

Vocational Qualifications and Degree Outcomes in Higher Education in the UK

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Background to the study



Higher Education Academy (HEA) Open Call:

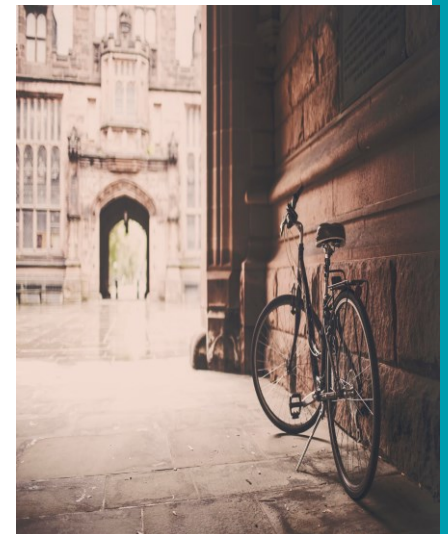
The impact of the shifting UK HE landscape on learning & teaching



Interrelated changes in the UK education landscape



- Growing attention to progression of 16 to 18-year olds into further study and employment.
- *Education and Skills Act 2008*
- Increased emphasis on apprenticeships (BIS, 2015)
- Review on 16 to 18-year-old participation in education and training (Committee on Public Accounts, 2015).



Growth in the range of qualifications available to 16 to 18-year-old students



International Baccalaureate®
Baccalauréat International
Bachillerato Internacional



How well do different qualification types prepare students for studies in higher education?



Growth in the number of students entering HE with a BTEC qualification.



Numbers of UK domiciled 18 year old applicants to UK higher education at the March deadline by qualification group.

	2011	2012	2013	2014	2015
A level only	179,650	172,070	171,140	169,100	173,420
A level & BTEC	5,880	6,220	7,820	9,370	11,520
BTEC only	22,280	19,530	22,540	26,460	30,610
SQA only	16,250	16,420	16,420	17,000	17,240
IB only	2,960	2,740	2,510	2,570	2,530
Other	38,110	38,330	36,450	39,060	38,080
All	265,130	255,300	256,870	263,560	273,400

Source: Universities and Colleges Admissions Service (UCAS) 2015/04

Vocational level study in the UK

- The BTEC (Business and Technology Education Council) Level 3 Extended Diploma is a secondary school leaving qualification and vocational qualification taken in England, Wales and Northern Ireland.
- The qualification is organised and awarded by the Edexcel within the BTEC brand and it is “*equivalent*” to A-Levels.

The marketisation of qualifications

Pearson's BTECs - acquired from the nonprofit EdExcel in 2003 - are described as:

“vocational qualifications designed to give students the skills they need to either move on to higher education or go straight into employment”
(Pearson, 2015a).

Thus, the vocational qualifications are presented as a parallel stream for entry into HE.

- While traditionally a vocational qualification aimed at direct entry to employment, marketing for the BTEC emphasises its flexibility and suitability for progression to HE.
- Students investigating the BTEC “learning brand” may be receiving mixed messages about its value and use.

Today's BTEC in Health and Social Care



Right for you, right for your future

Bethany Alsbury - Outstanding BTEC Health and Social Care Student of the Year 2014

Bethany chose the **BTEC Level 3 National in Health and Social Care** following her A level study. She chose this course due to her interest in psychology and a desire to work in this field in the future. Bethany consistently strived to achieve Distinction grades, and she has been accepted to university to study Psychology and Linguistics.



2014
Winner

Progress with your studies

50%+



More than **50%** of 20- to 30-year-olds going on to higher education have progressed via studying a BTEC[†]

85%



85% of BTEC students who progressed to further studies expect to derive long-term career-related benefits from their BTEC study*

Succeed in your career

79%



79% of BTEC students who progressed into employment consider BTEC as an important stepping stone towards their dream job*

62%



62% of large companies have recruited employees with a BTEC qualification**

[†] www.which.co.uk/university

* Independent research carried out by London Economics 2010

** YouGov Large Business Research, February 2011

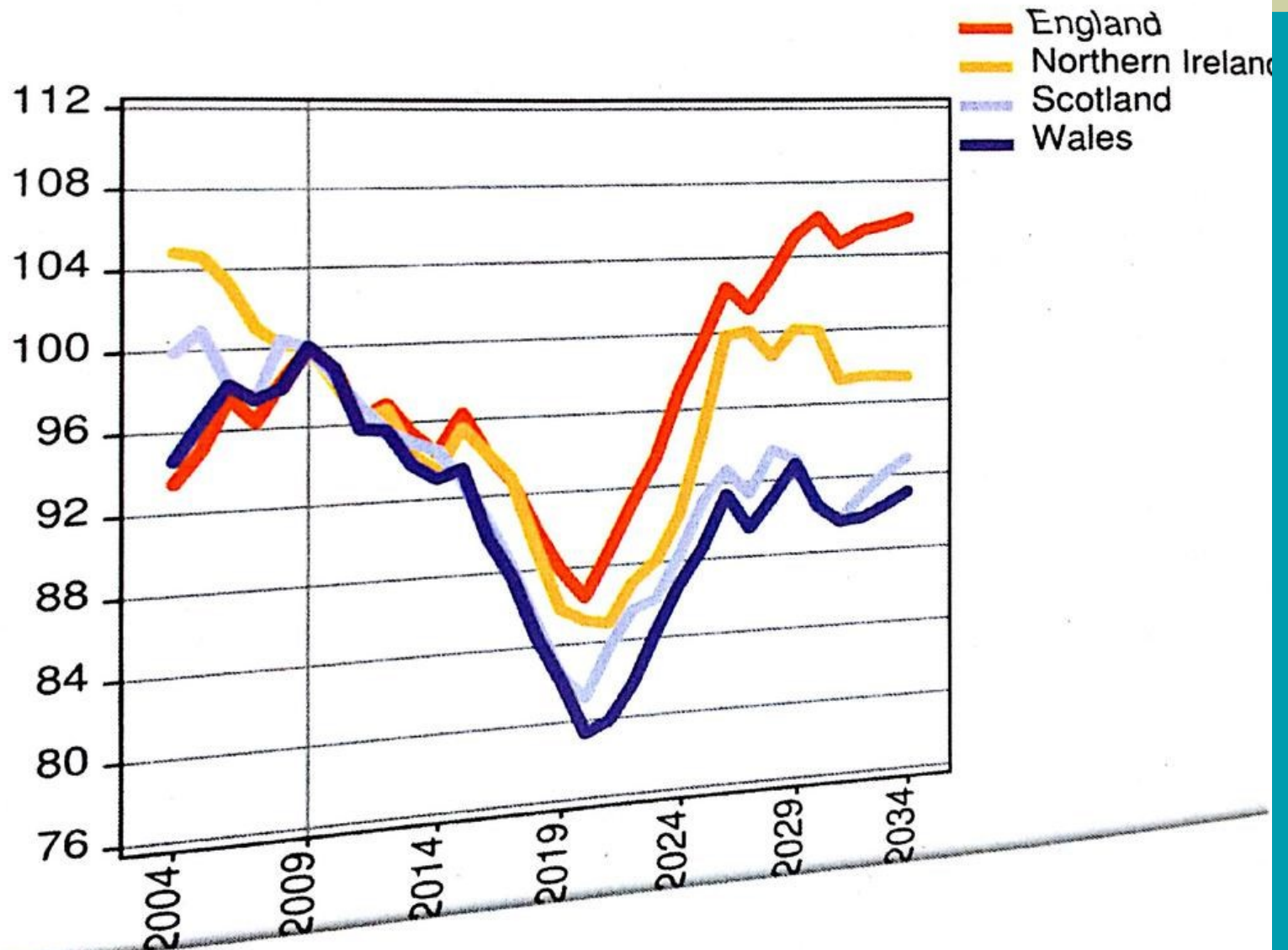
Rise in student fees



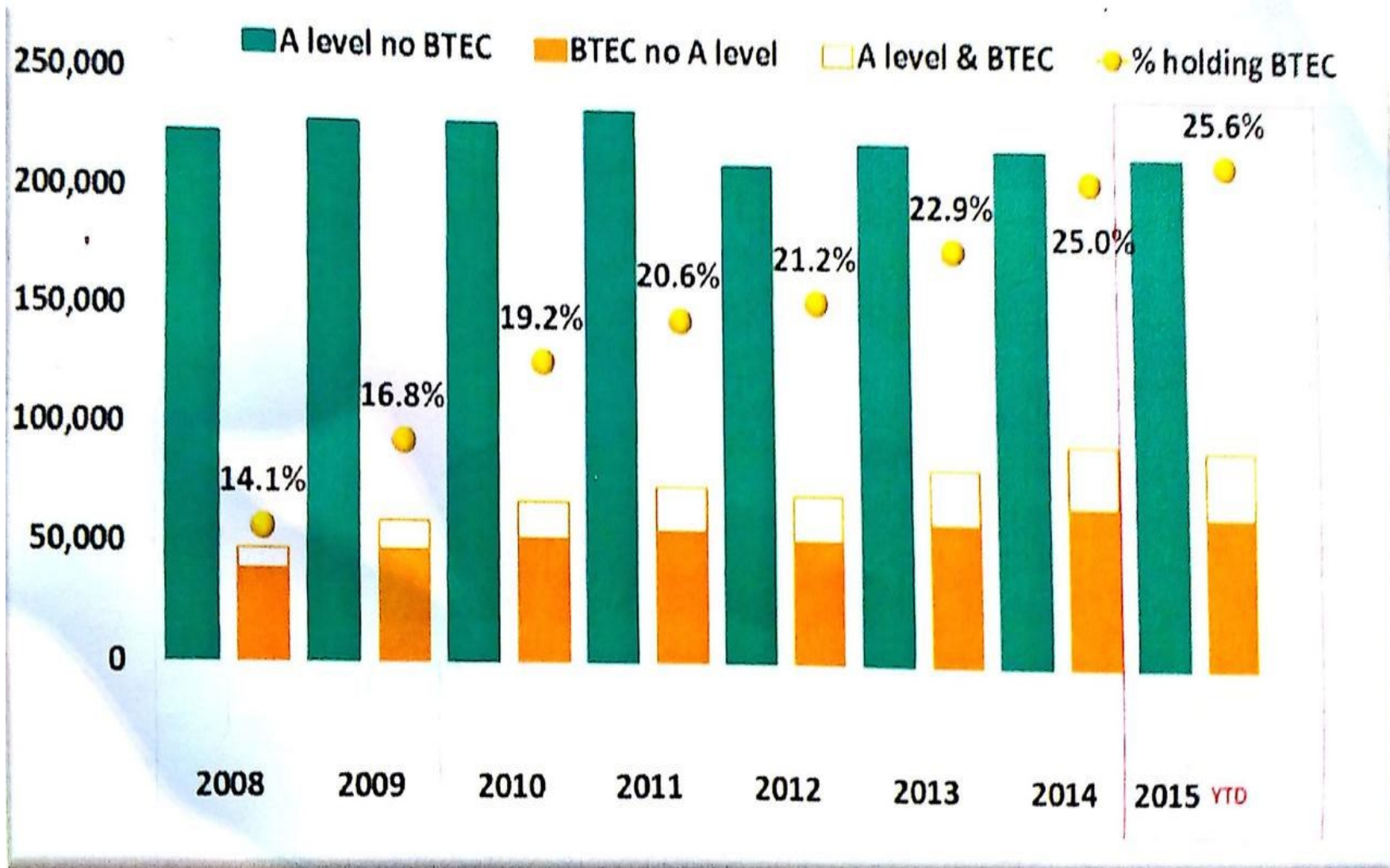
- Reforms associated with the Browne Review (Browne, 2010) of HE funding and finance, have created a dramatic rise in student fees and associated levels of debt, particularly in England, which has increased the financial risk associated with HE studies.
- Students with lower degree outcomes that may result in reduced labour market value, will still accrue large amounts of debt that will last most of their working lives.

Key Trends

Indexed population (aged 18, 2009 = 100)



Key Trends



- These interrelated changes result in an increased need to understand how students with BTEC qualifications – and vocational qualifications more generally – fare in higher education.
- Not least, as concrete evidence on how outcomes differ by qualification type is remarkably scant.

The Study



- Outcomes and support for students with vocational qualifications who pursue degrees in universities.
- Mixed methods approach:
 - quantitative analysis of data from Higher Education Statistics Authority (HESA) in UK
 - qualitative data obtained from student focus groups and staff interviews at two UK universities.

Key findings



- The quantitative analysis reveals significant differences by degree outcomes, even when controlling for demographic variables.
- Focus group data show that these students – who mostly hold BTECs – are highly capable, and possess qualities that can help them succeed at the highest levels in HE.
- The results point to a need for greater awareness of the landscape of university entry qualifications.

Quantitative Analysis



- This dataset comprises records of all students who graduated from UK Higher Education Institutions between the years 2009 to 2013 (five years total), and comprise the following variables:

Variables in the analysis



Variable	Summary Statistics
Degree classification	First or upper-second class (68%), all others (32%)
Coded qualifications	Vocational (4%), Academic (91%), Mixed (3%), Other (2%)
Low participation neighbourhood	Yes (8%), No (86%), Unknown/missing (6%)
Gender	Male (44%), Female (56%), Other (< 0.001%)
Age on entry	Mean: 21.75 Years, Standard deviation: 6.2 Years
Entry tariff	Mean: 338.75, Standard deviation: 125.5
Part-time study	Part-time (1%), Full-time (99%)

Variables analysed by:



- a descriptive analysis of the data: this establishes the distributions of variables (e.g. the n of students with vocational qualifications); and
- the key relationships (e.g. how degree outcomes vary between students).

Overview of outcomes



Qualifications group	2:2 or Below	2:1 or Above	% of group
Vocational only	16,090	16,685	51%
Academic only	233,499	537,373	70%
Mixed academic/vocational	10,208	14,957	59%
Neither	8,728	8,906	51%
Totals	268,525	577,921	68%

Qualifications by background



Qualifications group	Ent. tariff	Entry age	% Male	% LPN
Vocational only	262	20.8	51%	16 %
Academic only	342	18.8	44%	8%
Mixed academic/vocational	311	19.4	45%	14%
Neither	--	20.2	46%	17%

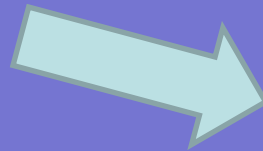
Degree outcomes by background

Variable	2:1 or Above	2:2 or Below
Mean age	18.85	19.03
Mean entry tariff	361.77	294.15
Percent male	41.84%	47.59%
Percent LPN	7.62%	9.59%

Possible explanations



Qualification Type



Degree Outcome

Student Backgrounds



Possible Explanations



Qualification Type

Degree Outcome



Student background

Multilevel Regression Analysis

- The difficulty with this analysis is that most of the variables are related to one another, which makes testing causal hypotheses difficult.
- The independent relationship of each qualifications and backgrounds to degree outcomes.
- Multilevel: do outcomes vary by institutions?

Models 1 and 2



	Model 1	Model 2
(Intercept)	-2.69**	-2.64**
Academic qualifications (ref.)	(0.00)	(0.00)
Vocational qualifications	-0.69**	-0.71**
Mixed qualifications	-0.49**	-0.48**
Other qualifications	0.10	0.09
LPN	0.01**	0.01**
Tariff	0.00	0.00
Gender – male (ref.)	0.21**	0.23**
Gender – female	0.66	0.83*
Gender – other	0.08**	0.09**
Year	0.09**	0.08**
Age on entry	-1.75**	-1.72**
Part-time		
Standard deviations		
Intercept		0.408
N	764,810	764,810
BIC	862,488	854,278

* relationship significant at $p < 0.05$

** relationship significant at $p < 0.01$

The descriptive analysis establishes

- (i) vocational qualifications are unevenly distributed in the student population: students with vocational qualification are predominantly male, enter higher education later, and are more likely to come from areas with low participation in higher education.
- (ii) students with vocational qualifications have decreased degree outcomes, measured by the percentage achieving a first or upper-second class degree.
- (iii) the demographic groups most likely to enter university with vocational qualifications also have decreased chances of an upper degree (across all types of qualification).

- the key question for statistical analysis is whether the relationship between qualifications and degree outcomes persists when controlling for relevant demographic variables.
- In other words ...

considering two hypothetical students with the same set of demographic characteristics but different types of qualifications, how would their probabilities of obtaining an upper degree differ?

Models 3 and 4



	Model 3	Model 4
Level 1 variables		
(Intercept)	-2.59**	-2.74**
Vocational qualifications	-0.71**	-0.55**
LPN	-0.08**	-0.08**
Tariff	0.01**	0.01**
Gender – male (ref.)	(0.00)	(0.00)
Gender – female	0.23**	0.23**
Gender – other	0.82*	0.82
Year	0.09**	0.09**
Age on entry	0.08**	0.08**
Part-time	-1.72**	-1.72**
Level 2 variables		
Research intensity		-0.01**
Post-1992		-0.05
Grad employment		-0.0
Standard deviations		
Intercept	0.406	0.405
Vocational qualifications	0.140	0.114
N	764,810	764,810
BIC	855,211	855,209

* relationship significant at $p < 0.05$

** relationship significant at $p < 0.01$

Regression Summary



- Controlling for student background, vocational qualifications are related to lower probabilities of 2:1 and 1st class degrees
- Differences are larger at research-intensive universities

Findings

- Outcomes in HE highly differentiated based upon students' entry qualifications.
- Even when controlling for the demographic factors, students who enter HE with vocational qualifications unlikely to receive same degree outcomes as students who enter with academic qualifications.
- However, findings do not indicate that students are unable to perform well in HE, but rather that the combination of choices in the post-16 qualifications market and the range of teaching and assessment in HE systematically produce differentiated outcomes, which in turn reproduce existing social inequalities.

Importance of avoiding a deficit model



- Important to avoid an elitist interpretation of the results, one that would advocate the restriction of access to HE on the basis that it is appropriate only for a small and select group who can perform well at university.
- Instead, findings provide evidence of how the combination of increased choice and privatization in post-16 qualifications with patterns of teaching and assessment in HE provide a complex process through which social advantage is reproduced

Qualitative Analysis



The qualitative analysis examines ...

Students

- how & why students chose secondary qualifications.
- how well they feel they were prepared for university study.
- experiences, needs and expectations.

The qualitative analysis examines ...

Academic staff

- the extent to which academic staff at universities are aware of their students' previous study.
- the ways they feel any differences in 'skill sets' might impact the students' learning.
- whether they adapt pedagogical approaches accordingly.

Focus Group make-up



- Two universities in the south-west of England that share a geographic location but differ in their focus:
 - (i) teaching-focused (post-1992)
 - (ii) research intensive (pre-1992)
- Six focus groups (n=38), one for each first, second and final year cohort of each university.
- To represent broadest range of entry pathway (i.e. qualifications), experience & academic discipline
- HEA Discipline Clusters: Arts and Humanities, Health and Social Care, STEM, Social Science.

Sampling



- Student mailing lists.
- Online sign-up sheet.
- First, second and final year student cohorts (+ capture issues around progression)
- No restriction on qualifications (mix) with which they entered HE, not least to avoid setting up a *traditional versus vocational* dichotomy
- Gift voucher incentive ensuring a broad and representative sampling frame
- (pre-1992, $n = 336$; post-1992, $n = 222$).

Data analysis



- Thematic coding (Ritchie & Lewis 2003) to explain & add depth to the macro-level patterns identified in the quantitative data.
- Allowed us to develop broader understanding of the student experience and staff practice in the context of a greater breadth of pathways to HE study.
- Two-stage process; (i) coded into 30 thematic fields using an analytical grid/matrix, followed by (ii) analytical grouping and data reduction into four key themes.

Focus Group – key themes



Post-16 qualification pathway

Learner identities

Preparedness for HE by qualification
(mix)

Student support (post 16 and at
University)

Post-16 qualification pathways



- Thinking in terms of a straightforward *academic* versus *vocational* progression through notions of academic ability alone can act to mask an array of factors that can influence decision-making and student 'choice'.

I did OK in my GCSEs, so I didn't choose [my BTEC] from that aspect ... I was almost going to choose A-levels, but I chose [the BTEC] because there weren't enough A-levels that I really wanted to do.

Molly

Before I came [to University] I thought the only way that you could get in was A-levels. I didn't know the universities looked at other stuff. That's just because no one told us. Then, when I came here I realised, of course, yes, it makes perfect sense.

David

Learner identities



- Perceptions of different qualifications mattered, not only for themselves but also for their peer groups, the schools they attended and for the admitting universities.

I could only apply for a university that accepted UCAS points. [My current University] was my second choice. My first was [a Russell Group University] and I really, really wanted to go there, but they said, 'Because you're doing a BTEC, you can only come here if you get an A in your psychology A-level.' ... I was a mark off. ... [I had a] triple distinction. So, I was very over-qualified to come here ... because I did the equivalent of five A-levels, so I've got almost 400 UCAS points. I only needed 280 to get in [to this university].

Ginny

Preparedness for HE study by qualification (mix)



- How well students felt their qualifications prepared them for HE linked primarily to the way their respective degree programmes were assessed.
- Specifically, how the 'skill set' they developed prior to entering their programme had helped them to 'succeed' relative to the different forms of summative assessment: e.g. exams, written assignments, reports, individual and **group presentations**, combination of these.

[The BTEC] prepared me well, because it was all coursework-based, whereas Psychology A-level, that was just an exam. So, if I'd just done A-levels, I'd have come to university never having written any essays, which would not have helped me at all, because first year was all essays. [...] I think my BTEC prepared me better in that way. But, then, if I had only done my BTEC, I wouldn't have any experience with exams at a higher level.

Rita

You have to know what you're talking about as well as being able to write about it, whereas when you're doing A-levels they tell you the information and say, 'Write about this, when you're asked about it'. But here you have to have the practical and the academic side as well and you have to be on par with both of them. When I did an HND, it tied it in together more ... 'Well, actually, what I found was very different to the theory' ... You can actually physically say, 'I was there, I saw it with my own eyes, I'm not just taking what someone else told me for truth.' So, you're in the centre of it rather than standing outside, looking in.

Josie

Student support post-16 and at university



- Students from the post-1992 spoke about the high levels of support they had received in respect of academic writing skills, though recognised this may not be the case for everyone.

Qualitative data – Tutor interviews



Four UG tutors from each university took part (n=8)

Tutor awareness of students' education pathways

How students fare

Impact on teaching approaches and support

- Do tutors have an obligation to be aware of students' prior qualifications, courses of study, etc?
- Is it possible to adapt courses based on prior qualifications?

Qualitative Analysis



- Tutor Interviews

Tutor awareness of students' education pathways



If they meet the admissions criteria that's it and it's not something that would be thought about ... We don't make an issue out of it.

Adileh –
lecturer and admissions tutor UG Social Science
programme, pre-1992 university

I just see my group as my group. It might be more pronounced for those tutors teaching the first year programme, because that's where a lot of the foundation work goes in, in initiating them into higher education and academic study. They may be more aware.

Barbara –
UG Social Science programme
post-1992 university

I wouldn't know which entry route students have taken unless they tell me. It's usually in the context of wanting to go into [further] training. So, then they would raise that concern, 'Have I got the right qualifications to progress ... ?'

I think for some staff there's that challenge of, '... should we just be teaching our discipline and that's that? It's somebody else's responsibility to ensure that students are ready.' ... I would see my role as a teacher to help students overcome those barriers, but other academics might take a different [view].

I'm teaching on modules that have 100, 200 [students] ... So the potential to differentiate, if you like, for individual circumstances, we only have so much time and resources to do that.

How students fare



I actually think that a lot of people who come from that kind of background are often quite industrious, quite rigorous, quite used to change, in many ways, or having to change. You often find that, actually, those that put the effort in come out as being actually very good students.

Michael

sometimes they've had work experience opportunities or mini placement opportunities as part of their level 3 qualifications ... That can also be a problem. It's not necessarily a good thing, because they may be less equipped to think critically about what's actually happening in those workplaces, because they may be already socialised, if you like, to that way of working ... you could argue that, once people become quite socialised into those particular environments, it's quite difficult for them, sometimes, to step back and say, 'What's wrong with this school?' or, 'What's wrong with the way things are working in this early years?'

Michael

Impact on teaching approaches and support



I'd like to see, ideally, much greater collaboration between what we're doing at a higher education level and what people are doing in the colleges. [...] I think a lot of FE practitioners would like to work more in that way, would like to have stronger collaboration with HE, providing it's not done in a patronising way, which I think sometimes it has been done in the past. I think HE could also benefit from it, because there are many things going on in further education colleges which could help [those] in HE better understand how to support certain types of students.

Key points



- Large scale trends indicate that students with vocational qualifications in UK are less-prepared for study in (UK) Higher Education.
- The qualitative data indicate that they are highly capable, and possess qualities of confidence, interpersonal skills and a sense of agency that can help them succeed at the highest levels within the HE environment.
- Students' self-perceptions & views of staff show that students bring a wide range of different experiences and learning abilities to their HE studies that can be useful in helping them to succeed.

Implications



Complex and nuanced picture of how vocational qualifications prepare students for HE.

Important to avoid a deficit model when thinking about vocational qualifications.

Universities might better support their learning.

Looking back – looking forward

Looking Back



Looking forward

