education. For example, as this sixth-form student suggests, "*I'm glad it is compulsory, [it] gives you that extra edge in the market as universities nowadays want students with as many qualifications as they can and if you have the Welsh Bacc, even though some people don't regard as highly as the International Baccalaureate or anything else, but it still can give you that extra bit*" (Sixth-form student, School A).

4.7 The benefits of the WBQ in terms of participating in higher education can be considered in three main ways. First, it was seen to give relatively low achieving students an opportunity to get a qualification that would help them get a place in university, as this WBQ coordinator indicates, "*the weaker ones are usually the kids that do use it and need it to get into university*…. *the lower end students who are only doing two [A-levels] and so they have to use the Welsh Bacc*" (WBQ Coordinator, School B). Interestingly, however, this form of benefit was never discussed as a way of *raising* the academic ability of these relatively low achieving students. Instead, this form of benefit was seen as largely instrumental, suggesting it was making it *easier* for such students to access HE than it would have otherwise been for them.

4.8 This was often confirmed by students themselves; "*It's good 'cos I'm, like, I'm only studying, like, studying two A-levels and most universities ask for three, but then the Welsh Bacc will count*" (Sixth-form student, School C); "*I think the thing with the Welsh Bacc, most people who took it were taking it as a fast route into uni 'cos they didn't have enough modules or they did really bad in the first year, I don't think anyone particularly wanted to do it they just… it was just the easy way out*" (Undergraduate student, University C).

4.9 The second way in which the WBQ was seen to benefit university participation was in increasing the range of higher education opportunities for students, usually in terms of the number of universities they could consider applying to; "*some unis I wouldn't have been able to get into if I didn't have the Welsh Bacc*" (Sixth-form student, School B).

4.10 A third related way that the WBQ was seen to benefit university participation was in giving students more confidence that they might get accepted. This was particularly the case for students who were undertaking the WBQ alongside three A-levels; "*for me it's more of a back-up*" (Sixth-form student, School B).

4.11 As suggested earlier, the benefits of the WBQ for university entry were largely seen in terms of the UCAS Tariff that had been allocated to achieving the Core component. However, WBQ coordinators were keen to stress that particular elements of the WBQ also had their benefits for students and HE participation. In particular, the individual investigation was often cited as an example of this, as it was seen to give students an opportunity to write about something in their UCAS personal statement and to discuss in university admission interviews; "*something concrete they could really use in their interviews, as most of these students are going to universities who are interviewing as part of their selection process, so we felt strongly that the extended project would actually provide them with something really meaty to talk about in their interviews*" (WBQ Coordinator, School A).

4.12 In a few cases, the sixth-form students also recognised these potential benefits, particularly if they were able to tailor their projects or work experience around what they wanted to do next; "R*eally good to tailor it to university. With my extended project I could do an artefact based essay which was good for me as I want to do art at university*" (Sixth-form student, School A); "*work experience and that [helped], especially*

as our school advised us to do it linked to the course you want to do, which helps" (Sixth-form student, School B). However, it is also important to note that few of the students at university who had undertaken the WBQ made reference to these kinds of benefits.

4.13 Analysis of the NPD-HESA linked data suggests that, indeed, having the WBQ was often associated with higher rates of university participation. For example, using binary logistic regression for both cohorts of 15-year-olds, we see in Table 5 that students with the WBQ (obtained from either a school sixth-form or an FE college before they were aged 21) meant they were more than twice as likely to go to university compared with other students who did not have the WBQ but who had similar characteristics and previous GCSE qualifications[12].

4.14 But given these perceived and actual benefits, many students who were already undertaking three A-levels, or who were expecting to get good grades in their A-levels, tended to be more ambivalent towards its value, "*I knew which university I wanted to go to anyway so it didn't really help me*" (Sixth-form student, School C); "*I didn't even consider it. I just applied to [University A] 'cos I could get in*' (Undergraduate student, University A).

4.15 A major consequence of this ambivalence towards its benefits for HE participation was that the WBQ often took secondary importance to A-levels in terms of the students' approach to learning and workload; "*I saw A-levels as my priority and then the Welsh Bacc can be done when I've got a bit of time, and that's the same for a lot of people I knew, just focus on getting the grades in the subjects, so it does take a bit of a backseat"* (Undergraduate student, University A). In some cases, this meant that taking the WBQ was often regretted; "*I wouldn't have done it. I could have spent that time revising for other subjects!"* (Undergraduate

[12] We expect that these estimates would be smaller if we had only contrasted students in post-16 education who did and did not have the WBQ, but that these would still have been significantly positive.

student, University B); "*When you got like coursework due for your subjects that takes priority as it probably has more of an impact as that's what you're going to do as universities care more about it*" (Sixth-form student, School A); "*If it is getting in the way of other things your A-levels come first*"(Sixth-form student, School B).

4.16 However, rather perversely, for some students the benefit of the WBQ for gaining entry to university meant they gave their Options (e.g. A-levels) less attention than they could have done, as this WBQ coordinator notes, "*[there are a] few cases of Year 13 students taking their foot off the gas on their Options once they know it's [the WBQ] been included in their offer*" (WBQ Coordinator, School A).

4.17 Because HE participation was seen as the main driver for completing the WBQ, and was often structured around HE participation and preparation, there did not seem to be many benefits, if any, for students who were not intending to go to university; "*So if you're not going to university it's not very useful*" (Sixth-form student, School B); "*Some people don't wanna go to university and I don't see any point in them doing it*" (Sixth-form student, School C).

4.18 Despite the general positive benefits of the WBQ on university participation there was also an awareness of its limitations in this. Such concerns were usually oriented around whether particular universities accepted the WBQ or not. It was clear amongst students that for entry to universities that generally made offers in terms of UCAS Tariff the WBQ was likely to be beneficial. But if universities made their offers in terms of grades (and/or subjects) its benefit was less certain; "*if they want points you're in luck; if they want subjects it's harder*" (Sixth-form student, School A); "*most of them don't just look at the points, they want the grades rather than the points, so you need the extra grade*" (Sixth-form student, School C).

4.19 This uncertainty as to the WBQ's appropriateness for universities that made offers in terms of grades and subjects largely came about because universities did not always regard it as the equivalent of an A grade at A-level; "*I was also told it was an A grade, but all the universities in London it's seen as a B or C, and some only take it as an AS not an A-level. So whereas I came into it and was told it would be an A, when you actually look into it it's not*" (Sixth-form student, School B).

4.20 This was further compounded by some universities not being entirely sure themselves whether they accepted it or not, or how they regarded it if they did; "*some of the universities I went to weren't sure if they were taking it. That made me uneasy about it and made me wonder whether to keep working on it or put it on the back burner in a way*" (Sixth-form student, School A). WBQ Coordinators were very explicit about the lack of consistency or clarity in how the WBQ was regarded for university admissions; "*different universities are offering different things […] the biggest thing we can do is give them the advice that it might not be an A*" (WBQ Coordinator, School B); "*Within the same university they can look at two courses – one will offer [the WBQ], one will not, which could disadvantage them*" (WBQ Coordinator, School C).

4.21 Related to this was the view of one WBQ coordinator that the students' estimation of the value of the WBQ regarding university participation was associated with the particular 'local' universities that they would only consider trying to get in to. So although the WBQ coordinator was aware that it could be beneficial for university entry in some places, because some students would only consider attending a local university they did not tend to value it as much as others.

4.22 Despite the apparent variations in the terms on which universities did or did not accept the WBQ for entry, or how it was regarded for entry, we found little evidence from the quantitative analyses (that we were able to do) that this was somehow disadvantaging WBQ students. For example,

the binary logistic regression results presented in Table 6 suggest that although students who went to university with the WBQ were on average less likely to study outside Wales, this was not statistically significant. Indeed, there was some evidence of positive relationships between gaining the WBQ and entry to university. For example, Table 7, which models the likelihood that an HE participant attended one of the 24 current Russell Group universities or not, suggests that university students with the WBQ were more likely to attend a Russell Group university than students without the WBQ, all other things being equal.

Table 5: Binary Logistic Regression Model: Undergraduate participation

Independent variables	Number of pupils	Wald	Odds Ratio (Exp(B))	95% CI for Exp(B) Lower-Upper
Female[a]	37,370			
Male	36,359	8.34	0.94**	0.90-0.98
2005[a]	36,301			
2006	37,428	648.30	0.57**	0.54-0.59
Missing/Refused[a]	2,145	45.85		
White	69,397	1.35	0.93	0.81-1.06
Non-White	2,187	14.89	1.42**	1.19-1.70
No SEN[a]	62,388			
SEN	11,341	0.25	0.97	0.88-1.08
Didn't meet GCSE CSI[a]	45,094			
Met GCSE CSI	28,635	683.50	2.28**	2.14-2.42
GCSE Points	73,729	4672.53	1.07**	1.07-1.08
Not FSM[a]	60,638	100.09		
FSM at 14 or 15 (not both)	3,728	35.17	0.63**	0.54-0.74
FSM at 14 and 15	9,363	69.36	0.66**	0.60-0.73
No WBQ[a]	71,474	296.93		
WBQ in school sixth-form	1,199	182.53	2.54**	2.22-2.91
WBQ in FE (by 20)	935	108.43	2.26**	1.94-2.64
WBQ in FE (21+)	121	11.95	0.16**	0.06-0.45
Constant		1179.42	0.01	

[a] Reference category. * p<0.05, ** p<0.01. Based on 73,729 15-year-olds in 2005 and 2006.

This model shows clearly that the greater the GCSE achievement of pupil at age 15 years (as measured by GCSE points and whether they met the CSI) the greater the probability that they participated in HE as an undergraduate: e.g. one additional point (one higher grade) increases the probability of going to HE by 7% on average. We also see students who completed their GCSEs in 2005 were more likely to enter HE than GCSE students from 2006 (probably reflecting the additional year they have had in order to enter HE). We also see that pupils who are female, non-White, and who were not eligible for free school meals, all other things being equal, were much more likely to go to university. It also shows that pupils who later achieved the WBQ (in either a school sixth-form or an FE college) were between 2.2 and 2.5 times more likely, on average, to go to university than similar pupils who did not achieve the WBQ.

Table 6: Binary Logistic Regression Model: Undergraduate participation outside Wales

Independent variables	Number of pupils	Wald	Odds Ratio (Exp(B))	95% CI for Exp(B) Lower-Upper
Female[a]	10,634			
Male	8,272	6.18	1.09*	1.02-1.16
2005[a]	10,418			
2006	8,488	56.06	0.78**	0.73-0.83
Missing/Refused[a]	518	61.70		
White	17,713	30.25	0.60**	0.50-0.72
Non-White	675	0.02	0.98	0.77-1.26
No SEN[a]	18,193			
SEN	713	3.97	1.20	1.00-1.44
Didn't meet GCSE CSI[a]	3,351			
Met GCSE CSI	15,555	0.24	0.97	0.87-1.09
GCSE Points		685.50	1.04**	1.04-1.05
Not FSM[a]	17,834	19.66		
FSM at 14 or 15 (not both)	309	3.19	0.77	0.58-1.03
FSM at 14 and 15	763	16.89	0.67*	0.55-0.81
No WBQ[a]	17,596			
WBQ	1,310	3.58	0.88	0.78-1.00
Constant		789.79	0.04	

This model also suggests that the greater the GCSE achievement of pupils at age 15 years (as measured by GCSE points and whether they met the CSI) the more likely they would have participated as an undergraduate at university. However, in contrast to overall participation (Table 5), it also shows that male HE participants amongst these two cohorts were more likely to study outside Wales than female HE participants. Also in contrast to overall participation, pupils with the WBQ were less likely to study outside Wales than pupils without the WBQ – on average 12% less likely. So although it appears that pupils with the WBQ were more likely to participate in HE than equivalent pupils without the WBQ, of those pupils who did go to university those without the WBQ were more likely to study outside Wales (primarily in England).

[a] Reference category. * p<0.05, ** p<0.01. Based on 18,906 15-year-olds in 2005 and 2006 who went on to university on an undergraduate course.

Table 7: Binary Logistic Regression Model: Undergraduate participation in Russell Group universities

Independent variables	Number of students	Wald	Odds Ratio (Exp(B))	95% CI for Exp(B) Lower-Upper
Female[a]	10,634			
Male	8,272	22.91	1.21**	1.12-1.30
2005[a]	10,418			
2006	8,488	33.74	0.80**	0.74-0.86
Missing/Refused[a]	518	38.68		
White	17,713	3.21	0.82	0.65-1.02
Non-White	675	7.37	1.50*	1.12-2.00
No SEN[a]	18,193			
SEN	713	1.66	1.17	0.92-1.48
Didn't meet GCSE CSI[a]	3,351			
Met GCSE CSI	15,555	31.98	1.62**	1.37-1.91
GCSE Points		1458.46	1.07**	1.07-1.08
Not FSM[a]	17,834	13.51		
FSM at 14 or 15 (not both)	309	9.45	0.52**	0.34-0.79
FSM at 14 and 15	763	4.33	0.78*	0.61-0.99
No WBQ[a]	17,596			
WBQ	1,310	14.50	1.31**	1.14-1.51
Constant		1534.22	0.00	

[a] Reference category. * p<0.01, ** p<0.05. Based on 18,906 15-year-olds in 2005 and 2006 who went on to university on an undergraduate course.

This model also suggests that the greater the GCSE achievement of pupils at age 15 years (as measured by GCSE points and whether they me the CSI) the more likely they would have participated as an UG at a Russell Group (elite) university. Again we find that male participants in HE from these two cohorts were more likely to attend a Russell Group university than female HE entrants, all other things being equal. The same seems to apply to the non-white HE participants. Despite controlling for GCSE achievement we also see that pupils who were eligible for free school meals and who entered HE were between 50-75% less likely to attend a Russell Group university than similar individuals who were not eligible for free school meals. Importantly, we also see that, on average, those with the WBQ were 31% more likely to attend a Russell Group university than similar individuals without the WBQ.

5 Progress and Outcomes at University

5.1 In this next chapter, we focus on the relationship between the WBQ and the progress and outcomes of students who went to university to study for an undergraduate degree. This includes discussion about whether the WBQ has helped students at university and if so, in what ways. As in the previous chapter, we combine the results of both the qualitative and quantitative dimensions of the study. For the quantitative analyses, we draw upon two of the analytical frameworks outlined in Table 1 – Progress and Outcomes I and Progress and Outcomes II – that use two different sets of data.

5.2 Perhaps not surprisingly, sixth-form students were often unsure of what the benefits of having undertaken the WBQ would be once they were at university. When they were able to articulate what they had learnt from the WBQ, this was often conveyed in very general terms and often lacked detail. Generally, however, they referred to useful 'skills' they were acquiring, but were still unable to describe these in any great detail: "*good combination of skills that we could develop in different ways outside of academic work*" (Sixth-form student, School A); "*the skills behind it are actually quite good*" (Sixth-form student, School A); "*it does make you do stuff you wouldn't normally do*" (Sixth-form student, School B); "*many skills that the Welsh Bacc teaches you, you wouldn't have unless you did the Welsh Bacc*" (Sixth-form student, School C); "*Welsh Bacc tries to teach these skills and if you really worked on it could become good practice*" (Sixth-form student, School A).

5.3 WBQ coordinators, on the other hand, were more confident about the merits of the WBQ for university study. In particular, there was a focus on the value of essay writing: "*very well equipped to write a university essay*" (WBQ coordinator School A). This was particularly seen as beneficial for students who would have otherwise only been taking

STEM subjects: "*If you're doing all maths and science, when do you get the opportunity to do extended writing?*" (WBQ coordinator School A).

5.4 WBQ coordinators also gave a sense that the WBQ helps prepare students for self-directed learning, particularly as a result of completing the individual investigation: "*The individual investigation actually helps them the most, as through most of their subjects we do spoon-feed them, and it's a case of 'we're going to get you to pass the exam'. When they go to university it's a totally different way of learning, because they have to sit in a lecture theatre for some time and take notes – 'don't know how to do that referencing, didn't have to do that in school'*" (WBQ Coordinator, School B); "*Help them be more independent and take ownership of what they are doing*" (WBQ Coordinator, School C).

5.5 To some extent, university students were also aware of these kinds of benefits for them, particularly in acquiring useful time management skills: "*I think if anything the Welsh Bacc prepares you for uni, at uni you have no time for anything, everything is just go, go, go! So, like, even if it's, like, that whole element of, like, time management and stuff, if that's what they come away with that's something*" (Undergraduate student, University C).

5.6 But even where benefits were identified, this appeared to vary from element to element of the WBQ Core: *"When Welsh Bacc was brought in everybody had to do it so I was sat in numeracy lessons when I was doing a maths A-level so there wasn't much point to that. The other ones like communication I can see the point to that because I didn't do essay writing so it was good with keeping me in check with that, but as for numeracy, I was doing maths!"* (Undergraduate student, University A).

5.7 But in the main, university students did not think the WBQ had helped prepare them any more than if they had not taken the WBQ: "*I don't think those who didn't do the Welsh Bacc are any less capable of*

working independently" (Undergraduate student, University A); "*I'm a third year and I don't think it particularly helped me that much. My essay writing has got better as I've gone on. Language, I've never spoken German since, same as maths, I know how to add that's about as much as I use. So a lot of it, I suppose the community, raising money for charity, that's probably helped me most in terms of sort of bragging to employers, 'oh I've done this*'" (Undergraduate student, University C);

5.8 One reason for this was that many students felt the WBQ covered a large range of areas but not to any great depth or level of enhancement: "*It is like Jack of all trades, master of none*" (Undergraduate student, University A).

5.9 In other instances, students felt that the WBQ was just repetitive of what they had learnt or acquired previously or elsewhere: "*The skills I think are valuable to some, and to others they're skills that they've had for years. The maths, for instance, I know how to add, I did it at GCSE, that skill wasn't needed in the Bacc for me; public speaking, I've done it for years, I don't need to do it now; learning a language, I've learnt what I want, I don't need to learn another one. For some people those skills are never learnt from before. Work experience, some have worked some haven't*" (Undergraduate student, University C); "*I think actually quite a few of them were skills that I was already doing, it was just at a lesser level. Like essay writing, I was already writing them for English; I had to give a presentation, I did that in photography; work experience, I don't know about a lot of people but most people I know at that age have got part-time jobs anyway so they were just teaching what I was learning but at a lower level*" (Undergraduate student, University C); "*Yeah it was more like reaffirming stuff that you'd already done rather than learning new things*" (Undergraduate student, University B); "*It wasn't a qualification it was more of a revision of your school years. You didn't learn anything for the qualification; you just got a qualification for attending school. It was just a revision of what you've already done,*

you'd already had your GCSEs and A-levels proven, it was just 'here have another qualification'" (Undergraduate student, University A).

5.10 Given these views, particularly of WBQ students already at university, it might not be surprising to find in the quantitative analysis that the WBQ was not associated with improved progress and outcomes during university. However, not only did we find no positive association, the analysis suggests that students with the WBQ were actually significantly less likely to get a good degree result (Table 8).

5.11 Descriptive analysis of the complete HESA data (drawing on the Progress and Outcomes I analytical framework, see Table 1), which includes more recent WBQ students in the analysis, tends to confirm this finding. However, since this analysis provides an opportunity to examine different groups of WBQ students (i.e. sub-group analyses) it is possible to explore this relationship by university type and by levels of prior attainment (based on students' total UCAS Tariff points).

5.12 This suggests that the relationship between the WBQ and getting a good degree result varies according to where a student undertakes their undergraduate degree and their level of prior ability. In particular, it appears that having the WBQ is associated with a small but important increase in the proportion of students gaining a good degree result at post-1992 universities (56% compared to 50% of those without the WBQ) (see Table 9). Similarly, the same positive association is found amongst students at university with relatively lower levels of prior attainment (as measured by their reported total UACS Tariff points) (see Table 10). Given students with lower levels of prior attainment are more likely to attend post-1992 universities, these findings are consistent with one another.

5.13 We would suggest that all these results (as presented in Tables 8 to 10) are consistent with the Cardiff University Study (Taylor et al, 2011).

Given that Cardiff University is a Russell Group university it is not surprising, given the results presented here, that students there with the WBQ appeared not to progress and succeed as well as students without the WBQ, due to the inflationary nature of the 120 UCAS Tariff points of the WBQ on their actual academic attainment.

5.14 However, the binary logistic regression results presented in Table 8 are also commensurate with another key finding from the Cardiff University Study. That is, when using a measure of prior ability that is independent from having the WBQ or not, we continue to see a negative association of having the WBQ on getting a good degree result, suggesting a possible detrimental effect on students once they are in university. Despite this consistent finding across studies, we still believe that this should be treated with some caution. Although the analysis presented here includes Wales-domiciled students at all universities in the UK, the measure of prior ability used in these models is based on students' GCSE results when they were aged 15, and does have its limitations. But equally, the analyses in Tables 9 and 10 which suggest the relationship is uneven across different groups of students is based on HESA data that has also been shown to have many serious inadequacies.

5.15 These results presented here would appear to be consistent with the earlier Cardiff University study (Taylor et al, 2011) and would suggest that the previous findings may not be entirely confined to a single HEI. Indeed, these also appear consistent with the perceptions of students on the limited benefits of having the WBQ at several universities in Wales.

Table 8: Binary Logistic Regression Model: Undergraduate students getting a good degree (First or Upper Second)

Independent variables	Number of students	Wald	Odds Ratio (Exp(B))	95% CI for Exp(B) Lower-Upper
Female[a]	6,297			
Male	4,274	30.56	0.79**	0.73-0.86
2005[a]	6,270			
2006	4,301	0.43	0.97	0.90-1.06
Missing/Refused[a]	284	7.61		
White	9,964	7.61	0.69*	0.53-0.90
Non-White	323	4.19	0.69*	0.49-0.99
No SEN[a]	10,232			
SEN	339	0.43	1.08	0.86-1.36
Didn't meet GCSE CSI[a]	1,479			
Met GCSE CSI	9,092	0.43	1.05	0.92-1.19
GCSE Points		600.05	1.06**	1.05-1.06
Not FSM[a]	10,085	3.13		
FSM at 14 or 15 (not both)	133	1.26	0.81	0.57-1.17
FSM at 14 and 15	353	1.77	1.17	0.93-1.46
No WBQ[a]	9,773			
WBQ	798	4.25	0.85*	0.73-0.99
Constant		358.97	0.05	

This model suggests that university undergraduate students with greater GCSE results (as measured by total GCSE points) were more likely to achieve a good degree (First or Upper Second) – for every additional GCSE point, students were 6% more likely to get a good degree. We also see that female students were 21%, on average, more likely to get a good degree than male students, all other things being equal. Importantly, we also observe that students without the WBQ were 15% more likely to achieve a good degree result than similar students with the WBQ, despite controlling for differences in gender, ethnicity, free school meal eligibility and GCSE achievement.

[a] Reference category. * p<0.01, ** p<0.05. Based on 10,571 15-year-olds in 2005 and 2006 who went on to university on an undergraduate course and were awarded a successful degree.

Table 9: Degree classification of completing first degree young full-time graduates, %

Degree classification	Pre-1992 universities in Wales			Post-1992 universities in Wales		
	No WBQ	WBQ	Total	No WBQ	WBQ	Total
First	9.2	6.9	9.1	8.4	9.1	8.4
Upper Second	49.0	49.7	49.1	41.2	47.0	41.4
Lower Second	36.2	37.4	36.2	41.5	38.6	41.4
Third	5.2	6.0	5.2	5.6	4.0	5.6
Ordinary, Pass	0.4	0.0	0.4	3.3	1.3	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
	10,022	334	10,356	6,838	298	7,136

Table 10: Attainment of completing first degree young graduates by total UCAS Tariff points

Total UCAS Tariff points	First or Upper Second Class			First Class		
	No WBQ	WBQ	Total	No WBQ	WBQ	Total
<199	36.1	34.1	36.1	4.5	3.7	4.5
200-249	41.4	48.0	41.5	4.8	5.3	4.8
250-299	49.5	55.1	49.6	5.9	6.1	5.9
300-349	62.2	62.0	62.1	9.0	12.0	9.1
350-399	69.0	58.8	68.5	11.9	6.2	11.6
400+	76.9	63.1	75.7	19.3	10.6	18.5
Missing	46.8	65.0	47.2	8.6	5.0	8.5
Total	54.1	56.3	54.2	8.8	8.0	8.7

6 Universities and the Welsh Baccalaureate Advanced Diploma

6.1 The previous two chapters highlight what might initially appear to be a paradox; completing the WBQ facilitates entry to university; but it does not provide significant advantages to students whilst they are undertaking their degree programmes. This focuses attention, therefore, on the processes through which students gain entry to higher education. In this chapter, we report on these processes, drawing especially on our interviews with senior admissions managers and with admissions tutors and course directors.

6.2 It is important in this context to note that there are significant differences in the ways in which individual universities manage and administer their undergraduate admissions. These differences have significant implications for the role that the WBQ plays. Hence, some universities operate a centralised system of admissions, in which entry requirements are at least managed, if not determined, by the university managers centrally. Consequently, in such institutions departmental staff (including academics) are not necessarily aware of the WBQ and its usefulness or potential for university entry. But even in such universities with centralised admissions, we were still made aware of concerns within particular departments about the appropriateness of their university's stance regarding the WBQ and admissions.

6.3 In other universities, admissions decisions and policies are more clearly devolved to individual departments. Although these universities may have a general statement of support for the WBQ, the actual way in which the WBQ is used in determining offers and so forth rests with departmental admissions tutors. In these kinds of institutions, we found that different departments could treat the WBQ differently when making offers to applicants. Although this meant the different departments were better able to assess the value of the WBQ for their own degree

programmes, there was also awareness that a lack of consistency in this across departments could make it confusing to WBQ students, and potentially undermine the value of the qualification.

6.4 In our group of universities, we had examples of both these types of system. In fact, University C operates a highly centralised system, to the extent that many departments do not appoint admissions tutors. In contrast, University A has a highly devolved admissions regime, in which departmental admissions tutors play an extremely influential role. University B operates a system that falls between these two extremes.

6.5 Accordingly, it is important to explore the views of university staff at both 'levels'. In this context, it is noteworthy that a significant number of departmental staff were reluctant to participate in the study. This 'non-response' partly reflected their professed lack of knowledge about the WBQ and its qualities (especially in the universities that operated more centralised systems). However, there was also some awareness of the sensitivities relating to the WBQ, both in terms of its use in admissions and of the critical views of the relationships between the WBQ and student outcomes. One member of staff declined to be interviewed, claiming that he had been advised not to participate by the university central administration. This context is important to consider when interpreting what other university staff who did participate in the study said during their interviews.

University Admissions Regimes

6.6 Perhaps not surprisingly, the senior admissions managers at the university level all emphasised the importance of the university-wide system of admissions in shaping the role played by the WBQ. Each of the universities operate a general policy of accepting the WBQ Advanced Diploma as a basis for entry; and, more specifically, the WBQ Core as the broad equivalent of an A-level. However, there is a crucial distinction between the universities in terms of whether admissions

offers were made on the basis of UCAS Tariff points or by grades (and often subjects too).

6.7 Critically, degree programmes for which entry is based on Tariff points are rarely explicit about the *number* of qualifications that are allowed to contribute to the Tariff offer. In contrast, graded offers are usually made on the basis of three A-levels or some equivalent volume of qualifications (e.g. one BTEC National Diploma). Consequently, for Tariff offers the WBQ can be very beneficial, especially given the very high number of points allocated to it by UCAS (120 Tariff points); and the fact that it constitutes an additional qualification, particularly when it is taken by students alongside three A-levels. Conversely, for graded offers the decision is usually whether the WBQ can be used to 'replace' one of the three A-levels.

6.8 Hence, for example, University C operates a highly centralised admissions system, based on UCAS Tariff points. This reflects a university-level commitment to an 'inclusive' admissions strategy, which views entry to university as part of a process covering the 14-19 phase and a positive valuation of the diversity of educational experiences that are reflected in the range of eligible qualifications (including General Studies and skills-based qualifications). The University recognises that this 'inclusive' system is also necessary to sustain its numbers of entrants, with nearly all degree programmes having to work hard to recruit the requisite numbers of students.

6.9 In this wider context, therefore, the WBQ was very readily accepted as part of the UCAS Tariff offer. Indeed, senior members of University C staff had been involved in the development of the WBQ, as well as in the UCAS decision to accord it 120 Tariff points. More generally, it was seen to be inconceivable that University C could be seen to be rejecting this new Welsh qualification, given the University's place within Welsh society more widely. In fact, one interviewee at the departmental level reported that, in order to support the new qualification, offers including

the WBQ were reduced by 20 Tariff points, effectively valuing the Core at 140 points.

6.10 In marked contrast, University A has a highly devolved admissions system, in which entry is based exclusively on grades. This is deemed to offer a better basis on which students can be selected for entry to degree programmes, the bulk of which are substantially over-subscribed. Moreover, University A's system did not accept General Studies and key skills qualifications prior to the introduction of the WBQ. From the outset, therefore, the question was raised as to why the WBQ Core should be treated differently (and two Academic Schools refused to accept the Core as a basis for entry).

6.11 It is also important to note, however, that according to the Head of Admissions, University A had not been greatly involved in the development of the WBQ, despite the crucial role that it played in shaping not only its own position on the WBQ, but also that of the Russell Group universities more widely. Certainly, it was reported that there was considerable scepticism expressed by the Academic Schools about the acceptability of the WBQ Core from the outset, which is perhaps not surprising given the general approach to admissions adopted by the University as a whole.

6.12 Currently, the University requires its Academic Schools to accept the WBQ Core as the equivalent of an A-level. In practice, however, the latter frequently make 'alternative offers', based respectively on three A-levels or two A-levels and the WBQ Core. This is seen to be something of a compromise position; and scepticism about the WBQ in its current form continues to be expressed quite widely. Even the decision to introduce grading of the Core is likely to have limited impact, as it is the content of the Core that is viewed as the fundamental problem.

6.13 As noted earlier, University B occupies an intermediate position. Over recent years, it has shifted from a devolved admissions system to one

that is much more centralised at the university level. This has gone hand-in-hand with a shift from basing entry to degree programmes on UCAS Tariff points to basing entry on required grades. This was seen as a key element in raising the quality of entrants in terms of their entry qualifications.

6.14 Given this general context, it is not surprising that initially the WBQ Core was relatively quickly incorporated into the then Tariff-based admissions framework. Again, it may be significant that senior members of the University B's staff had apparently been involved in the development of the WBQ; they were reported as acting as 'advocates' of the qualification within the University.

6.15 However, concerns soon began to be expressed about the consequences of admitting individuals on the basis of the WBQ Core, especially at the lower end of the attainment spectrum. For example, it was reported that a student had been admitted on the basis of having a grade D at A-level and the WBQ Core[13] (even though according to UCAS, Tariff points for the Core should only be awarded when a candidate achieves the Welsh Baccalaureate Advanced Diploma). Consequently, such students, it was said, would more often than not struggle to meet the demands of a degree programme. In light of these concerns and as part of the wider shifts outlined earlier, the University has now moved to a University-wide policy that the WBQ Core will be accepted as 120 UCAS Tariff points, but that entry to degree programmes is specified in terms of A-level grades (and subjects in many cases). Where students are doing the Core alongside three A-levels, they are given two offers, one with and one without the WBQ Core (as at University A). However, the numbers admitted on the basis

[13] The award of the Welsh Baccalaureate Qualification Advanced Diploma requires successful completion of the Core at Advanced level and the achievement of 2 GCE A-levels, or equivalent. The WBQ Core, on its own, is not a recognised qualification. Thus the offer quoted here would not meet the requirements for the award of the WBQ Advanced Diploma. However, it is for individual Higher Education Institutions to determine their own entry requirements.

of two A-levels and the WBQ Core are reported to be relatively small nowadays.

6.16 What this discussion illustrates, therefore, is that the role played by the WBQ varies significantly between different universities, depending on the nature of their general admissions system. What is crucial is not so much the university-level statement about accepting the WBQ Core, as pretty much all universities have this. Rather, the critical factor is how the WBQ is treated in terms of entry to actual degree programmes; and here, as we have seen, there is major divergence.

Admissions: the Departmental Level

6.17 As noted above, on the whole, not a great deal was known about the WBQ amongst departmental staff. This was, in some ways, tied to both the role and the length of time that the member of staff had been in their post or position. There was also a distinction between those staff members who had been working in admissions as part of an academic role, who tended to know more about the WBQ when compared to administrative admissions staff, whose main knowledge and experience of the WBQ was largely through a bureaucratic understanding of their departmental and university procedures.

6.18 Departmental staff had varied views on whether or not the WBQ provided any ‘added value’ to students at the point of admissions. Some, notably the psychology administrator in University A and the Geography admissions tutor and course director at University C, observed that the WBQ was a good preparation for higher education because it gave students both a broader foundation and enabled them to develop a project that was related to the subject they intended to study at university.

6.19 However, the Geography admissions tutor at University C was the only participant who offered an account of WBQ students as being clearly

distinguishable. He also described the ways in which students' personal statements (in their UCAS applications) not only demonstrated more to talk about (in terms of the individual investigation) but that they were able to tailor that description to the course they had applied to (Geography in this instance). This, however, was the only account that described the WBQ as being particularly useful in relation to making offers and admissions decisions, which, again, reverted to a bureaucratic and instrumental process.

6.20 Participants who were in post at the time of the implementation of the WBQ, reported that there were various tensions at that time within their departments and at inter-faculty level regarding the Tariff value of the WBQ. One participant felt that a good deal of the pressure was down to a particular interpretation of the 'Schwartz Report' (2004) and pressure from the University, "*strongly demanding a fixed Tariff offer*". There was a wider feeling expressed by other respondents that accepting the WBQ Tariff was both problematic and a result of top down pressure. Again, such accounts were not grounded in concerns with the qualification *per se*, but, rather, with the Tariff system in relation to appropriate admissions decisions being made:

> *"We knew, because we'd done some project work analysing the relationship between qualifications at entry and subsequent performance in the first year of our degree schemes, we knew that the Tariff point count was not, err, a sufficiently good predictor in its own right to be, to rely on it as a fixed point as it were. So, yes, there was some resistance."*
> (Biology admissions tutor, University C)

6.21 There was particular concern expressed about the value of the WBQ in departments and courses where the 120 points given to the WBQ made up a significant proportion of the total Tariff required for entry. In the case of University B, as we have seen, the Tariff system was removed in line with a wider University mission to raise standards. The interview with the Technology admissions tutor (University B) suggested that there

had been problems directly related to the WBQ having too much significance in meeting their entry requirements. An example was given of students being accepted on to courses that were deemed to be unsuitable for them because of this:

> *"In the beginning as a faculty, when it first came out, there was a lot of concern there about the actual value of it as an entry point and in certain departments and faculties then we did actually say that we weren't going to take it. And that was policy for a couple of years. Then the University as a whole took on the policy because it was the Welsh Baccalaureate and we should be taking it. And for the first year of actually all faculties having to take it there was an issue with the points, which is why we introduced the new system whereby you have to have certain grades before the points come in to place… what we found is there were students on the course that should never have been there. So we were having students on an honours course that should have been on HNDs. That was only for about a year because it was noticed in the actual points coming through rather than points with the Welsh Baccalaureate."*
> (Technology admissions tutor (academic), University B)

6.22 Despite the WBQ being widely accepted for courses with grade offers, the actual numbers of students for whom the WBQ became 'active' as part of their admission appeared to be, on the whole, generally small. This was largely because most of the students who applied on such courses usually took the WBQ alongside three A-levels. As has been explained above, most grade offers are made on the basis of three A-levels (or equivalent). Consequently, most students with the WBQ on these courses were said to have been likely to have got a place with or without the WBQ.

6.23 This pattern also highlights the perceived superiority of A-levels over other qualifications, including the WBQ. Such that admissions tutors would be just as happy to accept a student with AAB at A-level as they

would a student with AA+WBQ or AAB+WBQ. It is this superiority that in turn appears to have meant that admissions tutors tend to regard the WBQ as worth less than an A grade at A-level, despite the UCAS Tariff for the WBQ suggesting otherwise.

6.24 There was one report, from University C (English) of an upward trend of students with two A-levels + WBQ but these numbers (and subsequent increases) were said to still be very small.

6.25 A recurrent concern amongst departmental admissions tutors was the fact that the WBQ is a pass/fail qualification and ungraded. The views expressed relating to this issue were not simply negative, however. Those who were positive about aspects of the qualification also felt that the potential benefits (especially those produced by the independent project work) were undermined by the lack of grading, which again impacted upon the use of the WBQ in making appropriate admissions decisions. Positive perceptions of the WBQ and what it might offer to students was tempered by the fact that there was no way of differentiating between students who had excelled and those who had simply completed what was assumed to be the minimum requirement:

> *"Yeah, the project I think is a really great idea, to do that, it's a really great preparation for university because for the last few years we've seen a bit of a move away from the traditional project not only in Geography but in other courses as well… and a lot more pressure has been put in to exams which I don't think necessarily gives students the preparation of working individually, managing the time, managing the resources, and doing individual research and I think in that sense that's a good preparation for university life. If they've gone to the effort to do a good job on it, it's a very good foundation for them to have experience of looking through books, looking for published research and I think that can be a good foundation for university life. What concerns me, however, is if they complete it, they could have done a superb job, or they could have just done the*

parts you have to and they've been pushed along and there's no way to differentiate between that, it just comes as 120 points if you complete it."

(Geography admissions Tutor and course director, University C)

Progress and 'added value'

6.26 Once enrolled on courses, departmental staff reported that there was little evidence that the WBQ had any 'added-value' for students. Even amongst those who were generally more positive about the WBQ and what it could offer, they could provide no evidence that students had benefitted in any way from it. However, the argument was made that this was due to the lack of suitable data as opposed to the limitations of the WBQ. But the broader issue would appear to be that it is difficult to distinguish WBQ students from the rest of their cohort, and is presumably the case in distinguishing students with any particular kinds of qualifications (A-levels, BTECs, etc).

6.27 In terms of whether the WBQ prepares students for university, questions were raised regarding the Core components and the extent to which the key skills elements were in fact covered in other qualifications and learning. The English course director at University C noted that he felt the WBQ might help students develop a more 'outward facing' approach to their understanding of culture and the world, which would be of a benefit to Humanities degrees.

6.28 Interestingly, another view, expressed by two senior and experienced admissions tutors, was that the WBQ might, in fact, be better suited, and better preparation, for students who were wanting to pursue a non-academic career path, and that the WBQ could be of benefit to students 'in the long run'.

English course director (University C): *Something that I would be interested in seeing further down the line is what the employability statistics of these students is. I mean I would think*

that if the Welsh Bacc is doing what it should do then they should be better placed in that sense, in the end…
Interviewer: *And what makes you assume that their employability might be enhanced?*
English course director (University C): *Because I would hope they'd have had more disciplined skills practice that would be transferable across to an employment situation and also, hopefully, have had to demonstrate a bit of initiative in contacting the world outside the academy. I mean those things seem to be very valuable, if it's part of the way it's taught as I understand it.*

6.29 This does raise an interesting question in relation to the WBQ. This is the extent to which the full value of the WBQ can only be assessed when what happens to students after graduation is taken into account. These comments (albeit from only two staff) raise the possibility that the WBQ has positive effects on students' employability, over and above their degree results.

Improvements and development

6.30 A recurring theme amongst university staff was that the WBQ might be developed as a space in which students develop their independent scholarship skills and, perhaps more importantly, their ability to think critically.

6.31 It has already been highlighted that the individual investigation was regarded positively amongst staff and students when it was related to the student's chosen degree subject. Hence another regular suggestion was that the individual investigation would be of more value, if it could be more closely tied to subjects or topics that were relevant to the individual student's needs. One admissions tutor in the sciences noted that it always seemed incongruent that WBQ projects had been conducted in a non-related area, despite their course explicitly requiring science-related

qualifications and subjects. In this sense, university staff felt that the WBQ might be viewed more positively if the project developed skills in areas that the students intended to use on entering HE.

6.32 For staff that appeared to have a more detailed understanding of the WBQ, they stressed the difficulties of assessing the quality of, or making changes to, the WBQ due to the ways in which different school sixth-forms valued and taught the WBQ differently.

6.33 But the most cited area for improvement amongst university staff was related to their inability to be able to distinguish between WBQ students. They often cited what they considered to be the highly detailed grading profile for the International Baccalaureate as a counter example[14]. As discussed above there was a consensus that, for a variety of reasons, they thought the WBQ would have more meaning for students and institutions if it were graded.

[14] It is interesting to note that few university staff seemed aware of the distinction between the WBQ and the International Baccalaureate, despite being very different qualifications.

7 The Future of the Welsh Baccalaureate Advanced Diploma

7.1 There are two main, but interrelated, findings to emerge from this study thus far. The first is that there is a great deal of evidence from students, school staff, university staff and the data analysis, that suggests the WBQ is enormously valuable in helping students enter higher education. This benefit would largely appear to be due to the weighting given to the Core component of the WBQ as the equivalent of an additional A-level qualification.

7.2 Although there are numerous indications that universities may not necessarily treat it as 120 UCAS Tariff points, the equivalent of an A grade at A-level, the fact that it is regarded as an additional qualification that is accepted for entry to many universities and courses still appears to benefit students.

7.3 It is also important to note that the advantage of the WBQ may be greater for some students than others. In particular, the 'marginal returns' of having the WBQ may be greater for students who have otherwise relatively low grades in their other qualifications. For this group of students, this could be the difference as to whether they can go to university or not. Although not a focus of this study, this finding may be very important when considering issues of widening participation to university.

7.4 However, the 'marginal returns' of having the WBQ for higher achieving sixth-form students would seem to be relatively smaller. Indeed, the most selective universities in the UK tend to determine entry on the basis of a maximum of three qualifications, and sometimes on the additional basis of their subject focus. In such cases, the more generic nature of the WBQ Core does not fulfil these universities' approach to admissions. And since most high achieving students will be taking three A-levels plus the WBQ, the additional fourth qualification does not necessarily improve their chances of entry.

7.5 However, where such selective universities do recognise and support the WBQ for entry, there can be two benefits for relatively high-achieving students. First, it may mean that such selective and elite universities are now more accessible to them. Indeed, the study showed that having the WBQ increased the probability that a student would get into a Russell Group university. Secondly, students may receive two offers – one based on three A-levels and one based on two A-levels plus the WBQ Core. This can provide students with a kind of safety-net in case they achieve a lower than expected grade in one of their three A-levels.

7.6 Other than contributing an additional qualification or set of UCAS Tariff points, the individual investigation and work experience components of the WBQ can also be beneficial to students when applying to university, particularly when they can be related to the degree subject to which the student is applying. However, although these were often seen to be beneficial by WBQ coordinators and some university admissions officers, these benefits were not always evident to students and to other university admissions officers.

7.7 However, the advantages of having the WBQ for participating in HE can also appear to come at a cost. In almost all cases, the advantages of the WBQ in getting into university were instrumental, 'compensating' for some deficit in a student's prior attainment. The WBQ was rarely seen as offering something unique or additional to what a student would have had if they had chosen a different qualification other than the WBQ. Furthermore, there was little evidence from this study that undertaking the WBQ meant the students were seen to be more able to cope with learning in higher education.

7.8 Given this, it may not be surprising to find that students who do get into university with the WBQ then find they are less likely than their equivalents to do well. Indeed, this study and previous analyses, demonstrate that not only is there doubt about whether passing the WBQ Core is the equivalent of getting an A grade in another A-level, as

the UCAS Tariff suggests it is, they have also demonstrated that students may even be disadvantaged by having undertaken the WBQ.

7.9 As has been noted previously (Taylor et al, 2011), this is actually very difficult to explain. However, this study has also shown that very few students were able to identify how the WBQ has helped prepare them for university. Amongst those who did perceive benefits, they referred – albeit somewhat vaguely - to the advantages derived in terms of specific academic skills, such as time management, self-directed learning, academic referencing and essay writing.

7.10 Clearly some of these issues may be alleviated by the Welsh Government's decision to introduce grading to the WBQ. Indeed, the WBQ coordinators welcomed this decision, predicting that this would raise the perceived value of the WBQ amongst universities, and that it would have a positive impact on students' motivation towards the WBQ; "*By grading it, it is a sign that it is on par with other subject areas*" (WBQ Coordinator, School A).

7.11 However, through the interviews with staff and students, there would also seem to be some benefit from giving more attention to the content and delivery of the WBQ.

7.12 There would appear to be three main areas in which the WBQ could be improved:

- the way in which the WBQ is promoted and delivered within centres;
- making the WBQ more challenging, in terms of skills and knowledge; and
- greater tailoring of the WBQ Core components to the particular needs of students.

7.13 During the study, it was clear that many student attitudes towards the WBQ were based on previous students' experiences and the way in which the WBQ was seen amongst the teaching staff in sixth-forms. For example, some students recognised the lack of enthusiasm amongst

staff for the WBQ or were able to pick up disagreement between staff about its usefulness; "*teachers that hate it as much as we do and you can see it in how they teach us*" (Sixth-form student, School A); "*they [the teachers] contradict one another*" (Sixth-form student, School B); "*No passion, just them dictating to us what to write and how to do things*" (Sixth-form student, School A); "*I think some of the teachers didn't take it that seriously and it was more work for them, but then like the head of 6th form and head teachers really wanted us to do it and were positive about it*" (Undergraduate student, University A).

7.14 However, in some cases this may be due to early teething problems in its implementation in centres: *"Mine was the first year to do it at mine [school] so I don't think they really knew what they were doing. The first term we had one lecturer and she just didn't have a clue…and then we had someone else to take it over and she worked really hard to get us all on the right track and she really helped, I've been back and she's teaching it and apparently they've got better, I think it was just my year"* (Sixth-form student, University C)

7.15 These frustrations were also occasionally shared by WBQ coordinators: *"If you're only giving it registration time how is that saying it is an A-level? […] We are trying to do things right. Like if we do it right everyone else should do it right and then it doesn't lose value"* (WBQ coordinator, School B).

7.16 We found that centres which were generally more supportive of the WBQ, also tended to deliver it in complementary ways to A-level subjects, thereby encouraging students to see the WBQ Core as the equivalent of their Options, rather than as additional or of secondary importance. Sometimes this was to do with the way it was timetabled. Giving the WBQ its own slot in the timetable meant it was recognised and visible, but in some cases this meant students had to miss A-level lessons that clashed with the WBQ lessons. This only served to reinforce the way students distinguished between the WBQ Core and their other Options; "*I've missed [A-level] lessons which I have needed*"

(Sixth-form student, School A); "*It doesn't seem to be very well organised*" (Sixth-form student, School B); "*[the WBQ] clashes with your main subjects you're doing*" (Sixth-form student, School C).

7.17 Another issue with the delivery of the WBQ was the degree of repetition between the content of the WBQ and other teaching activities or lessons. This was one of the main frustrations students presented; "*the thing that really annoys me is it is so repetitive*" (Sixth-form student, School A); *"It's very repetitive. I just want to give up half way through"* (Sixth-form student, School A).

7.18 Strategies to avoid repetition or to try and embed the WBQ within existing teaching activities or lessons meant there was greater attention on mapping the work that students had undertaken and completed; "*The more mapping we can do then the better for them, as it's not seen as individual topics that have no correlation*" (WBQ Coordinator, School C). But form-filling was another major frustration amongst students; "*Everything had to be signed by teachers and everything had to be photocopied so you'd have 6 massive files for the Welsh Bacc, it was so much work, it was more work than any of my other A-levels, I did Chemistry, Biology and maths which is just ridiculous. The amount of time you have to put to it. None of it was hard, it wasn't work that we couldn't do, it was training you to be a secretary, I hated it for that, I found it insulting*" (Undergraduate student, University A); "*I don't think it'll be really helpful at all it's all about ticking boxes and making sure you find evidence that you've done it rather than doing it*" (Sixth-form student, School B).

7.19 Amongst WBQ coordinators the abundant use of forms and log books was often seen as the fault of the WJEC and the way it is audited; "*I think sometimes the paper work is too much and the stuff they have to fill in like the booklets kinda takes it away from the skill itself but the actual skills are quite transferable […] the booklet is so laborious […] that's the WJEC… I didn't write the booklet*" (WBQ Coordinator, School B); "*Death by log book!*" (WBQ Coordinator, School C).

7.20 However, these criticisms may also reflect underlying negativity towards the WBQ; *"Because we are a Welsh Bacc school and the ethos we have, teachers do understand the Welsh Bacc and so will fill in the forms as part of their evidence"* (WBQ Coordinator, School A). But even here there was still a sense that the amount of paperwork involved in the WBQ could be reduced; *"Could definitely streamline some of the workbooks and key skills"* (WBQ Coordinator, School A).

7.21 Related to issues of form-filling, the second main area in which the WBQ could be improved is in making the WBQ more challenging. Frequently students would say that the WBQ is too easy and that they didn't find it particularly stimulating or challenging, despite being aware of its potential benefits to them; "*I think it could be a really useful qualification. I just don't think it was done well. Language and communication are a good thing to include because language, even if you're not interested in studying languages, it gets you used to studying something new which is good going to uni because you're always studying modules which you're not that interested in. That's good if it's structured well, but we were just sent to a computer and you had to complete modules, you could just click on them and then they were completed*" (Undergraduate student, University A).

7.22 There was also a sense that the WBQ was about confirming particular skills had been demonstrated, as opposed to seeing it as an opportunity to improve the qualities of those generic and transferable skills; "*I don't know, I think it is valuable to everyone. If you go to uni then you've done these key skills. Employers they look for these key skills as well. I think what they need to focus on is the quality of them. Like we do presentations in pretty much every module, maybe they should teach tips on how to give a better presentation, gestures and eye contact and that sort of thing rather than what you're actually presenting. Better quality, rather than 'oh you've got to do another presentation'…*" (Undergraduate student, University C).

7.23 However, it became apparent from the interviews with WBQ coordinators that this was often because they had decided that some elements of the Core programme would be delivered at Level 2 and others at Level 3. In some cases this was related to the overall ability of the cohort; "*When you are teaching an entire year group, you can't do all 3 level skills for all 6 skills so you have to say we are going to do this level and that's not always suitable for everybody*" (WBQ Coordinator, School B).

7.24 Furthermore, the proposed introduction of grading to the WBQ did not seem to mean necessarily that the WBQ would become more challenging[15]; "*It wouldn't surprise me if we said well the highest we can get is a B cos we can only teach the ICT at level 2 and that's what we're going to have to do and if that means the highest our kids will get is a B apart from the few who go out on their own really and say I'm going to go and do level 3 and improve my level 2*" (WBQ Coordinator, School B).

7.25 The last area of improvement for the WBQ could be in the greater tailoring of the WBQ to the particular needs of the students. In relation to the challenge of the WBQ highlighted above, this may mean offering particular Core components at Level 3 for some students and Level 2 for others. However, it was also recognised that this would add even greater burden on the already congested timetable; "*to be teaching some at level 3 and some at level 2 is going to be really difficult for us as a school and I don't know how it's going to fit into our timetable. We already have issues with the timetable anyway*" (WBQ Coordinator, School B).

7.26 An alternative approach to better tailoring the WBQ to the needs of students is in the kinds of activities they are asked to undertake; "*Maybe it could be more tailored to what you're aiming to do. For us we had to design a gym which was so basic and had no input to my English Lit*

[15] It should be noted, however, that these views were given prior to details about grading of the WBQ being published by the Welsh Government. Consequently the approach suggested here may not actually be possible under the current proposals for grading.

degree so maybe it could be more like, module choices, like tailor your Welsh Bacc qualification around where you're going, what you're aiming to do, or back up choice, if you don't get to university maybe you can fall back on this" (Undergraduate student, University A).

7.27 There was also support amongst WBQ Coordinators that the WBQ should be more about the individual needs of students and "*not a case of one size fits all*" (WBQ Coordinator, School A).

7.28 The one component of the WBQ where there was the greatest scope for tailoring the needs of students was in the individual investigation, for example, by encouraging students to relate the choice of topic for their individual investigation much more closely to their future needs or interests; "*[the individual investigation] does give them a little bit of focus cos lots of them do something related to their university course*" (WBQ Coordinator, School B).

7.29 Ultimately, however, most of the participants who were interviewed welcomed and valued the principles behind the WBQ, and did want to see it become more highly regarded. But there was a clear recognition that improvements still needed to be made. In particular these improvements need to be targeted at the needs of students and in giving learners the opportunity to develop their skills and knowledge beyond their previous abilities and experiences. As this student concludes, "*It should be worth more. Not in points, but to unis and stuff. I don't want to see another person go to uni and go 'I got the Welsh Bacc' and someone to say 'what, what are you talking about?' It should be something that unis go 'great, that is fantastic because we know you've done this, this and this!*" (Undergraduate student, University C).

7.30 We would finally advocate the need for further research and monitoring of the impact of the WBQ on higher education participation and progress for four main reasons.

7.31 First, this evaluation is limited in the range and scope of how the WBQ is delivered and experienced within schools and FE colleges. In particular, there is considerable need to examine the way the WBQ is promoted, organised and taught, not least in order to identify the challenges in the delivery of the WBQ and in order to begin to identify effective practice.

7.32 Second, this evaluation has highlighted some of the limitations of existing data, both in terms of the extent in which students with the WBQ can be identified within the National Pupil Database (NPD), and in terms of the accuracy and reliability of university records and HESA data for examining the progress of students with the WBQ in UK universities. The former issue could be addressed by greater cooperation between the Welsh Government (the holders of the NPD) and the WBQ awarding body (the WJEC). The WBQ is a key flagship policy of the Welsh Government and hence much greater attention to the way information relating to the WBQ within the student population would seem warranted. Furthermore, the evaluation finds evidence to suggest that the use of university records and HESA data for analysing the progress of students with the WBQ (and other non-standard qualifications) has improved in recent years. Hence the use of this data will become more beneficial to evaluations such as this in the coming years.

7.33 Third, alongside the improvements in data quality and reliability is the growing number of students at university with the WBQ. As more students achieve the WBQ, and as more students participate in HE, then the more detailed analysis of their participation and progress can be undertaken. In particular, the kinds of sub-analysis that have not been possible in this evaluation would be possible in the future as the numbers increase. For example, this could include more detailed analysis about the progress of WBQ students at university by degree subject, or more detailed analysis about the relationship (if any) between the type of setting the WBQ is delivered in and students' participation in HE.

7.34 The final reason why we advocate further research is that key changes to the delivery of the WBQ, particularly in relation to the introduction of grading to the WBQ, could have significant and substantial implications on the results presented here. It would seem important that further and on-going research or monitoring is necessary in order to capture the consequences on these changes to the participation and progress of students with the WBQ in HE.

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Appendix A: Summary of School Sixth-form Focus Groups

Summary of Students: School A

Student	Subjects currently studying[1]	Universities applying to	First choice university	University course	Non-university destination
Student 1	Physics, Mathematics, Statistics	Nottingham, Cardiff, Manchester, Bristol, Bath	Cardiff	Mechanical Engineering	Apprenticeship
Student 2	Psychology, Politics, History	Birmingham, Cardiff, Aberystwyth		Law (LLB)	
Student 3	Psychology, Politics, History, Music, Technology	Cardiff, Birmingham, Bristol, Reading	Cardiff	Law (LLB)	
Student 4	Psychology, English, Biology, Geography	UCL, Edinburgh, Bristol, York	UCL	Psychology and Language Sciences	
Student 5	English Literature, History	Glamorgan, Cardiff, Southampton,	Glamorgan	Sports development and management.	
Student 6	History, Physical Education, Catering	Glamorgan, Cardiff	Cardiff	Sports Science	
Student 7	Physical Education, History, Welsh	Cardiff, Glamorgan	Glamorgan	Football coaching and Performance	
Student 8	Art, History, English Literature	Glamorgan	Glamorgan	Art Foundation course	

Total = 8; [1]A-levels, unless stated otherwise.

Summary of Students: School B

Student	Subjects currently studying[1]	Universities applying to	First choice university	University course	Non-university destination
Student 1	Biology, Chemistry, Psychology	Southampton, Kings College, Nottingham, Cardiff	Southampton	Nursing	
Student 2	Business studies, Psychology, Religious Education				Not sure
Student 3	Psychology, Business Studies, Physical Education	Southampton, Swansea, Bristol, Bath	Bristol	Business Studies	
Student 4	Psychology, Biology, Physical Education	Bristol UWE, Bath, Cardiff	Bristol UWE	Physiotherapy	
Student 5	Psychology, Geography, Business Studies	Bristol UWE, Swansea, Cardiff, Southampton		Business and Finance	
Student 6	Mathematics, Further mathematics, Physics, Economics	Bath, Cardiff	Cardiff	Physics	
Student 7	Mathematics, Biology, Physical education, Product design	Cardiff, Sheffield, Bristol	Sheffield	Dentistry	
Student 8	History, Politics, Psychology	Cardiff, Liverpool, Leeds	Liverpool	Politics and modern History	
Student 9	Religious Education, Music, Drama	Royal Welsh College of Music and Drama (RWCMD)	RWCMD	Music	
Student 10	History, Psychology, Politics	Warwick, Aberystwyth, Cardiff	Warwick	Politics	

Total = 10; [1]A-levels, unless stated otherwise.

Summary of students: School C

Student	Subjects currently studying[1]	Universities applying to	First choice university	University course	Non-university destination
Student 1	BTEC level 3 double music, BTEC level 3 production	Cardiff Met, Swansea, Glamorgan	Cardiff Met	Psychology	
Student 2	History, Religious studies	Swansea, Lampeter, Glamorgan, Cardiff	Swansea	Egyptology and classical civilisations	
Student 3	ICT, Geography	Chester, Leeds Trinity, Bedfordshire	Leeds Trinity	Sports Journalism	
Student 4	BTEC: Physical Education, ICT, Geography	Cardiff, Swansea, Glamorgan	Cardiff	Sport	
Student 5	BTEC level 3: health and social care, Religious studies	Carmarthen (Trinity St David), Glamorgan, Aberystwyth	Carmarthen (Trinity St David)	Early years teaching	
Student 6	Physical education, Biology	Glamorgan	Glamorgan	Chiropractor	
Student 7	BTEC: Sport, Biology, ICT, Geography	Cardiff UWIC, Glamorgan	Cardiff UWIC	Sport and exercise Science	

Total = 7; [1]A-levels, unless stated otherwise.

Additional School Information

School A

- Location south east Wales
- First year pilot school with very experienced and motivated team
- Compulsory for all students
- Offer extended project for Able and Talented
- Intermediate level been running for four years
- 10-15% of all students eligible for free school meals

School B

- Location Cardiff
- Been offering WBQ for four years
- This year have introduced intermediate level
- Compulsory for all students
- 5-10% of all students eligible free school meals

School C

- Location South Wales valleys
- Until this year was only available to the most Able and Talented students this is the first year it is now compulsory for all students
- Offered at intermediate level
- History of students applying to local universities
- Higher number of students sitting BTEC and other qualifications as well as A-levels
- 35-40% of all students eligible for free school meals

Appendix B: Summary of University Focus Groups

Summary of focus group 1: University A

Student	Year of Study	Degree scheme	Intentions post-graduation
1	2	English	
2	2	Journalism	Broadcast Journalism
3	5	Music	Composer
4	2	English and history	
5	2	Nursing	Nurse
6	2	Law	Legal Practice Course
7	3	Physiotherapy	Physiotherapy
8	3	Archaeology	Archaeology
9	3	English	Critical theory
10	3	History	Research/administration

Summary of focus group 2: University A

Student	Year of Study	Degree scheme	Intentions post-graduation
1	2	Mathematics	
2	2	Law and politics	
3	1	English	Teaching
4	1	Economics	
5	1	Biology	
6	3	Education	Gap year
7	3	Journalism and sociology	Masters or job
8	3	History and politics	PGCE
9	2	Law and Welsh	
10	1	Engineering	Army

Summary of students by subject area: University A

Subject area	Number of students
STEM	6
Arts and Humanities	9
Social sciences	5

Summary of focus group 1: University B

Student	Year of Study	Degree scheme	Intentions post-graduation
1	1	Education	Play therapist
2	1	Computing	IT/Analyst
3	1	Education	Teacher
4	1	Art	Fine art degree
5	1	Art	Art and design
6	1	Art	Fashion design
7	1	Education	Youth work/nurse
8	3	English	MA creative writing
9	3	Social policy	
10	1	Art	Art and design

Summary of focus group 2: University B

Student	Year of Study	Degree scheme	Intentions post-graduation
1	2	Finance	
2	2	Finance	
3	1	Law	
4	1	Law	
5	1	Law and criminology	
6	1	Law and business	Solicitor
7	1	Law and business	

Summary of students by subject area: University B

Subject area	Number of students
STEM	3
Arts and Humanities	5
Social sciences	9

Summary of focus group 1: University C

Student	Year of Study	Degree scheme	Intentions post-graduation
1	1	Management	Outdoor career
2	2	Welsh and politics	
3	2	Politics and law	
4	3	Business management	Career in marketing
5	3	Business management	Self-employed
6	1	Drama	Actor
7	2	English	

Summary of focus group 2: University C

Student	Year of Study	Degree scheme	Intentions post-graduation
1	1	History	
2	2	International Politics	
3	1	History	
4	1	Maths and education	PGCE Primary

Summary of students by subject area: University C

Subject area	Number of students
STEM	0
Arts and Humanities	4
Social sciences	7

Appendix C: Summary of University Staff Interviews

Institution	Role	Area	Discipline
University A	Head of admissions for University		
	Admissions (admin)	STEM	Medical-aligned
	Admissions (academic)	HUMS	Politics
	Admissions (admin)	SOC-SCI	Psychology
	Course Director	SOC-SCI	Psychology
University B	Admissions Manager for University		
	Admissions tutor (academic)	STEM	Technology
	Course director	SOC-SCI	Education
University C	Director of admissions for University		
	Admissions (academic)	STEM	Biology
	Director of UG Studies (academic)	HUMS	English
	Admissions tutor and Course Director (academic)	SOC-SCI	Geography

STEM – Science, Technology, Engineering and Mathematics
HUMS – Humanities
SOC-SCI – Social Sciences