

Fit for Purpose? The view of the higher education sector, teachers and employers on the suitability of A levels

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Executive summary

Executive summary

Aims and method

Ipsos MORI were commissioned by the regulators Ofqual, the Welsh Government and CCEA to undertake a large scale qualitative project whose central aims were to explore:

- the extent to which A levels currently prepare students for higher levels of study or, in the case of employers, the workplace; and
- the level and nature of (any) concerns about the current A level qualification.

Four methods were used to meet these aims. Firstly, a literature review was conducted with the principle aim of informing the design of materials for primary research. References from that literature review are used as additional evidence throughout this report.

Three specific strands of qualitative research were then undertaken with a variety of audiences:

- A total of 71 face-to-face interviews were completed in England, Wales and Northern Ireland with representatives of the higher education (HE) sector. These were primarily staff working in Higher Education Institutions (HEIs). As well as sampling individuals by their subject specialisation and their average required entry tariff, a spread of HEIs with different sector interests were also included such as the Russell Group, the Million+ Group and the 1994 Group.¹ In addition, the views of Learned Bodies, HE Sector Bodies and Awarding Organisations were also collected.

¹ HEIs in England, Wales and Northern Ireland were ranked by average UCAS tariff points of students under 21 years of age on entry. This list was then divided into three equal parts for the purposes of sampling. These are referred to in the report as high, middle and low tier universities.

High tier = 360 UCAS tariff points or more; Middle-tier = 273 to 359 points; Low-tier = 272 points or less.

The data on UCAS Entry tariffs were derived from The Complete University Guide: <http://www.thecompleteuniversityguide.co.uk/league-tables/rankings?o=Entry>

- 10 discussion groups were held with A level teachers working in a variety of different schools and sixth form colleges. As with the HEI interviews, subject specialism and the typical grade achieved at A level by students in those centres was used to split the sample as were other criteria such as the offer of A level alternatives such as the International Baccalaureate and Cambridge Pre-U.
- Finally, 25 telephone interviews were completed with employers and representative employer bodies in the United Kingdom. The main criteria for selection were whether the employer directly recruited A level students or used A levels as part of their selection criteria. Employers from a range of sectors and who employed different numbers of people were included.

Overview of main findings

Overall, A levels were viewed positively by all the research audiences. Generally, those associated with higher education and teachers agreed that the A level qualification prepares most students for higher education undergraduate degrees. Employers said they select A level school leavers because they have met the right level of academic achievement. However, there were a number of areas which those taking part in the research thought could be reviewed to lead to an improved outcome for both the A level student and for the organisation receiving the qualified student. These suggestions for improvement are outlined below and are collated by each of the two main aims identified above. The final part of the summary describes the views of those taking part in the research on the regulation and design of A levels.

The findings should be considered in the context of the overall satisfaction that most interviewees expressed in the qualification. The authors also note that there were no differences found by country in the findings, so the views of interviewees based in England, Wales and Northern Ireland are as those expressed below.

Preparing students for higher level education and the workplace

The issues with the A level qualification highlighted above had several consequences relating to the preparedness of students for higher education and the workplace.

A levels and subject knowledge

Views varied among those interviewed as to whether A level students enter higher education with an adequate level of subject knowledge. However, most higher education sector interviewees were generally content with the knowledge content of A levels across subjects. It was notable that nothing more than readjustments and/or additions were suggested.

As a whole, the current A level system is perceived to encourage students to develop more in-depth knowledge of a small number of subjects which enables universities to design suitable entry requirements for their courses. Those who teach undergraduate courses which require specific A levels for entry onto the course tended to have a clear sense of the strengths and weaknesses in students' knowledge. The main examples of this are STEM subjects and post-A level language courses where continuity of subject-specific knowledge is a pre-requisite of undertaking a degree.

The topics taught within a subject at A level did not always coincide with the knowledge requirements of higher education. For example, Engineering first year undergraduates with A level mathematics qualifications did not always study Mechanics at A level. This led to a greater variety of knowledge among first year students and also gaps in their knowledge.

When compared with alternative level three qualifications higher education sector interviewees felt A levels remained the 'gold standard' for their subjects, although the Cambridge Pre-U was believed to be a more demanding qualification by those who were familiar with it such as one group of STEM school teachers. The International Baccalaureate (IB) was perceived by some STEM specialists to provide less subject content, although several thought the IB made up for this by developing well-rounded students.

Skills deficits of those completing A levels

In common with the findings of Kotecha (2010) and Patrick (2005), issues about some of the general skills essential for undergraduate learning arose in interviews with higher education sector participants. These included both specific academic

skills, such as researching, finding sources, essay-writing and referencing, and the wider skills of problem solving, analysis and critical thinking. In addition, interviewees also noted that some of their students lack the requisite levels of academic English and Mathematics. Some A level teachers made similar observations on the English and Mathematics skills of GCSE students, which suggests the issue is wider than solely the skills acquired at A level.

However, as predicted by Kotecha in 2010, the Extended Project Qualification (EPQ) is recognised by teachers and some within the higher education sector as a useful differentiator of talent, especially in relation to the study skills outlined as deficits above. There were some comments made in relation to the level of development students need in these broader skills prior to undergraduate study. In the middle and Low-tier HEIs we visited, extensive programmes existed to get first year undergraduate students to the right level in these areas and to ensure English and especially Mathematics was up to scratch. High-tier HEIs sometimes had these programmes in place but were more critical of the lack of these skills in the first instance. No higher education sector interviewee suggested that academic level study skills should be fully developed by the time a student completed A levels. However, all recognised that an aptitude to learn in a way suitable for higher education was desirable in an A level student and, in the main, the grade at A level did not always act as a barometer for these skills. It was generally felt that this could be rectified, at least in part, though the inclusion of synoptic papers in examinations. The removal or restructuring (one examination period per year) of the modular structure of A levels was one suggested way of creating the time and space in the course to do this.

Employers said they used A levels as an indicator of general aptitude and a measure of the willingness of a student to apply themselves. Bar English and Mathematics, the subject itself was not generally viewed as particularly important, although sciences were often held in more esteem as they were perceived to be more challenging. For some employers the A level is now the minimum level of qualification they would accept, replacing the GCSE. However, it is important to highlight there is a bias in the sample of employers because the purpose of the research was to find why A levels were used as recruitment tools.

Unintended consequences of the way A levels are assessed

It is noted later that many of those taking part in the research believed resits caused problems for the A level qualification. Some interviewees also believed the “resit culture” affected students’ attitudes towards examinations, reflecting research by Poon Scott, (2011). Teachers in particular said that A level students approach examinations with the expectation that they will always get a second chance. Whilst this may relax some, interviewees thought it was detrimental overall because this “isn’t how life works”. One consequence noted by numerous HEI interviewees was that first year undergraduates initially struggle because they cannot retake higher education exams to improve a grade (as opposed to if they fail, in which case they must retake but can only receive a basic pass), which causes some problems for the student in adjusting to the academic expectations at higher education, particularly around examinations,.

Interviewees in the higher education institutions also talked about the negative consequences of “learning the test”. They felt this contributes to first year undergraduate students failing to take control of their own learning because they are used to being shown what they need to know to pass an exam. HEI interviewees said first year undergraduates expected a great deal of support and were surprised when it was not given to them.

For some, this attitude is exacerbated by the use of A level text books directly related to the A level specification. Teachers and higher education sector interviewees sometimes believed that the current system does not encourage or reward students who read widely around a subject. In the eyes of many higher education sector interviewees, most first year undergraduate students do not possess any of the independent learning skills that a successful undergraduate needs.

“We do the fieldwork because we have to [as part of the syllabus]. Instead of course work, there is a fieldwork paper but it doesn’t give students the opportunity to prove how much they know about the investigations [process] because... the paper only has 15 marks attached to it.”

Teacher, Humanities subject, Sixth Form College

Concerns about the qualification

A level resits

Issues related to resitting A level examinations were an area of concern amongst many, but not all, of those taking part in the research. In line with prior research (QCA, 2007; Poon Scott, 2011) those who were critical in this study think the opportunity to resit exams leads to a range of problems related to the qualification (as opposed to the consequences noted above). That students can theoretically keep resitting (especially modules taken early in their A level studies) specifically to **improve their grades** was connected to two main issues:

- **Grade inflation** – an increase in the number of students achieving higher grades (see Coe, 2007 for a statistical analysis of grade inflation) was felt by some teachers and higher education sector staff partly to be a consequence of resitting to improve grades. Grade inflation was believed to make it harder to differentiate between high-achieving students. This was of particular concern to HEIs that *select* students as opposed to those that *recruit* them;
- **Volume of examinations** – resitting can lead to a very congested personal examination timetable for A level students, especially in the important second year. Resits increase the number of examinations taken by a student and were felt to limit the amount of time available for study towards the new parts of the syllabus covered and assessed for the first time. This was of particular concern to A level teachers. Interviewees also expressed concerns that, for some students, resits had a detrimental effect on their ability to think more holistically about their subject because they were concentrating too much on passing exams. This relates to issues interviewees raised around the modular structure, which are described later in this section.

Whilst interviewees did not usually advocate a total ban on resits, they did think that the amount of resits permitted should be fixed at a national level rather than remain the decision of individual centres or students. Many interviewees thought that students should be limited to one resit per module. Others suggested changes such as only allowing resits for extenuating circumstances such as illness. Some favoured

accepting the mark gained on a second resit, even if the grade gained was worse than in the first exam. Those in favour of resits felt they were sometimes fairer to the students and felt they allowed students to retake exams when they were a little older and of a more mature frame of mind.

Modular A levels

The modular structure was perceived by many interviewees to link to A level students “learning the test” at the end of that module rather than learning the subject as a whole. This mirrors the findings of prior research into the modular structure of A levels (Hayward & McNicholl, 2007; de Waal & Cowan, 2009). Many interviewees thought that the modular structure comes at the expense of synoptic learning (see also QCA, 2005), especially in cases where the subject content in a module is only taught at one point in the course and is not required elsewhere in the A level.

In our discussion groups, teachers described what they felt were very prescribed and full syllabuses which left little room for any creativity on their part. They felt the modular structure exacerbates the problem because of the number of examinations. Any time that might be available to expand on topics outside the subject syllabus or teach study skills not linked to examinations was limited. For their part, staff in higher education said that they want students with some exposure and experience of the study skills necessary for self-guided learning in higher education which, they felt, is inhibited by a modular design. Crabtree & Roberts (2007), highlight similar pressures in their research.

Of course, a modular design has advantages. Interviewees taking part in this study also noted that regular feedback can be helpful for the A level student allowing them to have a good appreciation of their own progress. Modular structures also allow greater choice and personalisation of a subject. Similar findings were noted by Hayward & McNicholl (2007). Furthermore, A level teachers pointed out that the transition from GCSE to A level is a difficult one and that the system in which the material studied at AS level is less demanding than that at A2 allows students to make that transition more easily.

Grade anxiety

Teachers and some HEI representatives noted that A level students and, in some cases, teachers themselves sometimes feel an intense pressure to achieve good grades. In the case of students, the grade is the key to the HEI and degree of their choice and a reflection of their overall performance in their upper secondary education. A student's anxiety can be matched by their parents' and, because a student's future is dependent on the results they receive, the whole system is under increasing scrutiny. In the case of teachers, they face pressure from the school to maintain grades because of their use in league table performance measures. A large infrastructure now exists which uses grades as a measure for institutional performance which has baselines set. The infrastructure has its own inertia which impels schools to maintain or improve their place in relation to "competitors".

"I'd be loathe to get rid of modular per se as that's what the History department's success has been based on...one student has gone from a D to a B just through the act of resitting"

Teacher, Humanities subject, Maintained school

For their part, most teachers noted that this not an ideal context in which to teach a subject. They would prefer to have more flexibility and freedom to develop interesting lessons which sometimes go outside of the syllabus. However, time is was felt to be limited because of the modular structure of A levels and the continual assessment of A level students, and the pressure on students and teachers to perform well in those assessments.

Issues with assessment

Validity is a measure, based on evidence and theory, of the overall quality of a test meeting its intended use. A test that provides the right information from which to make some form of judgement can be called valid (Ofqual, 2010). In this case, one interpretation of the validity of an A level is whether it allows HEIs to make **a good judgement on whether a student who applies for an undergraduate degree has met their requirements for a degree course**. Reliability is an aspect of validity and "relates to the propensity of an assessment procedure to generate consistent

outcomes. If an assessment procedure tends to give the same result when repeated, then it will tend to be reliable.” (Ofqual, 2010). (ibid). The current design of A levels leads to two main concerns:

- **A higher proportion of A level students now get high grades compared to the past.** Many respondents in HEIs and university departments that *select* rather than *recruit* students said they have less faith in the abilities of first year undergraduates than they used to. In their view, A levels were less effective tools than they were in the past to identify the best students. This was principally because students who were diligent about learning the test were able to get high marks and the skills that were valuable in higher education (as outlined in the *skills deficits* section below) were not tested. Whilst the introduction of the A* had some impact in helping selection procedures, concerns were raised about the breadth of the overall assessment methods used in A levels. .
- **Responding to demand** – the number of students taking A levels has increased. This exerts pressure on the whole examination system and, in order to cope with volume, *external* assessments have, in the view of some, altered for a mass market. For example, a number of A level teachers suggested that the number of multi-step examination questions worth a large number of marks have declined compared to past A level examinations. They said these were valuable because they reward the method in which the problem was solved by the student. However, it was felt they are difficult to include in papers because they require more skill to mark and suitably qualified markers are not available in the numbers required.

Assessing in the most consistent manner may limit the scope of the kinds of questions that can be asked on examination papers or the types of assessments that can be used. For example, essay questions that require a level of professional judgement in marking are less reliable than multiple choice questions.

For the purposes of higher education selection, some interviewees felt that an A level should represent a standard which was roughly comparable across subjects and that some level of conformity in assessment methods was necessary to ensure this

comparability. However, as a consequence, they believed that the assessment methods used were not always the best for making judgements about a student's suitability for higher education study. The literature notes that the A level system might benefit from some more freedom of subject assessment (De Waal, 2010; Kotecha, 2010). For example, a standard assessment could come in the shape of a University Admissions Test measuring language, Mathematics and reasoning skills (Sykes, 2010). Such a separate admissions test that fulfilled the higher education selection requirements would theoretically free up subject qualifications to use more varied assessment methods suited to that subject,

An interviewee from one Awarding Organisation noted that if universities' admissions officers were prepared to accept a small reduction in the reliability of A level results, this would allow greater scope for producing valid assessments of the skills that students need to succeed in higher education. The Extended Project qualification was cited as an example that required the teaching and assessment of these skills.

Ofqual's role and the design of A levels

Interviewees from Awarding Organisations, HE Bodies and schools were asked about their perceptions of Ofqual whereas HEI interviewees were asked more generally about the role of regulators. There were no specific differences made by HEI interviewees between the role of Ofqual and the regulatory regimes in Wales and Northern Ireland. All interviewees were asked about their general perceptions of the regulation of A levels.

Generally, interviewees did not have much of a concrete nature to say on the regulatory role of Ofqual or other regulators. Most interviewees felt that part of the regulator's job was to ensure that grades of all Awarding Organisations within a subject and, if possible, between subjects are comparable i.e. an A in Chemistry from one Awarding Organisation is comparable to an A in Chemistry from another, and comparable to an A in Psychology. However, there was also a belief from some quarters that some subjects (principally STEM subjects) may be intrinsically more difficult than others, a view supported in the wider literature (QCA, 2008; Coe *et al*, 2009).

The exceptions were comments from groups such as Learned Bodies, Awarding Organisations and some admissions tutors. These interviewees made two main points:

- Firstly, the purpose of A levels should be clarified which would, in turn, allow stronger regulation because it would be clearer to all what A levels were there to do.
- Secondly, the regulator is the only sector body without a partisan interest in bettering grades year on year. Higher grades “prove” that a school is better than competitors, a university can attract better undergraduates and that an Awarding Organisation gets better results for students taking its examinations. The role of Ofqual and other regulators is therefore essential if the standard of the A level qualification is to be maintained.

“There’s always been a government department in charge of maintaining these standards and I have real doubts about whether they have fulfilled that role as aggressively as possible in the past...I think there is a more positive climate for tackling the issue now”

Employer Body

There was a general feeling across all research audiences that HEIs should be more involved in the design of A levels than they have been in the recent past. It was suggested that the optimal outcome might be for Ofqual (and other regulators) to convene and coordinate the involvement of a representative group of HEIs and other stakeholders in offering substantive input at the criteria stage, and then involve these same people at the review and accreditation stage when it receives specifications from Awarding Organisations. Then the Awarding Organisations would be free to involve other HEIs and stakeholders, not involved in these representative groups, in their own specification designs.

However, many HEI interviewees said that they would not have the time to set aside for such activities on top of their academic roles. On several occasions these interviewees suggested that Learned Bodies were best placed to provide the higher

education sector view because they knew more about A levels than individual academics.

As regards the future 'shape' of A levels, analysis of all of the interviews and discussion groups provides several suggestions. These include a move towards a more linear system of examination, changes to the resit system, better incorporation of synoptic learning and changes to methods of assessment could change the student experience of upper secondary education and go some way towards better preparing them for higher education and the world of work.

At the broadest level, most of those in higher education and some employers said they would appreciate changes to the A level system that would help to ensure better core and critical thinking skills among A level students.

Background and Methodology

1. Background and Methodology

Background to the research

The importance of A levels should not be understated. Past research for Ofqual (Ipsos MORI, 2011) showed that A levels are valued highly, with four in five students (79%) agreeing that it is more important now than ever that students get a higher level educational qualification such as an A level. However, it was also quite clear from this research that concerns exist with the current A level system. Among the public, only one in five (20%) agreed that they have more confidence in the A level system than they did have a few years ago – a third disagreed with this statement. Furthermore, there are concerns regarding transparency; nearly twice as many disagreed than agreed that they have the information they need about how A level exams are marked and graded (47% versus 26%).

In *The Independent* last year, it was reported that the headmistress of one of the country's leading state grammar schools is encouraging pupils to switch from A levels to the International Baccalaureate Diploma (IB) as she believes it offers a broader curriculum and a better preparation for university (Nutbeam, 2010). This is something which is reiterated by those working in higher education themselves who state that A levels in their current incarnation force students into narrow learning pathways at a time when they are not ready to make such significant choices – something which is not good for students, universities or employers.

While universities still rely on A levels as the primary form of assessment for entry, there are widespread concerns around how effective the system is as a means of helping universities choose the right candidates. Indeed, it was reported in late 2010 that one in five universities set their own entrance tests for some subjects as they felt they could not rely on the results of school and college exams to select exceptional candidates (Paton, 2010).

In light of these issues, the Secretary of State for Education for England pledged he would accelerate reform so as to allow universities to help develop A levels in such a way that they act as better preparation for higher education (Department for Education, 2010, p.49). It is thought that by doing this, there will be renewed faith in

the 'gold-standard' qualification and universities will be able to select, with confidence, the right people for their courses. This commitment was laid down as follows in the 2010 Schools White Paper *The Importance of Teaching*:

To ensure that they support progression to further education, higher education or employment, we are working with Ofqual, the Awarding Organisations and higher education institutions to ensure universities and Learned Bodies can be fully involved in their development. We specifically want to explore where linear A levels can be adapted to provide the depth of synoptic learning which the best universities value.

(Department for Education, 2010, p.49)

During the fieldwork period for this research, remarks made about the difficulty of A levels by the Secretary of State for Education for England were widely reported in the press. In the Secretary of State's view, one result of changes to the A level qualification will be more A level failures (Enoch, 2012).

Aims and objectives

The changing policy environment presents an important challenge. There is real scope to review A levels to ensure that they meet the needs of their users and can be maintained long-term. This research is therefore valuable as it collates findings from key recent texts and presents the main issues relating to A levels as perceived by a variety of audiences. In collaboration with the three Regulators, the final research aims were to understand views on:

- the extent to which A levels currently prepare students for higher levels of study or, in the case of employers, the workplace; and
- the level and nature of (any) concerns about the current A level qualification

Several other objectives formed the foundation of the research. Those connected with higher education (HE) were consulted about:

- the strengths and weaknesses of the current A levels when selecting students for higher education courses;

- the strengths and weaknesses of the current A levels in equipping students for progression to higher education? Specifically considering:
 - the subject knowledge they require;
 - the (analytical and study) skills they need for higher education.
- the strengths and weaknesses of the current A levels in developing synoptic learning;
- how far the current system of A levels attracts the right students in the right numbers to meet higher education expectations and, if not, what the reasons underpinning this are;
- the mechanisms that will provide the most effective input into the development of A levels from those best placed to contribute.

In addition, research with teachers in England specifically considered:

- the role of regulation in England for addressing generic issues with A levels; and,
- whether a subject specific approach to A levels is preferable.

Research was also conducted with UK employers which considered the questions above but from the perspective of an employer. This meant the focus of the interviews was on the value of A levels as a pathway to employment rather than the transition to higher education.

Methodology – secondary research

With the help of the validation group, the Regulators and some interviewees, Ipsos MORI compiled a list of 25 key sources to review as part of this research. These interim findings were used to inform the discussion guides and analysis of the findings, and were reported to Ofqual in January. Where relevant, the findings of this research have been referenced throughout this report.

Methodology – primary research

Since initially commissioning this research, the Regulators and Ipsos MORI amended the overall audience and approach to this study. For this reason, the methodology laid out in this section differs from that originally proposed. Overall, a large amount of primary fieldwork has taken place in early 2012, accompanied by some secondary research conducted between December 2011 and February 2012. This section outlines the approaches that were taken to the research process as a whole.

The primary research audiences

Table 1 below summarises the main primary research audiences and the methods used to conduct research with them.

Table 1: Research audiences and number of interviews

Research audience	Methodology	Number of participants
Staff from higher education Institutions in England, Wales and Northern Ireland	Face-to-face interviews	55
Representatives of UK Learned Bodies, Awarding Organisations and higher education Strategic Bodies	Face-to-face interviews	16
A level teachers in England	Focus groups	46
UK Employers	Telephone interviews	20
UK Employer representative organisations	Telephone interviews	5

In total, 96 interviews and 10 focus groups were conducted over 6 weeks. The exact composition of each audience is described in the later sampling section. In general, a purposive sampling approach was taken meaning our approach was guided more by what the research aimed to discover than precisely reflecting the sampling universe. Our overall sampling approach is described below.

Sampling

We sampled interviewees in order to achieve a spread of views and opinions to ensure we covered as much area as possible in the primary fieldwork. We discuss our approach to the different audiences in turn. Appendix 1 provides a detailed list of all of the quotas used and met for recruitment for each of the audiences described below.

HEI interviews

For the higher education sector, we took the approach of first selecting higher education institutions (HEIs) based on their average A level entry requirements.

In order to do this, HEIs in England, Wales and Northern Ireland were ranked by average UCAS tariff points of students under 21 years of age on entry. This list was then divided into three equal parts. These are referred to in the report as High, Middle and Low tier universities.

- High-tier = 360 UCAS tariff points or more;
- Middle-tier = 273 to 359 points;
- Low-tier = 272 points or less.

The data on UCAS Entry tariffs were derived from The Complete University Guide².

Whilst we did not take a strict approach to selection probability when drawing the sample, we did ensure that a range of HEIs were asked to take part based on tariffs required for their respective undergraduate courses so as to understand views across the sector. The reason for being freer in our sampling was to ensure we also recruited a spread of HEIs based on other criteria, namely:

- **By individual subject and on the basis of STEM and non-STEM subjects.**
The acronym STEM refers to Science, Technology, Engineering and Mathematics and the importance of this group is they have faced recent difficulties in recruitment despite being recognised as nationally important subjects.

² <http://www.thecompleteuniversityguide.co.uk/league-tables/rankings?o=Entry> [accessed 16/12/2011]

- **By classifications of institutions.** HEIs are either members of, or classed into, different collective groups and it was agreed that ensuring some representatives of each of these groups in the sample was important. Examples include the Russell Group of research-led universities, the Million+ Group members who have an interest in promoting the role of universities as wider contributors to the economy and society and the 1994 Group whose members aim to promote excellence in research and teaching.
- **By country.** As the Regulators in Wales and Northern Ireland also commissioned the research, 10 interviews were conducted at HEIs based in Wales and Northern Ireland. In the case of Northern Ireland, some care is required in the way results have been reported as there are only two HEIs based there: Queen's University Belfast and the University of Ulster. As the potential exists for direct quotations to be traced to the person making them, citations have been kept purposefully vague. However, there were no fundamental differences in views between the three countries included in the research.

Within HEIs themselves, we also sought to speak to a range of staff. Aside from different subjects, we also sampled by occupation (ranging from Vice Chancellors, to First Year Admissions tutors, to Registrars) with the aim of understanding overall admissions policies as well as institution level and subject level issues. We therefore targeted admissions tutors, deans and heads of department/subject. We also spoke to several Vice Chancellors and academic registrars.

Learned Bodies, Higher Education Strategic Bodies and Awarding Organisations

The views of a selection of subject-based Learned Bodies were sought because of their specific in-depth views of individual subjects. For the purposes of this report, Learned Bodies are defined as academic groups whose members teach; research or have some other professional connection to a subject area. These individuals were able to provide some in-depth views on the suitability of A levels in aiding the transition to higher education for courses based on their subjects.

Overall higher education Strategic Bodies such as HEFCE and QAA also formed part of this quota group, as did a representative from each of the five Awarding

Organisations: AQA, CCEA, WJEC, Edexcel, and OCR. The Strategic Bodies were included because of their knowledge of the higher education sector as a whole and particularly because they have a different perspective on the educative role of the sector. Awarding Organisations clearly have a very detailed knowledge of the technical and structural aspects of A levels and were included as an expert voice on these matters. As a whole, quotas were set for these strategic bodies and Awarding Organisations as well as STEM and non-STEM Learned Bodies. For all Learned Bodies, senior members of staff were interviewed ranging from Chief Executives to Heads of Education.

A level teachers

As with HEI staff, the aim of the sampling approach for the teacher focus groups was to achieve as broad a sample as possible within the constraints of the number of groups commissioned. Schools were selected from the edubase dataset which lists all schools in England. The criteria for selection were whether the school was independent or grant maintained, whether the average A level grades achieved by their students were High, Medium or Low and whether or not alternatives to A levels were taught (such as the International Baccalaureate or the Cambridge Pre-U examination). Teachers taking part in each school were grouped as either STEM or non-STEM subject teachers only.

In order to ensure that participants were able to contribute fully to the discussion, thus making the most of their time, a limit of 6 teachers per group was set.

Employer interviews

A total of 20 telephone interviews with employers across the UK were arranged. The key selection criterion was that the employer specifically used A levels in order to select and recruit employees. Employers could either recruit A level leavers directly, or specifically look at A level results as part of the recruitment process; an equal mix of both employers using A levels in each of these two ways was recruited. Broad quotas by sector, business size and geographical region were also set.

A sample of employers from a commercial data provider (Dun and Bradstreet) was used as a sample frame.

Discussion guides

Separate discussion guides were developed for each audience that covered the research questions most suitable for each. HEI and learned body interviews lasted for approximately one hour, employer interviews for around 30 minutes and the discussion groups with teachers around an hour and a half. All interviews and groups were recorded with around a half being transcribed to aid analysis.

The discussion guides were initially structured around the research objectives and, as is best practice for qualitative research, these were revised throughout the fieldwork period. This meant that more fruitful lines of enquiry could be prioritised over those which turned out to have little analytic value.

Recruitment

Ipsos MORI in-house recruiters called an identified sample in order to determine their eligibility and willingness to take part in the research. A screening questionnaire was used at recruitment to ensure the right individuals took part (i.e. those best placed to respond to the research objectives) and minimum quotas were met. To encourage participation, interviews were conducted at a time and place most convenient to them (i.e. their place of work or by telephone) and incentives of £40 per interview were offered as compensation for lost working time. In the case of HEIs, this compensation was offered as either a charitable donation or as a donation into the HEI's student hardship fund. Employers were given the option to donate their incentive to charity or to a workers' pool of money for events. To maximise retention, participants were also contacted a day in advance of their interview as a reminder to take part.

Analysing and interpreting the findings

It is important to note that although qualitative research provides more detailed insights into experiences, the views obtained are not statistically representative of all participants. Throughout the report, use is made of verbatim comments from the interviewees. Where this is the case, it is important to remember that the views expressed are to illustrate analytical points made in the report and do not necessarily portray the majority view of participants.

The report has been structured around the main research objectives. This is intended to enable links to be made between the objectives and any resultant policy or

structural changes. In practice, the objectives all have some connection to one another, so some internal referencing is provided to help move between sections.

A thematic database was developed. It was structured by variables that described participants (i.e. subject taught, type of school, industrial sector, etc) to help draw out links in the data, case studies and examples of best practice.

The database was interrogated according to four key questions:

- What did respondents say: what is the key information that has been collected?
- What does the data mean: how does this relate to the research objectives?
- What does it all mean: how do these findings fit together into a 'bigger picture'? and,
- What does it mean for the regulators in England, Wales and Northern Ireland³: what are the implications and recommendations?

The outcome of this analysis is reported in the following sections.

³ Some interviewees were asked specifically about Ofqual, others about "regulators" in general. No differences in the findings by country were found so the findings can be read as detail on regulators in general.

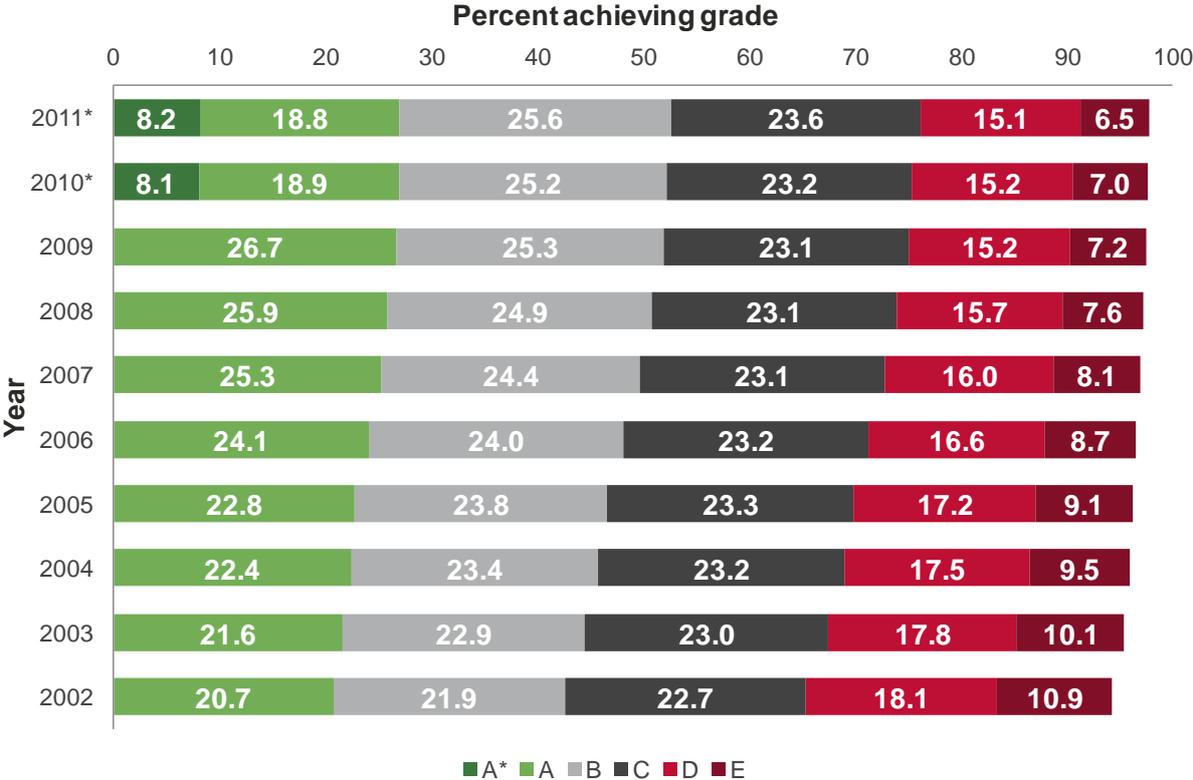
The A level qualification

2. The A level qualification

Introduction

The A level has been seen in the past as a ‘gold standard’ qualification, and this has influenced the public debate around the A level system (Ipsos MORI, 2010). Ipsos MORI has, since 2003, run a survey tracking perceptions of A level among teachers, parents, students and the general public and perceptions are largely positive (Ipsos MORI, 2010). A high level of confidence in the A level qualification has been recorded in recent years, despite much media coverage of its perceived shortcomings, and the high-profile debate around ‘grade inflation’ which appears every year around results time. The debate on grades is fuelled by the increase in the proportion of students who both pass A levels and achieve an A grade, as shown for the UK in Figure 1 below.

Figure 1: Achievement of A level grades in the UK, 2002-2011 (%)



Source: Joint Council of Qualifications (2012)
 * indicates introduction of A*

The perceptions tracker findings suggest that the A level is generally seen as a qualification that is, broadly, 'fit for purpose' and the findings from this research support this general conclusion. Across all the audiences interviewed, there was a sense that the A level system in its current guise broadly meets the needs of HEIs in the UK, where the single subject three-year BA remains the most common form of degree:

"It's a preparation for higher education in that in the UK we're still offering specialised and focused degrees from year one, and traditionally, the A level has been successful in enabling people to make that transition to university study, because of its strong degree of depth, as well as some breadth"

HEI, England, History

However, it was noted by many that the higher education landscape is rapidly changing, and will continue to do so, particularly in light of the increased tuition fees that will be in place from the 2012/2013 academic year. Interviewees working for Awarding Organisations, in higher education bodies and in centralised admissions offices noted that, when a much smaller proportion of young people went to university, the A level was seen primarily as an exploration of the subjects, and Years 12 and 13 were a time when students could develop a love of learning which they would then carry on into university.

Now, however, some who appeared to have a more strategic view (such as representatives of higher education bodies) saw A levels as a university entrance examination stretched to breaking point. With far greater numbers taking A levels, and a proliferation of different types of higher education courses available to them afterwards, the A level system has correspondingly changed. Between 1996 and 2010, the number of students taking A levels increased by an average of 1.7% per year from around 620,000 in 1996 to 782,500 in 2010 (Department for Education, 2010b). In particular, the number of subjects available to study at A level has increased dramatically⁴.

⁴ The Ofqual qualification register lists 88 different A level subjects (and many more variants of individual subjects) of which 23 are foreign languages: <http://register.ofqual.gov.uk/Qualification>. In

These factors were seen by interviewees with a strategic view as having put pressure both on Awarding Organisations, whose logistical and administrative task has increased, as well as students, for whom the qualification and the level of assessment involved has become, in the words of one interviewee whose daughter had recently gone through the process, a “*hard slog*”. It was suggested by interviewees from higher education and Learned Bodies that A levels have morphed from a university preparation course for an elite group of students into a “*general higher qualification*” i.e. a school leaving certificate.

As a result, many interviewees were either unsure as to what the purpose of the A level system is, or thought that it has several purposes which may conflict. While it was seen as serving an important transitional purpose, there was some concern that it is not perceived as a qualification in its own right.

Among representatives of HEIs, there were very mixed views of the purpose of A levels. A few saw it simply as a **rite of passage**, a hurdle to be jumped over before embarking on a university course or entering the world of work, and drew very little specific connection between the A levels and these subsequent paths.

Most thought that a key purpose was **to help universities select students** for higher education. Indeed, at many of the institutions where we conducted interviews, the UCAS tariff point or A level grades were the only indicator taken into account when deciding to admit the majority of students. As explored in Chapter 3, the A level is seen as successful at fulfilling this purpose in all but the most selective universities. However, admissions tutors pointed out that they successfully deal with large proportions of their students applying with other qualifications, and as such, the broad success of A levels in an efficient admissions process may be coincidental.

It was noted by a higher education body representative that using A levels as the primary selection tool for higher education only began in the 1970s and 1980s and really became entrenched with the rapid expansion of higher education and A levels in the 1990s. Before this, the main purpose of A levels was to prepare students for

comparison, the number of equivalent qualifications outside of languages in the Republic of Ireland is 20: http://www.careersportal.ie/ed_training/ed_lc_subjects.php?ed_sub_cat_id=7

the degree level study of a specific subject, and, for many of the HEI representatives that we interviewed, and particularly for those who teach undergraduates, this remains the main purpose of the A level system. Teachers of STEM subjects and European languages were more likely to think that A levels should ensure that students have adequate subject knowledge before arriving at university. In these cases, they were particularly concerned with depth of knowledge because it was critical to the starting point of the degree. Without it, the student would not be able to begin their studies. For other Humanities subjects, History being a particularly good example, it was thought that A levels should be imparting an overall picture of the subject. The difference between the STEM/Languages grouping is that it would be possible to begin a History degree (or a range of other undergraduate degrees) without the theoretical background subject knowledge. These two aims could be seen as in tension with each other, and there was no clear consensus as to whether A levels should be focussing on depth or breadth, although there were several pros and cons to each approach. This is discussed in further detail in Chapter 4.

A more general purpose mentioned by almost all interviewees from HEIs was the initial development of the study skills and academic skills necessary for higher education study. This was important in all subjects but particularly in those where there is no corresponding A level, or little direct connection between the A level and study of the subject at higher education e.g. Law or Anthropology. Perceptions of the extent to which A levels should develop these skills differed between interviewees but most considered at least some exposure to the learning methods used in higher education to be important. Broadly, representatives of *Selecting HEIs* (those with the highest entry tariffs who select rather than recruit students) wanted A level students to have begun their development in these skills before embarking on degree level study and were less likely to see higher education as the place for remedial work on, for example, communication skills. This means they expected students to arrive already prepared to be independent learners rather than having no exposure whatsoever to finding information for themselves. Two observations from the interviews underline this point:

- a) The positive view held overall, but particularly from representatives of *Selecting HEIs*, of the Extended Project Qualification (EPQ) which requires

students to undertake some form of independent learning. This is discussed in greater detail in Chapter 5; and,

- b) The teachers' view that they are dependent on a very limited number of textbooks to teach the A level syllabus, many of which are linked to a specific examining body. As noted in Chapter 7, this leads A level students to rely on single sources rather than allowing them to read around a subject.

Many interviewees mentioned that these skills are developed by the education system in general and not just by A levels but the final two years of schooling prior to entry into higher education are a particularly important time in which these skills should be developed.

Finally, some interviewees thought that the overall purpose was much wider. That the purpose of A levels was to prepare students for life after school, in terms of the skills they might need to be successful at university, in work (either immediately or after completing higher education) or as a citizen. There was some scepticism as to how well the current A level achieves this broader aim. This view was more common among people who took a global view of the A level system, such as representatives of Awarding Organisations or higher education bodies.

Employers

Employers took a somewhat different view as to the purpose of the system. Often they were unaware how the A level system works in practice and as such, had few specific expectations of it. However, most were clear that its purpose is not to prepare students for the workplace. Employers used A levels to broadly measure ability when choosing applicants for particular posts. Some employers felt A levels allowed students to spend an extra two years in school maturing and developing their core working skills such as literacy, numeracy and communication. Those who were critical of the education system thought the use of A levels to select in this way was a result of deficiencies in GCSEs. They said that they were no longer confident in the skills of those who leave school after GCSEs and as such see the A level as the new default general school leaving examination. Employers we spoke to who specifically recruit A level students thought the qualification broadly equipped candidates for

work, as opposed to other Level 3 courses (such as Apprenticeships and NVQs) which may be more specialised or vocationally focused.

Teachers

Representatives from this group were the most likely to see A levels as a qualification with multiple purposes, as opposed to a qualification aimed specifically at the transition to higher education. This was partly because they felt that they understood the students' own views of the purpose of A levels. These were: to keep their options open; to get a qualification and demonstrate their development; and to get into university. Teachers noted that students were often unsure of their future goals when choosing A levels, and that most will not go on to study most of their subjects at a higher level. As such, they were far less likely to see the primary purpose of specific A levels as equipping a student with the skills and knowledge to do a degree course in a specific subject. They saw the purpose of A levels, and as a corollary their own purpose as teachers, as getting their students more qualified in general and thus better equipped to deal with life after school, wherever that might take them. They were clear that A levels are about developing skills, both general and subject specific.

Purpose and suitability

Views of the purpose of the A level system directly affected views as to whether A levels were “doing the job”. Where interviewees saw the main purpose of A levels as preparing students for particular degree courses (which would typically be STEM and languages) or for the demands of higher education at selective universities, they tended to be critical of the particular knowledge or skills imparted by specific A levels. Where the system's purpose was viewed broadly, criticism or suggestions for improvement tended to be around the system as a whole: the number of subjects; the ratio of skills to knowledge taught or; the modes of assessment. Interviewees who felt the role of higher education was to develop academic and learning skills tended to be more satisfied with the A level system and on the whole were pleased with the calibre of students they received. In a sense (like many employers) they were happy to pick up where A levels/school left off.

In addition, these differing views on the purpose of A levels were often the root of the sometimes conflicting views about the suitability of A levels that are drawn out throughout the report.

Selection versus skills

This issue is explored in detail in Chapters 8 and 9 on regulation and design. Interviewees who have worked in admissions, for higher education bodies or Learned Bodies and teachers often noted that the emphasis on the A level as a selection tool may inhibit the ability of the qualification to equip students with some skills such as extended writing, communication, laboratory and fieldwork skills. Many of these interviewees said that this is because of the emphasis that is currently placed on assessment (in particular external, modular assessment) and the need to assess in a way that ensures validity and reliability.

The Ofqual definitions of validity and reliability are provided on page 9. For the purpose of this report's research aims as they pertain to higher education, validity refers to the extent to which an A level qualification prepares a student for higher levels of study. In relation to the higher education research aims, a reliable A level result is one which provides the same level of evidence of achievement for each student.

Awarding Organisations must design their qualifications to meet the Ofqual requirements for validity and reliability. This is seen by some as limiting creativity in assessment, which these interviewees feel consequently impacts on teaching in the classroom and the subsequent preparedness of A level students for higher education.

Specific A levels and their relation to the system as a whole

Those with a broad overview of the A level system often noted that whilst many individual A levels are very good qualifications, the system as a whole may not be equipping students with the broad range of skills they need to prosper in life after school. Examples cited by interviewees include applied Mathematics or interpersonal skills and are outlined in greater detail in Chapter 5. As a result, some advocated the development of a more broad ranging qualification (either similar to the IB, or one that included A levels, as well as incorporating other aspects such as

projects, extended essay writing, critical thinking classes, volunteering or work experience). However, many interviewees' perceptions primarily related to the A levels in their subject area, and as such did not have strong opinions of the system as whole. The tension between these two purposes will be explored throughout the report.

A levels as part of the Level 3 education system

Some Learned Bodies, employers and teachers noted the lack of clarity about where A levels sit in the suite of Level 3 qualifications. This affected perceptions of the purpose of the A level system, in particular whether it primarily is (and should be) an academic qualification which is only taken by those who will be progressing to higher education, or whether it is now a *de facto* school leaving qualification that serves to ready students for life after school. Limited knowledge among higher education representatives, some employers and even parents (who can influence student choice of qualification) of other Level 3 qualifications and their purpose adds to the confusion in this area.

A levels as a higher education selection tool

3. A levels as a selection tool

Introduction

This chapter discusses the role of A levels in helping HEIs to select or recruit students. It mainly draws on findings from interviews with HEIs and in particular from admissions professionals. Findings on A levels as a tool for selection by employers are also covered towards the end of the chapter.

There are two dimensions to the issue of A levels as a selection tool; firstly the practical issue of whether the A level system provides an effective and efficient way for HEIs to fill their courses; and secondly whether A levels enable HEIs to recruit or select the quality and type of students they want. Of course, these requirements overlap as the efficiency of the system is dependent upon how easy it is to identify the right quality students. However the distinction is helpful for drawing out the key findings from our research.

Strengths of A levels for higher education selection

Overall the consensus within HEIs is that A levels function reasonably well as a means to select appropriate candidates for most courses. In summary, the strengths of the system are:

- **It is practical:** The system works effectively year-on-year without significant challenges. A chief reason for this is that HEIs' work with admissions processes have been built around A levels, so we would expect there to be an effective interaction between the two. Moreover the system is regarded as very mature, so both admissions officers and academics said they were accustomed and well-practiced at working within it.
- **The qualification generally provides good quality candidates for higher education:** A levels are typically seen to provide HEIs with students with the right kind of training and knowledge to begin studying at university. The academic respondents who were most positive about A levels felt that they give students the necessary experience of studying subjects in greater depth, with some academic rigour, and effectively demonstrate that students are

committed and capable of working at the level required. This is explored further in Chapters 4 and 5 (which relate to the knowledge and skills conveyed to students through A levels) which also identifies some common concerns about students' skills. However in a very general sense A levels could be seen to be adequately performing this role.

“The reality is that, for the great majority of applicants who attain them, A levels remain still the single largest and, for most purposes, an entirely satisfactory way of recruiting [and] selecting students for university.”

Strategic Higher Education Body

Many of the HEIs taking part in this research had become very efficient at processing A level results in admissions procedures. They also said there had been a recent trend towards a highly centralised process, where the university admissions office handles all the logistics, such as assessing forms and making offers, while departments are only involved in agreeing criteria and grade tariffs (and perhaps making more finely balanced decisions about individual candidates). This type of arrangement seemed to be more common in Middle/Low-tier⁵ universities and in the most extreme cases meant that academics had no involvement in admissions at all - being provided with a new set of students each year.

“The actual selection decisions are made by professional staff within my team, as opposed to a member of academic staff. Under the old framework, in common with a lot of universities, academic staff, who were also teaching and lecturing, would be making those selection decisions.”

Head of Admissions, HEI, England

⁵ As a reminder, HEIs in England, Wales and Northern Ireland were ranked by average UCAS tariff points of students under 21 years of age on entry. This list was then divided into three equal parts for the purposes of sampling. These are referred to in the report as high, middle and low tier universities.

High tier = 360 UCAS tariff points or more; Middle-tier = 273 to 359 points; Low-tier = 272 points or less.

However in situations where interviewees felt A levels alone were inadequate for making judgements on whether to select an A level student, the system does provide universities and departments with some flexibility to do things differently if they want.⁶ This might mean that academic staff review UCAS forms in more depth - to look at personal statements and wider information about candidates (such as re-sits taken if available) - it can also mean holding compulsory open days or interviews, or setting aptitude tests. However, what characterises these more drawn-out processes is that they function as a precursor to an A level offer and, once this is made, final selection reverts to the results a candidate achieves.

“We decided that we wanted to [interview]. We thought that as far as getting the best candidates to stick with us and come here, it was a good way of doing that, so you can bring them here for the day, you can talk to them a lot about what the course is going to be about so that they really understand what’s on offer here... And we generally get the kind of applicants that we want.”

Subject lecturer, HEI, England, Computer Studies

Aside from its familiarity and efficiency, the other important merits of the A level system - as reported by a wider range of respondents in our sample - is the belief that it is *sufficiently*:

- **Robust** – it delivers the scale of operation needed for assessing hundreds of thousands of candidates every year, within limited timescales;
- **Consistent** – A levels are national examinations, which are applied in the same way in all places and delivering intelligible and comparable outcomes;
- **Fair** – it provides an opportunity for all students to succeed in equal terms, irrespective of the school they attend, their background and their place within the education system;

⁶ A level grades alone were said to be inadequate for selection for several reasons including: difficulty in differentiating between high ability students; the need to take practical abilities e.g. musicianship into account for entry into a degree; and the need to ensure someone has the relevant interests or personal attributes necessary for a course.

- **Transparent and objective**— results are widely understood and give HEIs the means to account for selection decisions in unambiguous terms;
- **Credible** – stakeholders (including the general public and employers) broadly understand and are confident in the system.

These qualities underline the overall validity of the A level qualification with respect to this report’s research aim. It shows that the A level qualification generally prepares student for higher levels of study to a greater extent.

“They are recognised as the gold standard - even if people at the margins snipe, they’re a pretty good tool.”

Head of Admissions, HEI, England

“Overall, A levels are OK for ensuring fair admissions. At least they are a benchmark you can apply across the board. There's still unfairness in the system but it is probably not the fault of A levels alone - it is about teaching standards and varying levels of support given to students.”

Head of Faculty, HEI, England, Sports Science

Some perceive another benefit of the current system is that it encourages students to develop more in-depth knowledge of a smaller number of subjects (although this ‘benefit’ is controversial - other respondents took an opposite view that A levels are too narrowing and restrictive). In the context of selection, this feature enables universities to dictate what prospective students will need to study to be eligible for courses. The practice is more common for STEM HEI courses and is based on the view that studying STEM at a higher level needs to be based upon a degree of prior knowledge not generally required in the humanities. In practice this usually means requiring one or two specific A levels (often Mathematics alongside the most relevant scientific discipline). For the third subject many STEM respondents said they actually welcomed something different, like English or a Humanities subject, as it might show that the candidate has broader capabilities and interests, and better writing skills.

“Most of our students do not do topics like English, but one could wish that they did because I have to mark lots of essays... it is not something we can select for though.”

Subject lecturer, HEI, England, Computer Studies

Outside the core STEM subjects the level of prescription becomes more varied, for example some Geography courses ask for Geography A level, whereas Economics and social science courses do not tend to require their respective subjects. Indeed, in the cases of Psychology, Law and Computer Science we spoke to tutors who felt it might be better if candidates had not taken these subjects at A level as it tended to induce the ‘wrong type of understanding’ and complacency. Overall, it is most common for Humanities subjects to make no specific requirements at all.

When asked to compare A levels to other similar systems for use in HEI selection, most interviewees had not had enough experience of dealing with alternatives to make a judgement. It was sometimes suggested that the International Baccalaureate (IB) might be a better means of selection at the highest levels of achievement as it reports on a scale that involves more grades and is therefore seen as a more telling measure of academic ability at the higher level. However, it is not seen as suitable for all A level students (perhaps only the top 25% of students in terms of academic ability) - or indeed deliverable on the same scale as A levels (because of the more complex assessment and marking approach needed).

Improving A levels for higher education selection

The above section highlights what is working about A levels, and shows that HEIs do believe it works adequately across a number of key criteria (efficiency, fairness, transparency etc.). However across these same criteria respondents were also keen to describe how they felt the system might be developed or improved - which is the focus of this section. In discussing these it is useful to compare those HEIs with the highest grade entry points (referred to as ‘*Selecting HEIs*’) and others (referred to as ‘*Recruiting HEIs*’) - as the issues seem to differ markedly between them.

For *Selecting HEIs* the main practical issue faced is managing the very high level of demand. Many courses at these universities experience ratios of over 20

applications per available place, which meet the eligibility criteria in terms of predicted grades, and all of which have to be processed and assessed. In some cases it is noted that a reason for setting further eligibility criteria such as high tariffs and specific A level subjects is a strategy to reduce the number of applications.

High demand would be an issue with or without A levels, but a widely discussed weakness of the current system is that the increasing number of predicted A grades makes it challenging to differentiate between candidates who are superficially very similar (often all applicants are predicted to get 3 A grades). Moreover, a common perception is that A grades mask a wide range of abilities and, aside from genuine talent, can be achieved through other strategies such as learning by rote, re-sitting, taking what are perceived to be less challenging modules and through high levels of teacher support. We also found uncertainty about whether an A grade indicates the same level of achievement across different Awarding Organisations and subjects - with some being seen as more or less easy or having different levels/standards of content. As a result, the highest level universities and courses are increasingly seeing A grades as the minimum level of achievement for brighter candidates (the role of the A* grade is covered a little later in this section).

“The expectation is that every bright student should be able to get an A, it’s not hard.”

Head of Department and Faculty Professor, HEI, England, Plant Sciences

In these circumstances HEIs draw upon a range of other strategies including:

- Interviews or compulsory open days;
- Further aptitude tests (often for the purposes of ranking students, or to decide who not to interview, rather than as simple admissions tests in themselves);
- Reviewing GCSE results (which are often thought to be a better indicator than predicted A level grades);
- Reviewing other aspects of candidates’ portfolios (such as references and personal statements); and,

- Analysing elements of the A level such as the number of re-sits needed to attain their grade (if any) or the specific modules taken.

Of course it can be argued that these processes are worthwhile anyway and represent a robust holistic process which really ought to apply for the best courses. This argument is accepted by *Selecting HEIs* but the problem remains that the perceived lack of differentiation in A levels means that these holistic processes have to be applied to too many applicants. The overall perception is that A level grading does not offer enough granularity at the top range of ability to meet the needs of *Selecting HEIs*. This problem around differentiation at the top was a main driver behind the introduction of the A* grade. The *Selecting HEIs* we interviewed welcomed this change and many were already incorporating it into their admissions requirements⁷.

“It’s given us an external and objective way of saying that we’ve chosen between the excellent and the very good... it gives something tangible; you can say this person is differentiated from the next person because they have an A.”*

Head of Admissions, HEI, England

However there does not yet appear to be a clear view of what an A* really means compared to an A, and how this differentiation might vary across courses and Awarding Organisations. For example it was suggested by some HEI interviewees at *Selecting HEIs and Departments* that the A* may not always differentiate between candidates who are conscientious and good at modular examinations and those who have a genuine talent or a study approach that will be valuable at university. One admissions officer said that a student who chooses to risk a creative and interesting essay in a history exam may get an A rather than an A*, but this may not mean that she is a worse historian than someone who writes a technically proficient but conservative paper. Meanwhile in STEM subjects there was a greater confidence expressed by HEI interviewees in the A*/A boundary, and more belief (compared to HEI interviewees teaching Humanities subjects at *Selecting HEIs*) that it will be useful

⁷ The value of A* to the admissions is also supported by preliminary research by the Cambridge admissions office which suggests that the A* is a good predictor of success at degree level.

in singling out students who have talent for the subject and the intellectual aptitude for higher education. There is the sense that all HEIs are still coming to terms with the change and are uncertain about how effective it will be.

It should also be noted that outside of the *Selecting HEIs* many respondents were more dismissive of the A* and saw it simply as a stop gap measure to deal with 'grade inflation'. The general view expressed by these respondents was that there ought to be better ways to address this challenge than continuing to add stars to the top grade.

"I'm concerned about the direction we're moving in with A, and worry about the reduction ad absurdum of A***. There are more imaginative ways of dealing with the problem of discrimination than continually putting in higher borderlines and I'm worried that this will just lead to students being drilled even more, particularly in high performing schools."*

Learned Body

Moving on from the courses at the very top we found that problems of differentiation diminished primarily because more emphasis was placed on *recruitment* rather than selection. At the next level down - those setting tariffs for students with mostly As or Bs - the A grade appears to be more effective at helping to recruit the right students. A few HEIs said they observed a notable difference in knowledge and aptitude between A grade and B or C grade students which meant the grade itself could be used to recruit.

"An A in a science subject is generally a good gauge of a student that has suitable skills and the right level of knowledge."

Lecturer, HEI, England, Geography

HEI's that comprised of the Middle and Low-tier sections of the sample frame generally accepted that grades B through to E are roughly correlated with candidates' abilities. As a result, respondents from courses *recruiting* from among B,C,D students were able to effectively run much more 'light touch' admissions processes with few challenges identified. As additional evidence for the accuracy of grades B

and below, we interviewed departments who had increased their tariff up to a B from lower grades. These interviewees had subsequently noticed improvements in the abilities of students, as had academics who had moved between institutions with different entry requirements.

“So we tend to [select] by the A level points as ultimately it’s a good currency in terms of equivalence. And as I mentioned at the beginning what has worked for us in that we’ve been able to gradually increase our figures. And that has resulted in, in better quality students.”

Head of Department, HEI, England, Psychology

For Middle and Low tier HEIs the key challenge does not appear to be around differentiation, but establishing the equivalence between A levels and the high volume of non-standard qualifications that they also have to deal with, including international and vocational qualifications. There is an impression here that the post-16 education system as a whole is not especially coherent or well designed, and that not all students are well served by the current distinction between ‘academic A levels’ and the range of ‘vocational’ alternatives.

“We need to get rid of the masses of alternative qualifications out there and have more intelligently designed courses mixing the best elements of A level with practical elements of vocational course. This will develop the whole learner not just those who remember facts or who are good at exams.”

Head of Admissions, HEI, England

Another practical challenge faced at this level is the limited accuracy of predicted grades which creates logistical challenges both before and after A2 results are available. Aside from the findings from this research, other studies have noted there are limitations to the predictive accuracy of both AS scores (Hopkin, 2011) and predicted grades⁸ (BIS Research Paper 37, June 2011), and that this accuracy

⁸ The BIS report on how accurate A-level predictions are shows that around 50% of predictions are a grade over or under the achieved grade. “51.74% of all predictions were accurate, and only 6.59% of predicted grades were under-predicted. There was a clear tendency for grades to be over- rather than under-predicted with 41.67% of all predictions being over-predicted.”

deteriorates the lower the AS/predicted grade is. A suggested response for this would be for UCAS to make more detailed information (e.g. module scores, UMS and re-sits) available as standard⁹ - which would allow admissions officers to assess more material. The other solution would be to move to a post-qualifications applications system (PQA), and this is an issue in the forefront of peoples' minds. During the production of this report, UCAS decided against a full post-results admissions process (UCAS, 2012).

Some doubts about the equivalence of different subjects were raised during interviews at both *Selecting* and *Recruiting HEIs* – with the underlying perception perhaps being that STEM A levels were seen as more challenging than non-STEM (which is also reflected in some of the literature – see *the Economist*, 2009)). Respondents making these observations acknowledged that their views were anecdotal and therefore not practically applicable to their admissions process. However, it was felt that because this perception was widespread it might impact in pupil's choices at 16 (it was even suspected that schools try to influence pupils into choosing 'softer' subjects to improve school performance – which is covered from the schools perspective in Chapter 7). A small minority of respondents also suggested that the level of demand of an A level can differ across Awarding Organisations. However this is also purely anecdotal and we found no evidence of it being a factor in any actual admissions decisions.

“There is a built in disadvantage to the system because of inconsistency in different syllabuses and curriculum. Not all are as good as each other – for example some require more independent reading than others.”

Head of Department and Faculty Professor, HEI, England, Plant Sciences

Concerns around the equivalence of subjects were also expressed by teachers - which might be regarded as more worrying as they have arguably the best first-hand knowledge of the issue. In the group discussions with teachers it was clear that they have a keen appreciation of which A levels were seen as having more or less content

⁹ It is currently available upon request

and which were more or less challenging to students. STEM teachers generally felt that their subjects were more challenging. Some teachers noted that they “steer” some students (typically those of lower ability) towards subjects where they think they will attain the highest grades possible, and away from those which are seen as more challenging.

A fairly widespread issue within HEI admissions and departments is unease about the value of less traditional A level subjects. In particular it was reported that candidates taking these subjects would be viewed less favourably - especially if they were studying more than one (indeed a medical school we visited explicitly excluded applicants studying what it called ‘vocational’ subjects). The sorts of A levels mentioned in this context included Textiles, Drama, Photography, Business Studies and Communication/Media Studies (which still seems to be emblematic of ‘softer’ subjects). The criticism was not necessarily that these subjects lacked rigour, but that they did not give candidates relevant knowledge or skills. Having these subjects in your portfolio also appears to ‘raise questions’ about candidates and suggests that they are somewhat mixed-up in their thinking or less committed to the subject they are applying to study.

“We do look at subjects at the point of application. So if they have something which is going to be of less value to them – like Drama or General Studies – the admissions service will flag to us if subject combinations are not ideal, they send them to us for attention.”

Lecturer, HEI, England, Geography

“ICT is not really an A level subject. It could be a vocational qualification. And obviously IT skills are useful and they should be taught, but not as an A level for, so possibly as a component in some broader based qualification.”

Subject lecturer, HEI, England, Computer Studies

That said there were also respondents who really did see the less traditional subjects as genuinely weaker, or made the point that it was too early or inappropriate for people to be studying these subjects at 16-19.

“We need to drum home the message to schools that it is not helpful for students to start doing Political or Media Studies at GCSE and A level, this lowers student aspiration and overall intellectual capacity. Business Studies at GCSE affects A level choices and makes it hard for universities like ours to take a candidate seriously.”

Head of Department and Faculty Professor, HEI, England, Plant Sciences

Some of the employers we spoke to were concerned about what they saw as increasing diversity and irrelevance of subject choices (both at degree and A level).

There are not many people gaining a university degree or even A levels in the sciences, unless of course they want to become a doctor or something like that. Unfortunately I think that kids are often choosing media studies because they find that easier.

Employer, Manufacturing, 20-50 employees

By contrast, academics in departments where these courses are relevant were often keen to make a robust defence of the subjects and welcomed the fact that young people now have more choice. From this perspective negative views about less traditional subjects were based on prejudice, although it was also accepted that the quality of A level teaching of some of the more ‘vocational’ subjects may be a problem because they are less well established (or because teachers may not have been trained or have experience in them), and that this might in part be a cause of the poor reputation.

Another specific issue raised is the eligibility of A level General Studies, A level Critical Thinking and the Welsh Baccalaureate Qualification for admissions. The picture to broadly emerge here is that *Selecting HEIs* do not tend to include them whilst *Recruiting HEIs* do. This raises questions about the value and understanding of these qualifications, with some respondents being rather dismissive, whilst others regard the relatively low status of cross-cutting qualifications as a missed opportunity to create some of the skills and orientation they feel are lacking in students (which is discussed in more depth in chapters 6 and 7).

“The Welsh Baccalaureate Qualification has boosted tariff score numbers, but they [WB students] do come with more transferable skills, independent study skills and practical skills.”

Head of Admissions, HEI, Wales

In the context of selection the final limitation of A levels identified by this research is more of a ‘quality’ than an ‘efficiency’ issue. This is the broader sense that A levels only provide an indicative picture of ability, and that a large part of a candidate’s aptitude is not demonstrated in their predicted grades or A level results. For example:

- Many respondents were of the opinion that A levels do not seem to have a strong relationship to actual performance in higher education – and that those with the best grades can perform disappointingly (and vice versa), although none had done any empirical research to verify this but one HEI was in the process of doing so. By contrast, the Admissions office at Cambridge has undertaken research which suggests that A level grades, and A* grades are strongly correlated with outcomes in first year examinations. However, this finding may be limited to students at this or other similarly selective universities;
- For creative courses in particular, A levels do not give a clear indication of *talent* - other processes (such as portfolios) are felt to be needed to assess this;
- A level grades do not provide any insight into a student’s study skills and ability to learn for themselves – synoptic papers might go some way in responding to this criticism;
- Grades do not provide any insight into a candidate’s motivation, aspiration and orientation towards learning, or even their suitability for study at the higher education level.

In response to these challenges we found some enthusiasm for adapting A levels so that they provide increasingly detailed information about student performance or

report on other methods of assessment to help HEIs judge the broader merits of candidates. Some respondents – particularly those with more active involvement in the admissions process - said they would like to see more relevant information on the UCAS form. However many other respondents did not raise this and we therefore conclude that despite these misgivings, most people working within HEI admissions are prepared to live with and adapt to these challenges.

“I don't feel entirely confident in the transparency about what a certain grade means in terms of skills. If there was always a set of criteria you needed to meet we would be more confident that we are always dealing with the same set of students.”

Head of Admissions, HEI, England

Effects of using A levels in higher education admissions

In the context of admissions the main benefit of A levels is that there is an operational and functioning system which effectively allocates satisfactory students to HEIs. Whilst the importance of this should not be understated, we regularly encountered views that universities' reliance on A levels as the primary source of recruitment does have some negative effects for higher education, schools and students.

On the higher education side it was observed that A level grades provide some of the raw material for the system by which university and course quality are judged (alongside other criteria such as RAE scores, assessments on teaching and satisfaction ratings). It is argued by some that this can lead to universities becoming overly focused on grade entry requirements at the expense of wider objectives and it is a contributing factor to what is seen as an increasingly pervasive 'league table' culture within higher education (mirroring that reported by A level teachers in schools and colleges reported in Chapter 7), which many regard as distracting and ultimately detrimental to educational quality.

“Leading universities are forced to become more competitive in a narrowing way - all about getting tariffs up to 9 million points.”

“Rather than schools and colleges reflecting the needs of higher education, that the reverse has happened, in that higher education is begin to mirror the performance and target culture of the school sector. This has put more pressure on institutions to gauge success in terms of how many students do well and is changing the culture of how higher education is delivering courses.”

HE Strategic Body

On the school side the effect of universities’ reliance on A levels for selection was felt to be even more problematic. Here the argument is that the higher education selection system is one of the key factors encouraging schools to focus on training their students to pass exams at the expense of broader development, synoptic learning and intrinsic enthusiasm for learning (and therefore a cause of some of the weaknesses identified in students which we discuss in Chapters 5-8). As above, the wider point here is that A levels are part of an entire educational system which - for many - is too focused on measurement and comparison and not enough on genuine learning. This is felt to be further exacerbated in those schools where 16-19 teaching is less well developed and where students are from poorer backgrounds (because in these situations teachers feel compelled to take closer control). Some respondents acknowledged that universities themselves could play a role in changing this, by drawing upon other criteria in their selecting/recruiting practices. However there are significant barriers:

- The extra resources required to review and interpret additional information;
- Even if resources were available, the current UCAS process does not include much additional information to help differentiate candidates or consider broader qualities;
- The lack of transparency this would introduce and the greater risk of unfairness. The simplicity of using A levels for selection is seen as helping to avoid bias.

“Admissions people are working flat out and would not benefit from having to take more information into account”.

Head of Admissions, HEI, England

Hence, the barriers to HEIs drawing upon wider criteria would appear to be significant, and while there seems to be a desire to adopt more ‘holistic selection’ (for example as applied by Durham University), the relative simplicity and convenience of the A level system appears to rather inhibit this.

“Universities are sometimes quite schizophrenic. They whinge because students don’t have enough Maths abilities but they haven’t expressed any Maths requirements [in their entry criteria].”

HE Strategic Body

For students, the effect of HEIs’ reliance on A levels is to promote the importance of exams and grades above all else, and some respondents reflected that this has been a major cause in the growth of ‘functional’ or ‘instrumental’ learning. Moreover it was also argued that it might be preventing some good students from accessing higher education because their learning styles are not suited to the exam and results orientation of the current A level system.

“As long as we have A levels it will be used as a simple measure. Without them we would take account of other things.”

Vice Chancellor, HEI, England

“Some students with potential are routinely excluded for entering because they have not passed at a sufficient level at A level. They may be very suited to independent learning but are failed by the A level system... differentiation or potential to study are not currently picked up by our internal selection procedures.”

Head of Department, HEI, Wales, History

A further aspect of this is the aim of ‘widening participation’ and taking account of candidate’s socio-economic background in the admissions process. Many respondents said they would like this to be an aspect of admissions applicable to all HEIs, because they believed that a candidate with good grades from a disadvantaged socioeconomic background indicates a higher level of achievement than one with the same grades from a more privileged background (and because it might also deliver a more diverse intake). However, despite efforts in some HEIs to introduce this for small proportions of their intake, the higher education application system is seen as confounding this aim, because:

- the information needed to do this is not made available as standard;
- the processes HEIs have built around the A level system are not usually flexible enough to accommodate consideration of these issues; and,
- it raises difficult transparency and accountability issues.

Therefore where we did find socio-economic factors being used it was only in a very small number of cases - for example in reviewing individuals who had fallen slightly short of an offer but had, for example, performed well in comparison to their peers.

“I would like to be using contextual data which shows how well a student has done in comparison with the rest of their school. In particular how many children at the school got three A’s, so that universities can work out how unusual a child is in comparison to their peers. At the moment all that is widely available is the national average for each subject - but this doesn’t give enough information.”

Head of Admissions, HEI, England

Value of A levels for selecting people for employment

A distinct issue is the extent to which A levels are helping employers with selection and recruitment.

Only a minority of employers appear to be deliberately recruiting people who have A levels as their highest qualification. For example, we spoke to a very large technology firm whose annual A level intake of c.20 employees was dwarfed by their

annual graduate intake (and was directed at quite specific and technical positions within the organisation). Most employers tended to regard A levels as a transitional qualification - which is strongly orientated towards higher education rather than employment - and will see candidates with only A levels as something of an unusual niche. However there was also an appreciation amongst some respondents that this niche might grow as students are discouraged from going to higher education by increasing tuition fees. This was regarded as something of a long-term opportunity by a number of employer respondents but there had been very little evidence of it happening so far and only a relatively small amount of action taken to date (one medium sized engineering firm we interviewed was designing a post A level training course - in anticipation of being able to appeal to this group).

When employers did try to employ A level students directly, it appeared to be less about any specific knowledge that A levels might have given them than what having studied to the age of 18 says about the candidate. The perception is that a young person who stays on to study A levels has demonstrated a greater aptitude and wherewithal for both further study *and hard work*, and is therefore a better candidate. It is also taken to mean that the candidate is more literate and numerate (which is consistently an employer's chief concern).

"I need people who are highly literate and numerate and GCSEs are not good enough proof of this. I'm not particularly fussy about which A levels they have, though would be impressed by a good science one and less so by subjects like Art. [A levels] exist to get into uni, but also to demonstrate that someone has a bit of brains about them."

Employer, Manufacturing sector, 0-20 employees

As a result of their perceived transitional and academic focus, employers do not tend to think that A levels are especially focused on their recruitment needs. However, this did not tend to lead to criticism as most employers felt there was real value in 16-18 year olds extending their time at school and not narrowing their career choices too soon.

Meanwhile A levels seemed to be regarded more positively than other Level 3 qualifications available as a whole. An important factor in this would appear to be employers' familiarity with and affiliation to the qualification, and the fact that they regard A levels as both robust and challenging examinations (with many recalling their personal experiences as evidence). We also heard the argument that when compared to the diversity and multiplicity of vocational qualifications, A levels are welcomed as both more coherent and more intelligible.

Finally, we found that A level results did not tend to be a particularly significant factor in graduate recruitment (except that Mathematics/sciences or a language subject might help a candidate slightly in some industries). Typically all a graduate employer seemed to want to know about a candidate's A levels is that they had achieved a "good set" of A levels, and, as such, tended not to set grade requirements or require candidates to have taken particular A level subjects.

Summary

In many respects the findings from this chapter should be regarded as a positive endorsement for the A level system. It is widely regarded to be functioning effectively in enabling HEIs to select suitable candidates for their courses with reasonable ease. There are also many reported strengths in A levels including good underlying levels of fairness, transparency and consistency. However, it is also widely observed that the effectiveness of the A level system is at least partly due to the fact that it is what HEIs have had to work with and few of our respondents would argue that it is absolutely ideal.

Moreover there are one or two more substantial criticisms. In particular the lack of differentiation at the top makes selection more difficult for universities that attract students with high grades. In addition, a significant minority of interviewees from *Selecting HEIs* and Learned Bodies made the argument that the relative simplicity of the system may be acting as a barrier to broader objectives of selection, such as being able to identify candidate's real talent, tackling teaching to the test and enabling access from disadvantaged groups. As the following chapters will show, there are also some concerns about whether A levels convey the right kinds of

knowledge and skills needed for undergraduate study, and more generally whether they serve to orient students for undergraduate study and the workplace.

A levels and subject knowledge

4. A levels and subject knowledge

Introduction

Overall, interviewees felt that A levels provide a good foundation of subject knowledge which is, in the main, useful for a course in higher education. The purpose of this section is to highlight the concerns raised by some interviewees around students' subject knowledge, and suggestions they had for remedying this.

Views varied among those we spoke to as to whether A level students enter higher education with an adequate level of subject knowledge. Those who teach undergraduate courses which require particular A levels tended to have a clear sense of the specific strengths and weaknesses in students' knowledge. This was often true of STEM subjects and post-A level language courses where continuity of subject-specific knowledge is a pre-requisite of undertaking a degree.

Those teaching university courses which do not require particular A levels, such as Politics, Law and Theology, did not usually expect students to arrive at higher education with any particular subject knowledge. The concern of HEI staff was often not with *what* students have been taught but *how* they had been taught and, more generally, students' relationship with knowledge. We explore these aspects in more detail at the end of this chapter. The first section deals with specific knowledge gaps that were mentioned in the HEI interviews.

Views on the subject knowledge content of A-levels

In this section we look at whether A-levels imparted sufficient and the right required knowledge for higher education study. The authors note that this qualitative study does not lend itself to an in-depth discussion on the wide variety of subjects in higher education. At most, four interviews were conducted in a single subject area and in several cases just one interview within the sector was conducted.

While we did uncover a whole range of areas where students were seen to be lacking in some specifics of subject knowledge that might help them to successfully navigate an undergraduate degree, it was also generally the case that the knowledge base of undergraduates was not seen as a significant problem. There was a sense

that the small number of subjects taken at A level generally allows students to acquire the relevant knowledge they need. Of far greater concern were issues around skills, which are discussed in the following chapter.

For those higher education courses requiring a relevant A level for entry, it was sometimes found that there was still significant variance in students' knowledge in the relevant area. This is attributed to either the wide range of module options available or the lack of content equivalence between different Awarding Organisations (i.e. different topic coverage between different boards). There are also concerns across some subjects that, within the A level, topics which are fundamental to the subject are, in some specifications, being replaced with overly sophisticated but fashionable topics, for example, the Higgs Boson in Physics or Marxist Criticism in English, which are then oversimplified. This links to the wider point made elsewhere in this report that A levels were sometimes perceived to teach a broad range of topics in outline rather than the core theoretical principles in depth.

In relation to Science and Mathematics, it should be noted that this more fashionable content of A level may suit changes in demand, such as with the so-called "Brian Cox effect" (Vasagar, 2011), in which a surge in enrolments over the past five years in science is attributed to light but engaging media coverage of the subjects. This generates a conflict between the value in increasing the number of students studying STEM subjects at the possible expense of their knowledge of a subject's fundamentals.

When compared with alternative level three qualifications several STEM lecturers felt A levels remained the 'gold standard' for their subjects, although the Cambridge Pre-U was believed to be a more demanding qualification by those who were familiar with it such as a group of STEM school teachers we spoke with. The International Baccalaureate (IB) was perceived by some STEM specialists to provide less STEM content, although several thought the IB makes up for what it lacks in subject depth by developing well-rounded students.

However, among those we spoke to, there was general contentment with the knowledge content of A levels across subjects and wholesale changes were suggested by very few of those interviewed.

Below are the views of some of the higher education subject specialists we spoke to, although as this is a qualitative study, these views cannot be assumed to be representative of the views of all of those lecturing in each subject.

STEM subjects

Biology

The Head of Biomedical Science at a Middle-tier university is very satisfied with the curriculum, and was ‘amazed’ by the variety of topics students cover and believed that course content is kept up to date and hence relevant.

Another lecturer in Biological Science, however, felt that the curriculum was not comprehensive; that although students covered a number of topics in a reasonable amount of depth areas considered to be fundamental were missed, such as photosynthesis. Another found that one Awarding Organisation did not cover the kidneys and another did not cover the lungs, so felt he could not rely on students having a broad knowledge of human biology.

“It’s just safer to start with the assumption that nobody knows anything but they know how to learn it, and build from there.”

Lecturer, HEI, England, Biomedical Science

There were also concerns from one interviewee that the fundamentals are being replaced by more ‘trendy’ topics, such as microarrays – technology used for analysing genetic information – which could only be given a cursory explanation due to the sophistication of the technology and the depth of knowledge required to understand how they worked.

Chemistry

One lecturer at a High-tier HEI thought that the content of Chemistry A level had become broader but at the expense of depth. While he thought that this sometimes

led to the oversimplified coverage of some topics. He did not see this as a straightforwardly bad thing as he thought the broader, lighter content has served to attract more students, which he liked.

Engineering

In Engineering, respondents expressed a strong preference for synoptic assessment although they thought that there are large variances between the Awarding Organisations in how well synoptic learning is assessed. One lecturer we spoke to was concerned that this leads to difficulty comparing results from different Awarding Organisations.

In one paired-depth interview, engineers talked about the possibility of an undergraduate enrolling without having previously studied Mechanics which is fundamental to Engineering. In both Mathematics and Physics A level, Mechanics units can be optional which could result in first year undergraduates requiring a lot of extra tuition to get to the same level as their peers who had studied Mechanics at A level.

Mathematics

The content in the Mathematics A level received praise for building knowledge as students progressed through the course and challenging them to think. In general, the modular structure was seen as appropriate for this subject although some higher education sector interviewees thought there could be more synoptic content and also thought that the small number of topics covered per unit meant that there could be no surprises and the examinee could 'learn the exam' rather than the subject. One Mathematics lecturer supported the idea of one whole module (i.e. one sixth of the qualification) being entirely synoptic, allowing students to consider more complex and layered problems which closer resemble those at university level.

Another recurring message from those at higher education lecturing in Mathematics, and Mathematics-based STEM subjects such as Physics and Engineering, was that the Mathematics A level has generally the right content but students have not been given the time to gain proficiency in using mathematical tools. The result was that students struggled more than ever with the kinds of unfamiliar problems they

encounter in STEM degrees. It was felt that the current assessment system was partly to blame for this situation as students learned to apply a technique in only the limited cases which had been demonstrated to them, and which they knew tended to come up in assessment, rather than across a broad range of problems which requires a more discerning approach and requires students to really understand the reasons behind using a certain mathematical approach. To address this, one physics department had introduced a class into their first year course not to teach more Mathematics but to give students more time to practise the mathematical techniques they already had some familiarity with.

Physics

Lack of mathematical knowledge and lack of practice in mathematical modelling – using Mathematics to solve real world problems – were common complaints amongst the interviewees with a Physics background. The limited amount of Mathematics in the A level was also seen to give students the wrong impression of the subject. One respondent thought that more mathematically-minded students choose to study Mathematics instead of Physics at university as they do not understand how much Mathematics would be involved in the advanced study of Physics. Similarly, this lack of Mathematics means that universities have to add more Mathematics to their first year courses to bring students up to speed.

There were also some reservations about some specifications at Physics A level containing fashionable topics which can only be given shallow treatment, such as the Higgs Boson particle, which would be better replaced with topics which deepen students understanding of core physics.

Non-STEM subjects

Architecture

One Architecture lecturer at a Middle-tier university who used Art A level portfolios in admissions procedures, said the Art A level should allow students greater freedom to go and work on something that interests them. As it is he found that students often seemed to have been assigned a theme like 'seashells'. He believed that students would get more out of the A level if it was less formulaic and, consequently, he would be able to tell which students were naturally well-suited to Architecture. This approach differs from that of some higher education interviewees in other subjects who often wanted more consistency of content in the A level, not less.

English

One English lecturer at a High-tier university had concerns that students learned how to use contextualisation and historical criticism in a very superficial way; for example, 'name dropping Marxist criticism' without really understanding what Marxism was. He also felt courses were very syllabus driven making too much use of anthologies and unchallenging texts, leading to mediocrity, especially in comprehensives where he believed some students were not challenged to think for themselves.

Geography

One subject specialist we spoke to was broadly satisfied with the content in the Geography A level, particularly the fieldwork element, which he felt was vital to the subject. One area where more content would be appreciated was Physical Geography. This was because it was felt that gaining a geographer's understanding of, say, how Hurricane Katrina affected America, requires a clear understanding not just of the social effects but how the physical surroundings contributed to those social effects. Physical Geography was also felt to develop important scientific skills, which can be underdeveloped if an A level student focuses primarily on Human Geography. It was noted that the range of A level syllabuses on offer can present a challenge for universities having to teach first years but also that this presents diverse opportunities in learning, which was felt to be a good thing.

History

One interviewee thought the depth of knowledge of the subjects that the students have studied is often very impressive. However, he and another lecturer we spoke to had concerns about the narrowness of the topics taught: one said his first year undergraduates knew more about the Nazis than he did but understood little about their rise to power. This was felt to be poor preparation for a degree in History where a key skill is drawing on the context in which events or processes occur in order to make them intelligible. They would appreciate it if students had broader knowledge of whole epochs and the connections across geographical locations, rather than being confined to rigid dates and countries for modules.

Also, the emphasis on merely learning historical facts as opposed to understanding historical concepts was a concern.

“History at degree level requires you to know enough of the facts and the dates to be able to construct models of the past, contending interpretations and so on, but it takes a while for that to get through to students, hence we have an awful lot of first year essays which are basically narratives because that’s what they’ve been taught to do at A level.”

Lecturer, HEI, England, History

Languages

The content of the languages A levels (French and Spanish specifically) received high praise from one lecturer at a Low-tier institution, although setting the amount of literature content was a divisive issue among those in higher education. One respondent working in admissions noted that there had been a decrease in the amount of literature on the syllabus in recent years, which not only left students underprepared for the literature-heavy syllabus at his university but also adversely affected demand for this type of degree. However, a language tutor at another university argued that literary criticism was not necessarily of interest to those looking to use languages in combination with other subjects (such as business or for living and working abroad), so its reduction could be a positive thing. This may be a good example of where multiple Awarding Organisations, or at least multiple

specifications, are useful for catering to the varying demands of students.

Psychology

We spoke to three psychology specialists, two of whom had quite in-depth knowledge of the Psychology A level but differed in their assessments. One lecturer believed A level Psychology was demanding and broad, whereas the other felt that the A level did not teach the core statistics needed for experimental Psychology and as such was not a particularly useful qualification for incoming undergraduates to have taken. He suggested that if the A level did teach these skills he might then consider making it a requirement for entry to the course. This interviewee also said the structure of the A level was based around a series of famous Psychological studies and so undergraduate Psychology can seem a little dull in comparison because all the famous topics have already been covered at A level.

However, as Psychology A level is not an entry requirement for these courses, in all cases it had to be assumed in designing the courses that students had no knowledge of the subject.

Sociology

One Sociology lecturer complained that students had very weak knowledge of current affairs, finding that he has to 'start from scratch' with each topic. He felt this went along with students' general lack of inquisitiveness and willingness to discover knowledge for themselves.

"They don't approach the library as a chance to enrich their knowledge"

Lecturer, HEI, England, Sociology

He would like to see increased independent project-working of the kind he has seen offered on access courses, where students are encouraged to go and discover things for themselves often through practical fieldwork.

Religious Studies

Religious Studies A level largely involves studying facts about global religions. The Theology lecturer we spoke to felt, however, that GCSE is the level for studying facts and that A level students should start to engage critically with information. As a result, he did not think that students with this subject, despite their knowledge base, had any advantage on those entering without. He was thus disappointed that the Religious Studies A level did not give students more opportunity for critical reflection as lacking this skill can impact negatively on their entire university learning.

“A levels seem to be more and more about getting knowledge rather than about carefully considering difficult questions or about critically evaluating texts or material that students are presented with. And that’s what they seem to struggle with most throughout the time they’re here especially in the first year but even the second and third as well. They continually answer questions using primary knowledge just trying to prove how much knowledge they have or giving their opinions about things. I think this or I think that and often in a fairly vague way.”

Lecturer, HEI, Wales, Theology

Changes in the content to undergraduate courses

Often those we spoke to in higher education had, over time, made adjustments to the first year content of their degree to account for the different subject knowledge among incoming students. This was seen as a particular issue by the head of Biological Sciences at a High-tier university. As the department want to retain the absolute standard of their degrees they do not want to change any content in second and third year courses. As a result they have found themselves having to add content to the first year to the point where it has become overloaded and a real strain on the students.

These changes were a result of a number of factors such as diverse A level syllabuses, for subjects which require a specific A level, or because of the range of different qualifications used to gain entry into higher education. In some cases remedial classes in the fundamentals of the subject were required to address gaps in

students' knowledge as a result of the topic not being covered at either A level or in prior schooling.

Many higher education interviewees also recognised that higher education has opened up to greater numbers which has resulted in a greater range of abilities and educational backgrounds in undergraduate cohorts. One way to ensure consistent subject knowledge across the undergraduate intake is to introduce and/or expand classes for those with particular deficiencies in their knowledge.

Mathematics is a key problem area for STEM and Humanities subjects which include a mathematical element such as statistics. One Mathematics lecturer we spoke to from a Low-tier HEI used to put on a class only for those students who had not studied further Mathematics but now he has expanded it to cover all students. Sometimes more extensive support is provided, as at one Middle-tier HEI which has set up an entire Mathematics support centre to bring undergraduates up to speed on the standard of Mathematics required for whatever degree they were doing. The attitude from those in HEI to this situation was varied. Some we spoke to were happy to work with whatever mixed abilities they were given, especially but not exclusively those in Middle or Low-tier HEIs.

“We have mass higher education now and I do not think it’s fair to expect that the A level now is the same as the A level of 20, 30 years ago. I firmly believe that Mathematics is for all and we have tried to accommodate different intake of students. I think we just need a bit of courage across the board to recognise where we are on these matters.”

Lecturer, HEI, England, Mathematics

Others, however, lamented the lack of subject-specific knowledge they encountered. For example, a Mechanical Engineering lecturer at a Middle-tier HEI knew his staff were sometimes ‘distressed’ that they could only assume very limited mathematical knowledge on the part of their new undergraduates.

Students' relationship to the knowledge they acquire at A level

As noted above, some HEI staff did have concerns not with students' knowledge levels *per se* but with their relationship with knowledge which interviewees tended to think was a result of how they had been taught, both specifically at A level but also throughout their secondary school career.

Modular assessment and synoptic learning

Higher education interviewees drew a distinction between what students had learnt during their A level and what they retained beyond it. It was felt that whilst modular learning and assessment helped students focus on one topic of study, and often allowed students to still receive high grades primarily through hard work, the modular approach does not encourage students to embed their learning. When interviewing prospective undergraduates one head of admissions at a High-tier HEI held the modular system responsible for the fact that students often did not remember anything from their AS course of study:

“Many students have a really good sense of utility. ‘Do I need to know this, do I need to remember this?’ If they [feel they do not need to retain the knowledge] then they won’t remember it. This is fine if you want to pass an exam but if you want to learn and understand Biochemistry or Physics or History or Music you have to retain it and think about it in the long term.”

Head of Admissions, HEI, England

This closely relates to the issue of synoptic learning – synthesising knowledge from different topics within a subject or subjects. The modular system was felt to encourage students to think ‘in little boxes’ thus limiting their overall grasp of the subject matter and also failing to develop synoptic skills which will be of considerable benefit to them at university.

“Everything’s become so modularised, [students] are used to learning for the exam, dishing it out and moving on. At university, the learning is conceptual and it’s incremental, and you [have] to build from one place to another, and to hold on to things, in learning terms, for three or four years.”

Head of Admissions, HEI, England

It was often recommended that synoptic papers or questions be included in the examination process (where applicable) to try to ensure students did not lose the knowledge they had gained in early modules. Some interviewees were aware that synoptic papers and questions currently exist, but were sceptical as to their efficacy in developing synoptic skills.

Modular assessment was also criticised by one university’s head of admissions because, in his view, it requires students to constantly learn new topics, which they are then examined on, rather than allowing their knowledge and conceptual clarity to increase before they are assessed. He thought that students do not get the chance to grow across the two years of study and are not required to reflect upon issues they have come across, and as a result studying the subject becomes less fulfilling and more piecemeal.

“We’re strategic learners, aren’t we? We pack things in for the required purpose, and then park that knowledge, if nothing forces us to do anything with it again. I don’t think, though, that it’s necessarily easier on the student, and a lot of times, speaking to the young people themselves, the strain and the pressure it puts on them is immense. And I think people forget that, you tend to think it’s an easier ride through a system like that, but I’m not sure.”

Admissions Staff, HEI, England

Along with the pressure of constant examination, modular assessment was also criticised for interrupting the curriculum, resulting in less time for learning.

“Kids learn less, but they are under more stress”

Lecturer, HEI, NI, Mechanical Engineering

In summary, interviewees felt that modular learning without synoptic assessment fragmented knowledge and harmed the student in the long-term. University generally requires synoptic abilities and it was felt that A levels should do more to prepare students accordingly. Nor was the modular approach thought to be necessarily preferable for students because whilst it allows them to learn in smaller chunks, candidates do not have the chance to consolidate their knowledge and understanding before it is tested.

For many we spoke to a more gradual approach to learning, which builds up over the two years and encourages students to consolidate and reflect on their knowledge, was the preferred structure for A levels. A couple of HEIs interviewees described how their universities had changed their modular approach by having fewer examination periods and less choice of module because they were worried that their students' knowledge was becoming fragmented. In general, there was a sense that students should be gaining a broad understanding of the whole subject at A level. It was felt by a number of HEI interviewees that A levels should not include the sort of specialised topics that modular learning can encourage. Modular learning was seen as less appropriate for school than higher education.

Case study: Engineering

Engineering lecturers we spoke to were not entirely satisfied with how A levels prepared students for higher education in terms of their subject knowledge. In particular, they were concerned that even Mathematics and Physics A level students did not necessarily study Mechanics which is a vital area of knowledge for engineers. Other deficiencies in the depth of topics included algebra and calculus in the Mathematics and Physics A levels. Applied electronics is another important area which one interviewee said was routinely taught only at GCSE.

There were also concerns about the way students are taught which had an effect on their approach to learning. One Mechanical Engineering lecturer at a Low-tier HEI felt students are now less willing to try things where they could make mistakes. The current tendency, he feels, is for students to either do things perfectly because they have been drilled in how to answer certain questions or to “*run away from problems*”

which they can't solve immediately.” (Lecturer, HEI, NI, Mechanical Engineering).

To address this problem, he said that A level students should be asked to solve open problems where it is not immediately obvious how to approach it or where multiple solutions might exist. It is also felt that the number of exams faced by A level students limited the time they had to practice skills and embed knowledge and this was harming their ability to cope at university.

“It’s all about practice, it’s all about repetition, and that’s what embeds knowledge when it comes to doing bits of analysis... you expect an engineering student ... to relate to [the problem] and go “that just doesn’t seem right, [the result is] far too big or it’s far too small for this situation.” And you would like that sort of ability in a student, and it often comes from doing lots of examples.”

Lecturer, HEI, England, Engineering

Summary

Although there were many cited examples of students not having appropriate knowledge as they enter higher education this was still not generally at the forefront of the minds of people we spoke to. Indeed, it was typically felt that students’ lack of knowledge was something that could be compensated for over the course of their degree. As one head of admissions saw it from his perspective:

“I’m not particularly aware that there are departments that are majorly unhappy with the nature of the curriculum content.”

Admissions Staff, HEI, England

It was rather students’ acquisition, retention and reflection upon knowledge which were the primary concerns. Modular learning was perceived as the superficial collection of facts and a system which encouraged students and teachers to be overly strategic and utilitarian in their learning and teaching. These were the main areas of dissatisfaction, as highlighted in Chapter 7 which discusses the structure of A levels in more detail.

“I just want to teach people who haven’t learnt bad habits”

Lecturer, HEI, Wales, Theology

Certainly the subject topics taught at A level did not *always* coincide with the knowledge requirements of higher education. This was sometimes because there was a greater variety of knowledge among first year students, due to the variety of A level specifications they have studied, but also there are felt to be recognisable gaps in students’ knowledge. These gaps are sometimes due to systemic factors and sometimes the result of students’ ability to avoid modules which they find less interesting, such as statistics in Mathematics, but which ultimately would be useful for their degree.

As will be seen in the next chapter, however, those in HEI are typically most concerned about skills deficits in basic literacy and numeracy and the ability to form and analyse arguments.

A levels and developing students' skills

5. A levels and developing students' skills

Introduction

It was recognised that the A level grades achieved by students had increased in recent times and evidence from Coe (2007) suggests grades increased between 1988 and 2006 whilst ability did not. Higher education interviewees generally thought students are as intelligent as ever, and some representatives of HEIs and employers were impressed with the skills set of the A level students they encountered. However, there was a general perception that there are some specific skills missing among a large proportion of the A level student body.

In this section, we consider the various skills and traits which have become areas of concern, loosely categorised as follows:

- **Core skills for higher education:** reading, basic numeracy and literacy, oral skills;
- **Academic skills:** researching, finding sources, essay writing and referencing,
- **Critical thinking:** constructing balanced arguments from evidence, assessing the validity and soundness of arguments;
- **Synoptic learning skills:** making links across different topics within a subject to analyse data and solve more complex problems.

As will be seen later in this chapter, there was however high praise for the Extended Project Qualification (EPQ) which, it was felt, does much to encourage the development of some of the skills that are currently seen as lacking in a significant proportion of students.

Strengths of A levels in providing skills for higher education

It was noted, particularly by those working at Low- tier institutions where first year undergraduates are likely to have taken BTECs instead of A levels or have come to the university through Access schemes, that A levels are seen as better at equipping students with many of the academic skills that they are looking for. Generally these students do not need the same kind of intensive support with researching and writing essays when they first arrive at university.

Specific subjects are seen as preparing students well in some of the key academic skills that are necessary for higher level courses. Geography was seen by one respondent as really developing students' quantitative skills. Skills in reading historical documents are also well developed at A level.

For many respondents coursework is an integral part of building the kind of skills students need for university education although caveats were made regarding reliability and teachers and parents giving too much help. In particular, marks for coursework can be used to help to set a student's wider grades in context and work out who has the academic skills to prosper at university (as opposed to who is good at passing exams). Again, in certain A level subjects such as Geography and STEM subjects, coursework, when "done well" (by which it was meant taught and assessed well), was seen as effective in developing crucial field and laboratory skills.

Praise for the Extended Project Qualification

The Extended Project Qualification (EPQ) is a free-standing qualification requiring autonomous working, which allows students to pursue an area or topic of personal interest. Students must plan, research and carry out a project, with appropriate support from their supervisor, whilst providing evidence of all stages of project development and production. It was introduced in response to the recommendations of the Tomlinson Report (Tomlinson, 2004) to increase project-based learning to develop the skills of investigation, planning, research, analysis and presentation. In comparison, the International Baccalaureate teaches these skills as part of compulsory core modules, in particular the "extended essay" (Directgov, 2012). Similarly, the Cambridge Pre-U qualification also includes an "Independent Research

Report” as part of the diploma (University of Cambridge International Examinations, 2012).

The EPQ received praise for developing many of the academic skills identified as problems in this section. Interviewees thought that one benefit of the EPQ was that it encouraged reflection across a wide range of content and issues.

*“We’re very keen on the extended project, and very, very positive about it. We make alternate offers sometimes, we might make, say, an A*AA offer excluding the extended project, and then an A*AB offer including the extended project, and give somebody an either/or. The extended project [provides the] thinking skills that we’re interested in.”*

Admissions Staff, HEI, England

It was, however, commented by some that making the EPQ a compulsory A level element would be problematic because it would mean significantly increasing the A level workload or timeframe (the EPQ requires 120 hours of guided learning). The risk associated with parental or other external input into current coursework modules (the EPQ is currently entirely internally assessed) was also noted, with some concerned that students and teachers may naturally explore how to ‘work’ the system to achieve the highest grades.

The EPQ is of greater value for *selecting* as opposed to *recruiting* students, so its universal introduction would be unnecessary in terms of differentiating the abilities of A level students for all courses at all HEIs.

Weaknesses of A levels in providing skills for higher education

Core skills

Reading, basic numeracy and literacy, oral skills

Although some A level students were said to possess very impressive skill sets, many higher education interviewees from all types of universities were dissatisfied with the level of core skills held by some A level students. This view tended to be more widespread among those working at Middle and Low-tier universities. This does

not mean A level students were perceived to have fundamental problems with their literacy or numeracy but that their skills were not at the right *standard* for higher education. One interviewee at a Low-tier university estimated that as many as two thirds of students lacked adequate core HE-level skills in reading, numeracy, literacy and oral skills.

A lecturer in Architecture at a Middle-tier HEI felt students were being done a disservice if they were not taught these core skills before university. He found that whilst some students have strong writing skills a large number of students had poor written English. Furthermore, students relied on lecturers to correct their English, wanting extensive feedback on written work.

Similarly, the Dean of Faculty for Health and Life Sciences with an entry tariff of 360 UCAS points was 'appalled' that some A level students cannot "*write, analyse, or even speak [sic]*" and neither did she find them to be numerate – she perceived that all of these core skills had declined over time.

"The lack of skill in the basics is not what you'd expect from an A level student."

Dean of Faculty, HEI, NI, Health and Life Sciences

A lecturer in Archaeology at a Middle-tier HEI, described some of his students as 'not fully literate' as they could not write a coherent, grammatically correct paragraph and made basic spelling mistakes such as confusing there/they're/their and weather/whether. As a consequence, students could not fully engage with the subject and typically became stressed about, or disillusioned with, education which led to the possibility of them dropping out. Several interviewees noted that due to the early specialisation of A levels, one can avoid core subjects like Mathematics or English beyond GCSE which, it was felt, means that students could end up unprepared for higher education and certainly for a professional career if their skills do not improve.

"We're one of the few top OECD countries where Mathematics and English are not compulsory till the end of school. I think there are ways we could design provision within Post 16 where people could still have some element of

Mathematics and some element of literacy and English language that would make them more rounded.”

Admissions Staff, HEI, England

Despite the dissatisfaction of those in Low and Middle-tier universities with students' core skills, they said such students cannot be selected out on the basis of A level results as admissions staff have no easy way to gauge competency in these core skills.

Generally those in higher education wanted to work with well-rounded students who can apply themselves and they did not feel that it is the universities' job to teach core literacy and numeracy skills.

The fact that students' grammar and spelling has generally weakened over time was often attributed to cultural changes such as the use of “text speak”, a preference for TV over reading and computer spell-checking.

The overall point to draw from analysing the data is that interviewees who were critical of their students' skills in these areas often lacked faith in the education system as a whole to deliver students ready to study at university. However, there were also some specific aspects of A levels that were thought to be at fault which are explored in the section below.

It should be noted that these comments are in contrast to some of the findings from employers who tended to be seeking solid literacy, numeracy and communication skills among other skills and traits. Many recruited A level students precisely because of their perceived competency in these core skills (which they thought were specifically developed by A levels, as these skills were seen as lacking in school leavers whose highest qualifications were GCSEs).

Academic skills

Researching, finding legitimate sources, essay writing and referencing.

Although it was acknowledged that developing higher level academic skills is an important outcome of higher education it was felt that all A level students should have some initial grounding in these skills. There was concern that students generally

lacked these skills, particularly from Middle-tier and Low-tier HEIs. There were a number of HEI interviewees that bemoaned the use of sites like Wikipedia and the lack of skills shown by A level students in building arguments via different sources. This point connects to the use of a single or couple of course text book(s) at A level. Those that held these perceptions often discussed the behaviour of first year undergraduates in their early days at their institution. Interviewees noted new undergraduates would frequently request detailed feedback on their work from lecturers as opposed to editing their own work, then submitting a finished piece

Many interviewees also described the shock felt by new undergraduates when they realised they could not resubmit work to improve their grade. The view among Low and Middle-tier universities in particular was that higher level academic skills were not developed sufficiently at A level. Here the question can be raised as to whether A levels *should* be developing higher level academic skills and it is difficult to answer this question without first deciding upon the purpose or purposes of the A level system, but certainly many in higher education feel developing these skills to some extent at A level would be a step towards ensuring students fulfil their academic potential.

Among those we spoke to in higher education there were also serious, and increasing, concerns about students' abilities to find suitably trustworthy sources. Many interviewees said there was an over-reliance on sources such as Wikipedia and also that lecturers were finding plagiarism or a reliance on a near-plagiaristic "cut-and-paste" approach to writing essays to be an increasing problem. Students were sometimes described as being 'less studious' meaning they were less willing to read a book on something, always preferring to be given a shortcut, which ultimately meant their research skills were not being very extensively developed. Even at High-tier universities, there were issues with students' willingness to go beyond the minimum, and find their own sources.

"One [area of concern] is their ability to read around the subject as opposed to "here are the texts I have been assigned to read, I will read those, I will learn them, I will be able to answer anything linked to them but actually I've spent no time at all reading other people's opinions, other bits of literature that were written in the same period that aren't in the syllabus."

Critical thinking

HE interviewees from all backgrounds commented that students' often had poor critical thinking skills which were characterised by a tendency to accept arguments and information uncritically. So while they understood the content of the syllabus they were unable to apply their knowledge. They were able to remember factual information but not to critically assess or really understand the materials they read. Several interviewees at *Recruiting HEIs* noted that students who enrolled from other routes, particularly access to higher education and vocational courses, were often better able to apply what they know to different situations, although this view was by no means universal.

Many also found A level students entering higher education were increasingly inflexible in their thinking, tending only to be able to answer questions which fitted a certain step-by-step mould. Novel questions, requiring critical or lateral thought, were problematic for students. The Head of Admissions at a High-tier HEI said students were not used to having to “*toil with a question and to getting questions wrong*”. It was for this reason that this university set extra examinations to help in their selection; they are interested in seeing what happens when a student is confronted with a question where the answer is not immediately obvious. The ability to think critically in these situations is seen as a good indicator of higher ability in a subject. It was suggested, particularly by those who had a better understanding of current A level assessment methods, that greater use of multi-step questions in papers might help to better encourage critical thinking skills.

Synoptic understanding

Many of the higher education interviewees, mostly although not solely from *Selecting HEIs*, noted that students' synoptic subject skills were often poor. Students were seen as lacking “real understanding” or “broad overview” of their subjects, for example very little knowledge or understanding of themes and meta-narratives in history. This meant persuading students to think about the connections within their subject at higher education could be difficult as this is not how they are taught to think. A lecturer in Computer Science noted that he had to “*convince them [his first*

year students] of the relevance” of different parts of the course to one another, whereas another in Engineering bemoaned that he had to “*point to the connections*” rather than having students make them themselves.

It was generally felt that this was something that could be better incorporated in A levels. Some thought that the modular structure meant students compartmentalise their learning into “little boxes”. Where students do have a sense of synopticity they were seen by one Physics professor as having “caught it” rather than having been taught it. Some specifications in Mathematics and Geography A levels were praised for their synoptic content and assessment, with the latter being seen as “quite exceptional” by one sector representative. However, some interviewees noted that the synoptic elements were not fit for purpose for a variety of reasons including:

- Themes not being used where they should be because they are not part of the synoptic element of the specification
- As a synoptic paper has to come towards the end of the A level, students very well in earlier modules do not need high marks in the synoptic paper. It is even possible (though unlikely) that an exceptional student can achieve all the grades they may need for higher education before they attempt the synoptic paper (although the case below is for a subject requires a lot of synoptic understanding).

“Their one paper where they are supposed to synthesise everything, they can apparently get an A before they’ve even sat it. So it doesn’t matter, they can fail that paper and still come out with an A in biology.”

Biological Sciences, HEI, England

- Some of the basic building blocks of a subject not being compulsory in a specification, thus making it impossible for students to make the necessary connections

For most who spoke about this issue, there was an overall sense that synoptic learning is not a box that can be ticked and as such it is difficult to build into a qualification and examine. Higher education interviewees would prefer if this ability to

summarise and make connections between various topics within a subject were embedded throughout each A level specification rather than being seen as an add-on that students learn as a separate skill. This was echoed by many of the teachers e.g. those in Biology and Chemistry, who noted that their subjects were by their very nature synoptic and it made little sense to try to isolate various topics from each other for the purposes of examination (see Chapter 7).

Intellectual curiosity

While not a 'skill' in its own right, one of the key perceived gaps in some students' outlook when arriving at higher education was intellectual curiosity or a 'love of their subject'. One interviewee referred to it as a lack of the "sheer love of investigation". While few interviewees believed this is something that can be taught, many thought that it was something that tended to be better developed in the past because upper secondary school pupils had the space to do so. Many were of the opinion that the number of exams taken within A levels meant that pupils had no opportunity to gain a love of their subject and had encouraged a "*joyless little bean counter*" approach to learning, whereby they thought that learning was simply a matter of knowing the right answer. However, it was noted by this interviewee and others that this utilitarian approach to learning and exam-passing is something that is embedded in the entire education system and not solely an issue in the A level system.

One tutor in English at a selecting university noted that some specifications do encourage more independent reading and thus a more proactive and curiosity-driven approach to the subject but bemoaned the fact that she couldn't mandate that all her applicants followed these specifications. Others thought that the old, linear approach to A levels gave students the time to read around their subject more and follow their intellectual interests without worrying about being assessed on everything that they learn. A history lecturer who always speaks to his first years about their A level experience during induction week noted that many found it a "dull" A level and he is surprised by how much enthusiasm for the subject they retained despite the narrow focus on assessment many of them had encountered.

These interviewees thought that if their students arrived at university with a more keenly developed sense of intellectual curiosity they would have fewer difficulties

adjusting to the style of independent learning expected at higher education and ultimately be more successful in their chosen degree courses.

Case study: Mathematical skills

Knowledge of Mathematics was valued by many higher education interviewees across a range of subjects. The desirable level of ability in Mathematics differed by subject although there were some topics that had a near universal appeal such as those connected to quantitative academic research of which Statistics is the most frequently mentioned example. One head of admissions felt that A levels should try to retain some Mathematics where possible in subject specifications, as with the IB.

“I don’t think we have to have everybody doing the same type of Mathematics, the IB, in that sense, is a good example. So if you aren’t a mathematician you do Mathematics for a social scientist, but it’s statistics and stuff like that, that would be useful to you as a historian or a political scientist or whatever.”

Admissions Staff, HEI, England

In the case of STEM subjects, the required level of Mathematics was generally greater overall and often specific to that subject. Many examples were given including mechanics for Engineering, differentiation/integration for Physics and data mining techniques for Biosciences. Mathematical modelling and skill in solving novel questions were also valued because they allowed students to fully engage in the right level of problem solving required for higher education study. Several STEM interviewees suggested students’ lack of practice using mathematical techniques meant they had difficulty applying techniques to solve a problem.

“I think the phrase is ‘facility in Mathematics’, not just being able to do something but actually being able to do something in a routine way and having confidence. So the typical sort of things is the inability to translate a real problem into a mathematical form, so it’s not solving the Mathematics but translating it.”

Learned Body

There is also the concern that A level does not accurately indicate the level of mathematical skill a student has. One Mathematics admissions tutor discussed the difference between students who were very good at modular tests and those who had genuine mathematical ability. The A level was not successful at differentiating between the two because, in her view, the modular system did not encourage synoptic learning - more complex problem solving requiring the application of several complimentary mathematical techniques.

Summary

It was notable that despite the criticisms of the A level system presented above, none of our interviewees argued that it is in need for a radical redesign. Rather, readjustments and/or additions were suggested. The EPQ in particular was seen to sidestep many of the systemic pressures which tend towards compromising the validity and reliability of the A level in relation to the research aims. However, there were concerns that if it were to become part of universities' admissions requirements it could become compromised in similar ways. In addition, its overall inclusion into an A level would have to come at the expense of something else because of the amount of time required to complete the project.

Some skill deficiencies were seen as more serious than others. Generally what students lack in proficiency with certain mathematical techniques can be made up for over the course of their STEM degree. However some deficiencies may result in students failing to cope with the demands of a course which, in turn, may lead to the student dropping out. This was felt to be of greater concern at Low and Middle-tier HEIs. It was felt by some in the sector that degree level is too late to be trying to teach students the basics, such as spelling and English grammar. By the same token, several A level teachers we spoke to have the corresponding view that A level is also too late for students to be being taught the fundamentals of reading, writing, and basic numeracy. As a consequence, this issue related as much to general schooling, and even upbringing, as it did to A level.

Whether A levels provide students with the appropriate skill-set ultimately depends on deciding what the purpose of the A level is. If that purpose is to prepare students for higher education, then A levels do not always do enough to provide the meta-cognitive skills of analysis, critical thinking and interpretation, nor enough to encourage independent learning. It is especially hard for High-tier HEIs or departments that have high entry grades to differentiate the best students from the rest by solely using an A level tariff because the grade does not indicate whether a student has developed the right nascent skills set to succeed at higher education. If, however, the structure of A levels is to meet contemporary demand from students and to allow weaker students to still attain a useful grade, then they were felt to fulfil this purpose much more satisfactorily although at some increased risk of failure for students moving into higher education.

Orienting students for higher education and work

6. Orienting students for higher education and work

Introduction

The debate surrounding whether or not A levels are “fit for purpose” inevitably calls into question what that purpose is. Quite a clear message to have emerged from our present study is that no two interest groups have quite the same conception which, in turn, has led to a division in opinion over the suitability of A levels in achieving these various purposes.

To an extent this related to the varying levels of contact each of the different interest groups had with the qualification itself and the degree of familiarity with the details of the A level system and its course structures. It may also be tied to the quite distinct interests that our audiences had in A level students; whether they saw themselves as part of a student’s educational process (teachers, HEIs) or beneficiaries of the end result (employers).

Broadly speaking, the overarching purpose of A levels can be split into two categories:

- A levels as a tool for orienting students for higher education; and,
- A levels as a tool for orienting students for the world of work.

This chapter revisits a question raised in the previous one, which asks how successfully A levels equip students with the range of skills and the orientation that they require to enter the next stages of their education or employment careers.

It must be emphasised that the employers included in this research are those who directly use A levels as a recruitment tool. When analysing the findings this distinction is important as, by definition, these employers find some value in the qualification as a recruitment tool. What is, therefore, not covered are employers who do not use A levels for recruitment for positions that are suitable for Level 3 entry positions. The prevalence of the latter group in the business population is not known which meant that their recruitment would have been problematic within the

time constraints of this research. Furthermore, the purpose of the research was to find why A levels were used as recruitment tools. Nevertheless, the exclusion of employers who could potentially use A levels to recruit but do not means these findings have an inherent bias which should be recognised.

The use of A levels for recruitment by employers

Employers tended to have fewer concerns than respondents from HEIs about students' lack of academic skills, such as synoptic learning or essay-writing, and instead prized broader life skills more highly. Most were not familiar enough with the details of the secondary education system to pinpoint at exactly which stage of education students are expected to develop these broader life skills, so they could not specifically attribute these skills to the A level.

However, several employers specifically said A levels served as a good proxy for differentiating candidates who were equipped with the broader life skills that the world of work requires than those (of a similar age) who have not taken A levels: skills such as personal drive, initiative and good communications. This was in marked contrast to the views of many HEIs who felt that A levels fell slightly short in this regard, failing to equip students with the complete set of skills they needed for university, namely the combination of basic skills, subject-specific knowledge / skills, academic skills and broader life skills.

“I couldn't say I know the relative merits of other qualifications like BTECs, but I know we look at A levels because they're the building blocks of good communications and reason, ability to think on one's feet. We don't want to have to spoon-feed them once they get here, and taking someone who has A levels guards against that.”

Employer, Construction - 50 employees

There was also a perception among employers that A levels guaranteed a certain maturity of thought and ability to apply knowledge to situations.

However, some employers noted that they were selecting A level candidates because of their lack of faith in those who had just completed GCSEs. For these

individuals, the A level had become a new minimum level of qualification in which they could trust. These were commonly employers looking to recruit candidates for relatively lower skilled positions, where basic skills in literacy, numeracy and communication were core requirements. For these employers A levels represented a trustworthy means of ensuring sixth form leavers were capable of taking on basic work tasks. The perception that GCSEs did not sufficiently equip students with these skills was not always grounded in the past experience of employers; rather it was the comparative strength of the A level brand that acted as a safeguard and reassurance during recruitment decisions. The idea that A levels therefore act as no more than a kite mark of ability to enter a school leavers' job was substantiated by a claim raised during an interview with a representative of an employer trade association who explained the weight the A level brand carries among employers who otherwise know very little about the quality and standard of other educational qualifications:

“The one advantage A levels have over [other qualifications] is their heritage and longevity – employers know what they are getting and it’s a respected brand from the business perspective....Take a practical role in construction, for example, there’s no real reason to recruit an A level student instead of a BTEC one, but employers invariably do because the A level denotes a certain kind of candidate, it’s just the brand.”

Employer association

Employers' general lack of awareness surrounding the A level subject curriculum or the mechanics of the examinations and assessment process meant they commonly believed that A levels were fit for purpose due to the fact they successfully provided students with the broader academic skills which were needed to serve them well in the workplace. This was one of the reasons that A levels were fit for purpose and were a valuable asset for students themselves as they prepare to enter the world of work (whether directly after school or post-university). However, there is an important distinction to make as the actual subject was not necessarily important to all employers. Instead, the qualification itself was valuable because it represented a level of ability in core literacy and numeracy skills. The only subjects that employers said they sought were English, Mathematics and, in some cases, scientific subjects. This is because these were either of direct value to the positions employers sought to

fill or, in the case of sciences, were viewed as rigorous assessments of ability because they were perceived as harder.

“From what I’ve seen, A level leavers come to us with an ability to think for themselves, contribute to discussions, be driven, have a personality, common-sense. It is not about having specific knowledge for this job, we can teach them that here, it is about having an inquiring active mind that challenges things.”

Employer, Commercial print company

This view was also recognised by some school teachers, particularly those teaching Humanities subjects, who considered the study of arts - such as English or Drama - as good preparation for the world of work, equipping students with the vital transferable skills they need. That said there was some divide between teachers working in the independent sector and in grammar schools compared with those in comprehensives. The former were more likely to see themselves as successfully equipping their students with these transferable skills whereas the latter believed it was more of an ideal secondary outcome of teaching an A level.

The types of broader life skills that employers cited as being particularly evident in candidates who come to them with A levels (as opposed to other comparable qualifications) included:

- good communication skills;
- problem-solving and reasoning;
- application and enterprise;
- passion and drive.

“The BTEC is more hands-on, it is good for people working in PC and laptop repairs because they have to know how to do this. I guess [A levels] are more theory and concept based. Candidates tend to have a higher intellect and we need that.”

Employer, Computer sciences / Engineering

Some of the most positive stories from employers came from those recruiting students for public facing, communications roles. Their praise for A levels was often directed at students who had taken Humanities subjects as it was believed that these equipped candidates with just the right mix of knowledge and skills that they require to do well in sales or marketing.

Employers did raise some concerns surrounding the lack of awareness they detected in some A level leavers of exactly what the world of work entailed. The concern among employers was that today’s students may be missing a sense of perspective and an understanding of how their educational qualifications are more than just quantifiable results that help them to enter the next stage of their educational or employment careers. A levels; they are vital tools that enable them to do well and reap the benefits of whatever course or career they follow. Outreach work in local schools was mentioned by several employers as a useful way of bridging this gap in communications and bringing a sense of perspective into classrooms and A level teaching. This in turn was thought to inform students about their future options, help them to them make the right subject decisions and adopt the right attitudes to learning during the A level years.

“I think there needs to be heightened awareness of why students come to school – it is not just so their parents can go out to work. We need to be explaining the link between education and work better...We need to get better at telling sixth formers about our world.”

Employer, Construction - 50 employees

In Chapter 9 of this report the issue of establishing a greater dialogue between schools, HEIs and employers is considered in more depth. The chapter looks at whether forging better links between relevant interest groups might be a good step

towards developing an education system which provides the best results, both for the students themselves and their future tutors or employers.

The use of A levels for higher education selection and recruitment

When considering how well A levels equip students for higher education, HEIs tended to focus on the broader academic skills that they felt students required rather than the broader life skills and traits. That said, HEIs did still see the latter as part of a broader picture and beneficial if students are to think and work independently:

“I think they have been coached at school and we have to convert them into people who [can think independently], if they cannot then they’re not employable. The biggest transition that we have to make is to make them independent learners, [who are] confident and able to problem solve, all those kinds of things which the employers are looking for, and we’re starting from a different position than we were.”

Head of Department, HEI, England, Engineering

As discussed in the preceding chapter, broadly speaking all HEIs voiced concerns that A levels were not providing students with the type of academic toolkit they needed both to cope with the first year of university and to reap the benefits of their introduction into a mature learning environment. The most common causes for concern centred on students’ lack of preparedness to:

- **think critically** and use own judgement to assess arguments for validity and soundness;
- **research in-depth** and read around a subject, including appropriate referencing of external sources; and,
- **learn synoptically** and make connections, unprompted, between distinct pieces of knowledge.

However, while most HEIs bemoaned the lack of these skills in first year students there was a clear distinction between those working in the field of humanities and

those working across STEM subjects with greater concerns being raised by the former, particularly in High-tier HEIs, who witnessed the impact of what one participant referred to as “bad habits” and saw themselves as teaching students to unlearn these when they first enter university.

“It’s things like not allowing them to repeat modules and not allowing students to resit [to improve a grade], and reinforcement of academic learning, so using books, not Wikipedia.”

Head of Department, HEI, England, English

Critical thinking, in-depth research and synoptic learning were among those skills that HEIs working across the humanities considered some of the most essential skills. By extension, these were the skills that HEIs prized at least as highly as a student’s subject-specific knowledge. It is worth noting that some higher education sector interviewees did not direct their criticism of students’ ability to demonstrate these skills entirely to the structure and format of A levels themselves and that they tended to set the faults in a wider context - a secondary education system that lays emphasis on teaching students to pass exams and encourages schools to compete for league table rankings.

Related to this was the view held by some higher education interviewees that A levels were in some senses “failing” students by not imparting the types of skill that would actually be most beneficial to them. This view was not widespread across all interviewees in education and was noted more by those classed in the sample as Middle- and High-tier HEIs, but it does reflect the less acute but more common criticism from the higher education sector that students often seemed to arrive at university with a poor appreciation of the academic rigour and commitment that is required. .

One distinction to make for STEM and language subjects is the requirement for the right level of specific theoretical knowledge prior to starting a degree. Unlike many humanities courses in which the specific subject content can be learned over the course of the degree, prior knowledge of the subject for STEM and languages is a prerequisite. The author’s interpretation is the topics covered in STEM and language degree courses are familiar to all new undergraduates because they are based on

theories learnt at A level. This familiarity may therefore be a factor in helping them settle more easily into academic life.

While they might have talked idealistically about students not having enough independence of thought, the reality expressed in the comment below is that this level of academic maturity in a science student comes much later in their educational career, sometimes not emerging until the final year of an undergraduate degree. The reason for this is the need to have a good enough theoretical underpinning in the subject to develop original ideas.

“I think analysis and reflection and the ability for original thought kicks in later in a Sciences career than it does in the humanities. Because I think it is a postgraduate skill, I think it is much more of a postgraduate skill in Science where it is an undergraduate skill in humanities.”

Head of Department, HEI, England, Biotechnology

One lecturer in History at a Low-tier university commented on a particular example to flag what he felt was a drop in standards:

“Sometimes they find reading secondary sources a shock, and in particular “whole books” and sometimes even a 30 page journal article a struggle.”

Lecturer, HEI, England, History

At another Low-tier university, one head of faculty expressed disappointment at the lazy attitudes she detected in some first year students, something which she attributed to a miscommunication during sixth form of what higher education was about. She thought that students’ lack of readiness to throw themselves into the challenges and opportunities of a mature academic environment – researching independently, reading around a subject, attending lectures – suggested that the message handed down to students while they study A levels is slightly off the mark.

“Students think they only need to come for 40% of lectures because 40% is the pass rate. They are too focused on what they need to know, not seeing

the wider context...at school students put so much effort into learning how to pass an exam that they forget what learning is really about.”

Head of Faculty, HEI, England, Sport Science

Despite this level of criticism, higher education interviewees were generally happy to reflect that it was an unrealistic ambition for secondary level education to equip students with all the academic skills they need to make the most out of university. They felt A levels should be exposing students to these skills and methods and allowing them some initial practice in applying them. Higher education interviewees also recognised that a degree was the right qualification to fully develop a student's academic skills. There was an interesting distinction between the different tiers of HEIs. Interviewees from High-tier institutions were the ones more likely to bemoan a lack of skills which aided academic study whereas Low or Middle-tier interviewees took a more pragmatic view and accepted the institution needed to take remedial action in some cases.

That said, there was a prominent call from HEIs to improve the lines of communication existing between themselves and schools, specifically school teachers, as many believed that their input, support and guidance would be useful in helping to ensure A level students arrived at university better informed and equipped with the right skills to succeed. The criticism on communication was related to wider issues than simply the structure and design of A levels themselves and is outlined in more detail in Chapter 9. This also reflects an important distinction (made elsewhere in the report) between HEIs detecting faults in A levels themselves versus the pressure to get grades which affects the style and methods of A level teaching.

There is clearly an appetite amongst the higher education sector to become more involved in easing the transition between sixth form and university though influencing the design of A levels themselves may not be the only, or even most suitable, way for HEI staff to add value.

Implications for schools

Teachers mainly saw the role of A levels as equipping students with the right set of knowledge and skills they need for entering higher education. Comments on A levels equipping students with broader skills for the world of work and life beyond an educational setting was less widespread and where it surfaced tended to be viewed as a lower priority. However, teachers felt modular learning discouraged students from thinking creatively and applying their knowledge / skills to unfamiliar situations.

Just as HEI representatives did not think that these skills can or should be developed purely by A levels, so some teachers saw extra-curricular activities and lessons taken outside of regular school hours as some of the best means of equipping students with the broader set of skills they needed to do well at both higher education and the world of work.

Summary

It is clear from talking to a variety of audiences that orienting students for higher education presents quite a distinct set of issues and challenges compared with orienting students for the world of work. While A levels are typically seen as satisfactorily orienting students for higher education, employers viewed A levels as a decent barometer for measuring whether candidates have the drive needed to do well in their workplace. Higher education interviewees clearly think improvements in the design or delivery of A levels would help A levels meet the higher education sector's needs more fully and this would benefit HEIs as they would spend less time ensuring all first years were at the same level.

Importantly, the cause of these concerns were not wholly cited as being the fault of A levels or A level teaching itself, rather they were seen as an unavoidable and unwelcome side effect of the current trend in the education sector to *measure* student achievement particularly in externally verifiable ways, in order to fulfil the crucial role of supporting comparisons being made between students and the selection procedures in HEIs. It was felt some of the most essential skills for higher education were now being overlooked because they require more qualitative tests which are difficult to assess and measure, making it much harder to set uniform

standards and assessment criteria. However, it was also recognised that consistent standards were necessary to allow HEIs to make comparisons between students and retain trust in the qualification for university selection.

This is an issue that sits close to the heart of many HEIs, whether or not they see it as the most urgent problem currently faced in the wider education system. Higher education interviewees felt students were sometimes seen as missing out on some of the most valuable aspects of education because of the measurement culture. Students starting life in higher education may find the transition easier and more enjoyable if they had come already equipped with the right building blocks for in-depth, advanced study.

Employers were typically positive about A level recruits, although this was not necessarily down to the subject of the A level or indeed the actual qualification itself. From the employer perspective, an A level suggested intellect and a level of academic skills which was useful for certain positions. The qualification was therefore a proxy for the overall quality of the individual. Outside of English and Mathematics, the actual subject gained was less important to the employer. This raises interesting questions about what the purpose of A levels is and to what extent the requirements of different interest groups should, and *can*, be taken into account. The fact that employers tended to see A levels as successfully equipping students with the right kind of ambition and enterprising instinct that the world of work demands illustrates the very distinct expectations this group have of the A level qualification and the potential merits of engaging them in discussions around design.

“I’d never take anyone on board without A levels – they demonstrate their ability to learn, shows dedication to a project, shows someone who has tried to better themselves. Further Education isn’t for everyone and often the people who are best coming into this industry, well their desire starts at a young age, so you want the people who have enough drive to start work straight after school.”

Employer, Engineering, 250+ employees

The challenges of delivering A levels

7. The challenges of delivering A levels

As outlined in Chapters 4-6, our discussions within the higher education sector suggest gaps in the knowledge and skills of some students when they reach university. Higher education interviewees described a gap between their expectations of students' abilities and the reality of the knowledge and skills gained from post-16 education. Drawing primarily on the discussion groups we have held with teachers, this section outlines the challenges of delivering A levels in schools and colleges and provides valuable context as to why higher education sector interviewees think students lack some of the knowledge and skills they expect.

There are three main ways of framing the challenge of creating an A level qualification that correctly prepares students for higher education:

- i) the context in which A levels are taught;
- ii) the way in which A levels are designed; and,
- iii) the way in which they are applied in the classroom.

Throughout the section, we make a distinction between *Transition focused schools* – which are those who have a very high proportion of students going on to higher education, and *Multi-focused schools* who have fewer students using A levels as a route to higher education.

The broader context

One of the tensions in preparing students for higher education relates to the purpose of Level 3 qualifications. Although not unique to A levels, there is a lack of clarity as to how the qualification should meet the different needs of key stakeholders. The literature highlights the pressure of league tables on schools and the tension this can create between preparing students with the knowledge and skills for further study and gaining the best possible grade. In our discussion groups teachers also noted the dual role of the A level as a transition into higher education for some and into the world of work for others which Chapter 6 covered in more detail.

Choice of subject and qualification for students

Teachers said that schools and colleges were very keen to support the aspirations of their students. It was commonplace for one-to-one 'interviews' with students to start as soon as they applied to Sixth Form/College to discuss how subject and qualification choices related to what they would like to do after post-16 education.

Teachers noted that next steps were easy for those students who had very clear aspirations and/or a desired career path and most felt informed about what combinations of subjects were required for different higher education courses and what subjects provided transferable skills for less defined career paths – such as entry into the Civil Service. However, some teachers in *Multi-focused schools* were also realistic about the entry requirements for higher education and had an acute awareness of what subjects would help a student get into their desired institution. Herein lay the first tension between A levels as preparation for further study in a specific subject at higher education and A levels as a qualification in their own right.

“We will look to promote with better students that they take subjects which are academically harder. A less capable student, who is maybe looking at a sort of three C performance or something like that, it may well be better for them to take a subject where it is easier for them to get a better grade because that will ease the transition into higher education. So you know, we try and tailor that.”

Teacher, Humanities subject, Independent school

The second area of tension was amongst students who did not have a clear idea about what steps to take after post-16 education. This was a particular problem in *Multi-focused schools* where students without a general career in mind tended to choose A levels over other vocational qualifications because they are viewed as broad qualifications that will not narrow their opportunities. In such circumstances, students considered A levels as a general qualification and as a result often chose courses in which they were likely to get the highest grades. Teachers noted that these choices were often based on perceptions rather than reality, for example, one teacher reported students asking him which courses were predominantly assessed through coursework as they felt that would be 'easier', another mentioned that Travel and Tourism A level was a popular course at their college because it had no obvious

prerequisite at GCSE. As we saw earlier, this perception is potentially damaging in the long run as the broad elements of a qualification sought by employers were good written English and a proficiency in Mathematics. Employers typically said grades were actually of less consequence than the perceived rigour of a subject or a proven ability in literacy and/or numeracy.

Choice of content and specification by teachers

When making decisions about which A level specification to follow, and which modules to choose within those specifications, most teachers said that results were not necessarily the deciding factor. In most schools decisions about specifications were taken irregularly and only when specifications undergo a major change. Most teachers said they are content to use the same specification outside periods of change for as long as it is serving its purpose. Changing the specification would mean having to change all of their resources and teaching materials.

Teachers reported that all courses had their 'pros and cons' and that it was just as important to consider whether the topics are engaging and enjoyable to teach (this is particularly relevant for humanities where there is more choice of topic), whether the assessment is designed in a way that fits how they want students to study the subject and, in one school where many students went on to study very demanding STEM courses at university, how well it prepared them for the study of the specific subject at higher education.

For example, one Sociology teacher said that she changed Awarding Organisations because she felt the specification she had previously used tested students' vocabulary rather than knowledge. A teacher of Law picked a course due to its engaging content over difficulty.

"AQA is much more interesting for Law. [It] covers more interesting offences and defences, so I just picked it on the basis of that even though it might be more difficult."

Teacher, Humanities subject, FE college

However, teachers in some schools did suggest the strength of exam results was often given a lot of weight when making decisions around specifications, especially

where that decision was taken centrally, as opposed to being made on a department by department basis. Teachers from one school reported that although they would like to teach an alternative specification their preference had been overridden by the management who wanted them to teach the 'easiest' course. Herein lay the third tension between A levels as preparation for higher education and as a qualification in its own right, as the views of teachers showed that some schools sought A level grades that upheld their reputation and helped students gain the tariff points for higher education.

“Well there’s a disturbing document that comes out each year, which tells you which exams boards people have achieved the highest number of As and Bs and Cs in, and it lines them up as if, you know, they’re competing businesses, saying go with us because we get more As.”

Teacher, Humanities subject, Independent school

“You hear of quite a few colleagues who will say we had a bad year with the markers, we’re swapping exam boards because we’re pursuing better grades and that’s the reason for it.”

Teacher, Humanities subject, FE College

It is worth noting that teachers were particularly keen to ensure that the demand of A levels was consistent across all Awarding Organisations and subjects and they saw it as the role of the Regulator to make sure that this happened. Some teachers said they were concerned about the following two points:

- The lack of consistency in the method of assessment across subjects – especially whether a specification contained coursework. Some teachers gave examples in their schools where coursework requirements had been removed in some subjects but kept in others (one example was its removal in Psychology but retention in Geography). Coursework was seen as a useful method of assessing different skills than those that are assessed by examinations and so help provide a broader picture of a student’s abilities.

However, they did note that coursework was more appropriate to some subjects, notably in the humanities.

- The weighting between AS and A2 modules. Some teachers talked about the marks for AS and A2 being equal despite AS content being less demanding than A2 content¹⁰. In the view of these interviewees, the A2 marks should have a higher weight to reflect the demand of the content.

Modular assessment

Criticism of the A level system from the higher education sector identified the current modular format and the ability to resit exams (discussed in more detail a little later) as perceived causes of grade inflation and difficulties in knowledge-retention. Our discussions with teachers suggest that they would be open to a more linear approach to A levels and revising the way in which students are able to resit exams.

A modular or linear approach

The debate around modular assessment centred mainly around the timing of assessment and it is therefore important to consider the different options for the timing of exams. Under the current modular approach students can sit their first AS exams in the January of Year 12 and every 6 months thereafter, a 'half-way house' approach (which many schools follow) is to sit exams at the end of each year of sixth form and finally, a truly linear approach would require students to sit all of their exams at the end of the two year course.

Although most teachers were critical of modular assessment as an educational experience, we found that some schools continued to put their students in for exams at the earliest opportunity in the hope of giving them the best chance of attaining a high grade. Other schools had opted to wait until the end of Year 12 before allowing their students to sit exams in the hope of fostering a more joined-up education.

¹⁰ As noted on the Ofqual website: <http://www.ofqual.gov.uk/qualifications-assessments/89-articles/13-a-and-as-levels> [accessed 27/03/2012]

“The teaching is quite tight up to January because we are rushing to get through the January module. Then it kind of eases off but that’s the choice we take because it gives our students an opportunity to re-sit in the summer.”

Teacher, Humanities subject, FE college

“I think in biology doesn't suit [a modular structure], I think of biology as a very synoptic subject [so] I decide not to do any January modules at all so that we develop their understanding and then we sit all their modules at the end of AS and end of A2. In many ways I think that’s better because it means they’re going to hopefully know or have that body of knowledge to carry through to A2, rather than learning some stuff for January and then forgetting it for the next six months.”

Teacher, STEM subject, Maintained school

Aside from the debate about resits, the advantages and disadvantages of modular assessment cover a broad range of topics including the style of teaching and learning, the transition to level 4 qualifications, flexibility as a tool for student development and preparation for higher education. These are outlined in the table overleaf.

A key part of the debate outlined above revisits the tension between A levels as preparation for higher education and A levels as a qualification in their own right. If the objective of A levels is to prepare students for higher education then interviewees generally thought that a linear approach would be preferable. Coupled with other suggestions such as synoptic papers and more varied assessment methods, it was felt a linear approach would:

- allow the time for a more coherent educational experience, one in which students gain a better theoretical oversight of the subject; and,
- help retain this theoretical subject knowledge for use in their higher education.

If the objective is to achieve the highest possible grade then a modular approach allows for a monitoring of progress and remedial steps can be taken to mitigate early

poor performance. It is noteworthy that when offered the scenario of modular assessment but no resits those schools who put students in for exams in January of Year 12 suggested they would choose to wait until the end of the year before entering their students for assessment. This was because students would then be more mature in their approach and ability and thus more likely to get a higher grade.

Teachers also reported that a modular approach was beneficial to some subjects. This was particularly the case for some subjects with a significant practical element (such as Drama and Film and Media), and for subjects such as Mathematics that continue to use core skills throughout the course rather than 'parking' a topic early in the course (this conflicts with the views of some higher education sector staff on Mathematics).

"Whilst I'm in favour of modular it seems our subject [Mathematics] suits that idea of being broken down into units and because we're always returning to use those skills we don't have the same issues because our algebraic skills [are] constantly being developed. And whilst they might have been examined on them at the beginning, in January of their Year 12, those skills are constantly being referred to in later units."

Teacher, STEM subject, Maintained school

For other subjects (such as English and Biology), teachers felt modular assessment did not fully reflect the synoptic nature of the subject. The disparity between subjects echoes the findings of the Sykes report (2010), which suggests that the use of modular assessment should be decided on a subject by subject basis.

Table 2 (overleaf) provides a summary of the pros and cons of a modular approach based on the interviews completed for this research.

Table 2: The pros and cons of modular A levels suggested by interviewees

Advantages of a modular approach	Disadvantage of a modular approach
Students will be assessed on more of the subject content rather than a sample of topics at the end of the year/course.	Encourages learning and teaching which is 'boxed off'. Content is reduced to a series of topics and it is difficult for students to grasp the philosophy of a subject or apply synoptic learning. Some teachers noted that students often have to return to a topic introduced at AS during A2 where it would make sense to teach the topics together.
It allows the A level as a whole to be designed in a way that eases the transition from GCSE.	January exams in the first year of Year 12 do not allow for the transition stage from GCSE to be very long. Teaching is quickly focused on exams.
It provides a useful monitoring tool for students, admissions tutors and staff. Schools can assign resources and admissions tutors can make decisions in confidence by looking at achieved AS grades, rather than solely at predicted grades.	There is the potential for students to relax too much if they have done well in their first few modules. They know how many marks they need in the final modules and can start to 'cruise' if they are close to the grades they need for entry into higher education.
It offers a safety net for poor performance, during what is seen as a particularly challenging time. If they have done badly in one unit, students are able to pull up their grades elsewhere in the course, or through resits.	
	The choice in units can be unhelpful, particularly in STEM subjects where students might not study a specific topic at all – for example mechanics in Mathematics.

A levels are usually divided into AS and A2 and offer the opportunity for students to take some exams at a variety of points (January and June) throughout the two years of study. However, some teachers in *Transition-focused schools* were broadly supportive of a move to a full linear course in which students would take all their exams at the end of Year 13. Teachers said this approach benefited students as they were allowed time to mature and develop in their subject, it closed the gender performance gap and it allowed for a smoother transition into A levels from GCSE. In particular, humanities teachers reported that students would benefit because their

writing and analytical skills would improve. Similarly Art students would have more time to develop and find their niche and Design and Technology students would have a greater opportunity to focus on coursework.

Support for a more linear approach also consisted of a fondness for a less prescriptive and more coherent style of teaching that would in turn encourage synoptic learning. As well as helping students learn, retain and view information teachers felt that this approach allowed them greater freedom to be creative in the classroom. Modular assessment was seen to hinder students' ability to make links between topics or to view the subject as a whole. Several teachers reported that students would throw away their notes after taking a modular exam in the belief that they would not need them later in the course.

"Well linear they have got more time to develop as individuals whereas we are tending to a little bit of an exam factory."

Teacher, Humanities subject, FE College

"A linear system will produce a chemist, a modular one will produce somebody who can remember a bit of unit five, basically that's it because they've already forgotten what they did in unit one because that's two years ago. For me, you produce a better scientist with a linear system."

Teacher, STEM subject, Maintained school

Whilst teachers can opt to provide linear A levels now, there are some barriers to doing so. Firstly, a couple of teachers noted AS data can be important to the UCAS application process if a good AS grade is achieved, so they felt students not sitting AS examinations at the end of Year 12 could be disadvantaged. Moving to a linear approach could affect marks and if grades were to drop overall, the ability of that school to attract students may suffer. Overall grades could of course increase, but a change to linear assessment would be a gamble for the school, especially if the majority of other schools continue on a modular route. The preferences of students who are used to module examinations may also be a barrier to adopting a linear approach. In short, even if they think that a linear approach is the best way to teach

students their subject, and leads to a better overall understanding of the subject, teachers are unlikely to choose to move to this approach while the majority of others do not do so, for fear of putting their schools or students at a relative disadvantage in, respectively, league tables and the university admissions process.

Resits

Resits were also criticised as they hindered the transition to higher education. Although teachers were divided on whether or not resits give an unrealistic impression of grades, support for limiting the ability to re-take exams was strong.

Some teachers felt that the number of resits took a slice of prestige from the A level because students were able to 'get over the finishing- line' by resitting an exam as many times as they wish. However, others noted that the grade achieved should still be valid regardless of the number of resits because it demonstrated a certain level of understanding about a subject. Resits were also seen to offer a fairer opportunity to those students who develop strongly throughout the course – although they may have the ability of a high grade student by the end of the two years and immediately before entry to higher education, their grades in a non-resit scenario *using modular assessment* would otherwise be held back by a slow start.

"I am torn because if a student gets an A in either exam, that student is an A in that subject, no matter when they took it. So they might have taken longer to get there, but they are there, so they are an A at the end of the year. Whereas they were at a D at the beginning of the year...If that student got the D in January, if they actually did the linear module, they would have got an A at the end anyway, because the two years development probably would have got them there."

Teacher, Humanities subject, FE college

Teachers were therefore unsure of the extent to which resits were taken into account during the admissions process although some commented that admissions tutors would be subtly aware of whether the student had demonstrated ability to get a high grade first time round.

“If you’ve got great results [at AS], we’ll mention it in your personal statement and in the reference from the school. If you haven’t got great results, we’ll you know, as I said, it will be vague. And admissions tutors can read between the lines.”

Teacher, Humanities subject, Independent school

However, the comment above may highlight a lack of awareness on the part of some teachers of the mechanised nature of the admissions process in some HEIs.

The response from teachers suggests that resits offer an approach to examinations that takes into account the nature of the students who are taking A levels, the ages of 16-18 were perceived to be a distracting time of life and resits offered an opportunity to make up for genuine mistakes and uncharacteristic underperformance from students. However, teachers remained concerned about the potential abuse of the system and the attitude it gave students for later learning (noted in earlier sections of this report) and employment. Teachers at *Transition-focused schools* did warn their high flying students about the way resits are viewed by some selective HEIs. During one group, teachers talked about entry onto medical degrees and how some universities did not allow students who had resat. However, teachers overall did offer resits to their student body in order to provide second chances and because other schools do, and they thought it would be unfair to put their own students at a disadvantage on a point of principle. Interviewees suggested several ways to improve the system – as noted later.

Content, modules and synoptic learning

Teachers reported that some specifications, particularly since the changes introduced in 2008, had started to address the skills gaps identified in previous chapters (although Kotecha, 2010, suggested the 2008 changes did not go far enough). In one particular example a biology teacher noted how the A level specification they follow had attempted to redress concerns about a lack of applied thinking skills.

“In biology they’ve changed the specification in recent years and so even though they still have to have a huge body of knowledge and understanding

they are assessed on their application, their thinking skills, not just knowing this situation, but then given an unfamiliar situation and can they then use that knowledge.... I think it is a really good move, I think it is developing their thinking skills and not just learning lots of information.”

Teacher, STEM subject, Maintained school

However, teachers were less positive about how synoptic learning is detailed in A level course specifications. Synoptic learning as it is outlined in the specifications was generally seen to be hard to interpret, teach, assess and learn. Furthermore, teachers felt the concept was more suited to some subjects than others. For example, the module topics available in Sociology – such as Globalisation – were perceived to lend themselves well to wider synoptic learning compared to those in English Literature.

I just don't know what it [synoptic learning] means and I never have. I've had it explained many times to me but it is to do with measuring all their abilities all at the same time, isn't it? I think it doesn't sit well with English because it makes it sound like the subject can be divided up into different strands that you learn in some kind of order and then you bring them all together and then you do it all at the end in a synoptic unit... to me they're all interweaving and interlocking as you go along, anyway.

Teacher, Humanities subject, Independent school

Some teachers were also critical of the distinct nature of units which hindered students' ability to make links between them or identify concurrent themes. Some teachers suggested that final synoptic units which had a specific task had previously worked well, for example, a pre-release exam or a coursework module on journalism in English. However, others commented that final synoptic units work less well because students were likely to forget the content they learnt in earlier units because they assumed that they were only going to be tested on the last thing they learnt. These views perhaps miss the point higher education interviewees made on synoptic papers if that paper's role is to differentiate students' abilities to thoroughly know a

subject and be able to make those connections in order to inhibit the ‘learn, be assessed and forget’ approach.

Synoptic learning was perceived as a skill that is difficult to master and teachers commented that only the most able students can do it naturally. This was a particular challenge for *Multi-focus schools* whose students were less academically inclined and generally have less cultural awareness and life experiences to help put their learning in the context of wider knowledge. Teachers in such schools felt that synoptic learning and its assessment needs to be made more overt and accessible to lower ability students so that small achievements in synoptic learning can be recognised.

Given its perceived difficulty, synoptic learning would appear to present an opportunity to distinguish between the most able students at A level and identify which are the best prepared for higher education. Teachers felt it was therefore important that attention should be paid to how A levels test synoptic ability for subjects in which such learning is important.

A levels as part of a student’s wider education

The perceived gaps in the knowledge and skills of some students at entry to higher education discussed previously in the report (Chapter 5) should also be considered in the context of the journey students take through their education.

Teachers were quite open about what they perceived to be the shortfalls of knowledge and skills of students between completing an A level and starting in higher education. However, they were also keen to stress the progress students have to make from GCSE, perceiving their role as contributing to a steep progression which takes place between GCSE and the first year of higher education.

Although there was debate around how difficult the transition from GCSE to AS should be, all teachers noted that the style of teaching and learning marked a testing departure for students from GCSE towards that of higher education¹¹. In particular

¹¹ Teachers from some schools suggested that the initial AS content is not challenging enough while others, particularly from *Multi-focused schools*, felt that the jump was too big especially given the long break after completing GCSEs.

teachers said students had more responsibility in directing their own learning, a tougher workload and a different, seminar-style teaching environment in smaller class sizes. Indeed, teachers in *Multi-focused* schools were particularly concerned that A levels are designed in such a way that they can be too challenging for less mature 16 year old A level students. A levels were perceived to be rigorous and demanding and, in the view of some teachers, the most difficult exams students will take. Given the sea change from the skills required at GCSE, teachers assumed that it was natural for there to be a similar leap from A levels to higher education.

“There has got to be a jump, hasn’t there? I think there has got to be a distinction between GCSE and AS level... I think it should go up again in the A2 and there should always be a natural progression.”

Teacher, Humanities subject, FE college

In Chapter 2 we discussed the different purposes of A levels and this discussion is a good example. A question to raise from analysing the findings in relation to purpose is “should students who will find A levels too difficult be enrolled on one?” If some 16 year olds lack maturity, would other qualifications be more suitable for them and why are they not guided towards these? If the purpose of A levels was narrowly defined (for example to act solely as a higher education entrance qualification), it might make it easier for teachers to decide whether it is an appropriate route for an individual student. However, those who have a broader view of the qualification as the default for school leavers need syllabuses that are accessible to a wider range of abilities. These two purposes can be seen by some to be at odds; one Awarding Organisation noted that those working in higher education who complain about A levels do not understand the challenges of designing a qualification that takes into account the range of abilities that they test.

The time taken to teach A levels

While teachers were unsure of the capacity of the A level course to develop some of the skills used in higher education and beyond, they suggested that HEIs had to take ownership of learning at some point along the student journey. Time in the classroom was the biggest barrier to their ability to prepare students with the right

skills. Several teachers commented that they would like the time to teach around the topic to enhance synoptic skills, develop communication skills (such as presentations and group work), independent learning techniques and more detailed essay writing skills (such as referencing). However, these skills were not explicitly tested and teachers' first priority was to get through the course content as outlined in the syllabus.

There was broad consensus among teachers that time was even more restricted in a modular assessment approach where exams were more frequent.

“You see I don’t do it [presentations, teamwork] much because they’re not tested on it...But it all comes back to time doesn’t it, if you know you’ve got four lessons that week to teach whatever it is you’ve got to teach, you’ve got to get it [the content] in.”

Teacher, Humanities subject, FE college

Specialism versus breadth of content

Finally, teachers welcomed a debate about the extent to which the A level qualification should ask students to specialise in particular subjects or offer a broader education encompassing a larger number of subjects.

Teachers disagreed over whether the International Baccalaureate (IB) offered better preparation for higher education than A levels. This speaks to the tension that was sometimes seen in the teachers' groups between those who had more of an overview of pupils' progression as a whole person receiving an upper secondary education in preparation for higher education or the workplace (i.e. the head of sixth form), and subject teachers who were more primarily concerned about the pupils' progression within their specific subject:

- Those in favour of the IB pointed to the range of core subjects, the Extended Essay and Theory of Knowledge as examples of offering a more 'complete' student;
- *“I think IB’s better, I think it is more, it is holistic so it gives breadth as well as depth and I don’t think A levels necessarily do that. And I think it encourages*

students to take charge of their own learning.... But more, kind of, individualised, they can make their own way with it couldn't they. And better ground them for uni."

Teacher, Humanities subject, FE College

- Those in favour of A levels pointed to the depth of subject knowledge in A levels as preparation for further study in a subject compared to the IB, particularly STEM subjects. With this debate in mind, schools were increasingly looking to wider enrichment activities outside of the A level qualification to help promote a more rounded student – such as the Extended Project Qualification discussed in Chapter 5.

"With the IB we're talking about spreading the student's knowledge ever wider. I get the impression that universities want their students to be more narrowly focused on what they're likely to meet at university because they do not want to have to teach these skills that they think should be taught at school."

Teacher, STEM subject, Maintained school.

Teachers also cited challenges in preparing students for higher education which stemmed from the A level specification content, language and method of assessment. These are discussed in turn below

Communicating A level specifications

Teachers noted that a difficulty in preparing students for higher education lay in interpreting A level specifications. Teachers in some schools, especially those that are *Multi-focused*, and across several different subjects found the language used in specifications and marking criteria could be ambiguous and confusing. They described how decisions about precisely what to teach were reached through a combination of experience and guesswork. This caused anxiety about whether the material they decide to cover would be recognised and credited. Further examples where clarification could be improved included the content of exemplar material and in the lack of constructive feedback on moderation.

“I find that A level criteria specifications generate a language that genuinely a lot of English teachers don’t understand, including myself. So they’ll talk about the absolute intense importance of synopticity... entirely unnecessary word to use for people because it is so hard to understand. Or they say the reason this has been marked down is because it lacks the conceptualised answer that we were seeking. .. As far as I know, we just don’t use many of the concepts because people just look blankly and say what does that mean?”

Teacher, Humanities subject, Independent school

“At the moderation stage when you do not get feedback from the moderator, well technically you do but having been the moderator they feedback from a prescriptive set of statements....so there is an awful lot of frustration there from the school teacher because all they want to know is, are we doing things correctly? And the only feedback you do get is basically a pro forma.”

Teacher, STEM subject, Maintained school

This emphasises the value of clarity in the guidance for A level course specifications. Even if the higher education sector and employers are satisfied with the content of specifications, students may not arrive at higher education with the right skills and knowledge if teachers cannot transfer the concepts in specifications to the classroom.

Assessing A levels

Methods of assessing A levels also help explain some of the skills and knowledge gaps identified by representatives of HEIs. Given the time pressures of ensuring the delivery of the full requirements of course specifications, noted above, teachers reported that it was important to structure the A level in such a way as to allow time to explicitly test the right skills at A level. The geography skills exam was suggested as a particularly good example of how to impart skills that were valuable for higher education as it forced teachers to give appropriate classroom time to the development of these skills. The teacher making this point said students were unable to pass the A level without passing the skills exam¹².

STEM teachers were concerned about practical assessments in their subjects and how fairly these were carried out. Practical examinations require the right equipment and resources which needs some prior preparation. Some teachers said that papers were therefore received earlier than written examinations which allowed time for teachers to coach students in similar experiments prior to the actual examination. There was also concern that the equipment called for by the practical assessment elements of some specifications was beyond the financial reach of some schools.

Humanities teachers note a lack of consistency when coursework was being used as a form of assessment – this applied to both consistencies across subjects and Awarding Organisations. Coursework was seen to test different skills than examinations; coursework was said to test a student's essay writing or practical skills and their ability to guide their own learning, whereas examinations were seen as primarily testing knowledge. Although teachers acknowledged that the assessment of skills should be subject-specific, they also felt that it was important to show consistency across broader subject disciplines such that, for example, all sciences should have a similar approach.

“I find it with the new specifications that some subjects like mine got rid of coursework completely and in other subjects they upped it and I couldn't

¹² Whilst this is not the case, the spirit in which the interviewee made the observation was for the exam to be based with a sufficient grade to allow entry into most undergraduate Geography courses.

understand why I thought it would make the subjects similar but it didn't it created quite big differences between them.... I mean my exam board said that course work had been dropped from A level sociology because it wasn't challenging enough¹³. I do not understand."

Teacher, Humanities subject, FE college

Applying A levels in practice

Teachers felt modular assessment and the ability to resit exams led to some unintended consequences for students' skills and knowledge. These are summarised below.

Teaching A levels

One of the main concerns of the higher education sector and employers is the effect on future performance brought about by 'teaching to the test'. We noted earlier that teachers and students are highly focused on passing exams due to the twin pressures of performance in league tables for the school and students' own grade requirements. Teachers said this tension was more problematic in modular assessment because of the volume of tests throughout the year. Teaching to the test was said by interviewees to take two forms: the first is to focus on passing exams over the wider educational experience; the second involves 'playing the system' in order to get the best results.

Teachers often felt they had limited choices because of the number of exams that their students have to sit. They were concerned that their approach had become tailored to passing these exams at the expense of promoting a wider understanding of the subject. They reported how they get more direction on what to teach from Awarding Organisations, that text books have become focused solely on the tests that they prepare students for and that students constantly ask about exam techniques or what they need to write to pick up easy marks.

¹³ Ofqual note that coursework was dropped from Sociology because it was felt skills could be assessed just as well in written papers.

“I find myself, on quite a regular basis, saying things at the start of courses, start of modules, that I’m not really very proud of, which is, “Okay folks, here are the assessment objectives on the board. The exam is on the 29th of May, you’ve got 11 and a half weeks. You need to cover the following because it is worth 7.5%.” And I sometimes just think what the hell am I doing, this doesn’t seem particularly good for their education.”

Teacher, Humanities subject, Independent school

In findings which resonate with the thoughts of the higher education sector presented earlier, teachers were also open about the consequences of teaching to the test and offering too much support to students. As a result, they felt that students were:

- Less prepared to think for themselves and be the independent learners required at higher education

“I mean this is just anecdotal but I think we hear that quite a lot of students drop out in university. The support is a big one isn’t it because you don’t get the [same level of] of feedback [there]. They get feedback from us on their work every week whereas when they get to university a lot of them come back and are surprised that you book an appointment to see your tutor. You cannot just turn up and walk in the staffroom and have a word with them. In some respects maybe we are mollycoddling.”

Teacher, Humanities subject, FE college

- Less able to understand the overall philosophy of a subject; and, for some students,
- Less able to retain information past the time at which they were examined.

Teachers also reported concerns that some schools were too keen to help students in pursuit of better grades. In such instances students were said to do little of their own learning and therefore lacked the depth of knowledge and understanding required for higher education.

“Because there’s the pressure to do well, we certainly have anecdotal stories that suggest that a lot of schools do push the boundaries in terms of perhaps giving students more help than they should have on it. Students from another institution, which I won’t name, had been given an identical script for the [coursework] exam paper and the test and everything and all they’d done was to change the name of the acid, but all the questions were essentially the same.”

Teacher, STEM subject, Maintained school

The consequences of resits

Aside from the theoretical debate outlined above, teachers’ main criticism of resits was the disruption they caused to studying and that they foster an unhealthy culture in preparation for higher education and employment.

Teachers said resits disrupted students making them less focused on their current studies. There was also less time available for teachers to go beyond teaching the syllabus. Many teachers said resits promoted a culture among students leading them to lose responsibility for their learning. Several noted that students often did not treat exams seriously if they know they have the opportunity to resit, and that they are seen by some students as a ‘get out of jail free card’. This promoted an attitude that teachers felt was unhelpful at higher education and unattractive in the workplace. These findings again chime with the views of the higher education sector presented elsewhere in this report.

“When I asked a particularly strong group who really argued that they wanted to do January modules I said, “Right, I’m prepared to listen to you if you can provide a strong argument as to why we do January modules, I’ll listen to you.” But the only argument they had was, “so we can re-sit it.” So I think the modular system has a really negative impact on the attitude of students.”

Teacher, STEM subject, Maintained school

“If you were looking at it for the marketplace for jobs as well, it is an odd signal to give out, isn’t it, because very rarely at any other time in life will somebody like a boss or a line manager say, “Just have another go at that one.”

Teacher, Humanities subject, Independent school

In the groups, teachers said the pressure to take resits came from several different audiences: from students, teachers, school management and parents, all who wanted the student to achieve the best grade possible. Rather than only being used as a back-up to rectify genuine underperformance, a ‘resit culture’ was used by students to boost grades. One of the main reasons cited by schools entering students into exams in the January of Year 12 was to give students the most number of chances to achieve a good mark.

“I would believe that because I’ve worked in the state sector for five years and when I came here, I was actually horrified at the resit culture. I understand why but it has come as a big surprise... Yeah, there’s a lot of resits going on and I’m sure that is accumulation of pressure from all the stakeholders, you know, whether it is school authorities, parents, students themselves, teachers, a bit of a pressure cooker, to get better, get better, get better.”

Teacher, Humanities subject, Independent school

Teachers were therefore unanimous in agreeing that the opportunity to resit had ‘gone too far’ and that their use should be reviewed. Although it was important that resits remain an option to cover for illness or in other cases where a course was failed, most teachers supported an approach that would mandate a limit on the number of resits a student was able to take to boost their grade. Schools can limit the number of resits in the current system (although no interviewees noted this). The findings suggest that choosing to limit resits whilst other competitors did not might place the school at a perceived disadvantage. As teachers connected resits to increased grades, some thought that deciding to limit resits would affect grades and, hence, that school’s comparative position in league tables.

They said a limit could be applied across the board, in a particular subject, or, most favoured for the current modular system, in the number of times you can sit a specific module. Another suggestion was to enforce a system where there was no limit on the number of resits a student could take but that students would have to take the score achieved in their most recent exam even if it was worse than the one previously. This would allow students to rectify genuine underperformance but would help students focus on the first exam sitting and reduce the number of ‘chancers’ who hoped to achieve a higher mark a second time round.

Summary

Some teachers thought that A levels are restricted in their ability to prepare students for higher education because of the number of purposes they currently serve and in particular by being both the means by which students gain entry to higher education but also the means by which they are prepared for it. In spite of attempts to ensure that the criteria and specifications cover the relevant knowledge and skills required for further study at university, teachers usually think the application of A levels in the classroom is distracted in some way by intense focus on the final grade. Opinions on the strength of this effect vary by teacher. Teachers said the root of this distraction is in part the result of the pressure on schools to perform in league tables but it is also present in the desire of students, parents and teachers alike to achieve a mark that either grants students access to higher education or puts them in good stead for the employment market.

As a result students are already thinking about final grades when making choices about which qualifications to take at Level 3, teachers focus on what is assessed and how students can succeed in exams and there is a temptation to play the system through offering too much support and modular resits.

However, we found a genuine appetite among teachers to move away from a focus on exams and towards an educational philosophy more generally. Our discussions with teachers pointed to some key opportunities for improving the design and application of the A level qualification:

- Ensuring that A level qualifications are equally demanding across subjects and Awarding Organisations would help mitigate concerns about students being

less prepared for higher education because they have studied a course which is perceived to be less demanding. At the moment, it was felt that some subjects and, in some cases, the qualifications from some Awarding Organisations were less demanding than others.

- A more distinct assessment of synoptic learning through greater use of final A2 papers covering the whole subject could help identify those students who are the most prepared for higher education, and should form a key part of being able to achieve a high grade.
- A mandated move away from modular assessment – although not necessarily to a full two year linear model – would foster an environment where students are more able to develop synoptic learning and allow more space for teachers to focus on skills and subject narrative.
- A review of the way in which students are allowed to resit exams would encourage a more appropriate attitude to learning and completing assessment at higher education.

Schools are currently free to adopt a linear approach to the assessment of AS levels and then A2 levels rather than a modular one. However, reviewing the evidence suggests that schools may not wish to because of the potential effect on overall A level results, and the results of individual students. Teachers were conscious that their schools and colleges operate competitively. Many of them discussed their school or colleges place on league tables. There was also a perception that modular examinations and resits allow students to improve their grades. It would therefore be a gamble to take a linear approach whilst competitors still offered modular A levels because of the potential effect on overall grades and subsequent recruitment. While some did not allow students to sit assessments for units in January, thus offering the student a slightly more linear route through the subject (albeit still assessed as four

8. Ofqual's regulation of A levels

Due to the majority of interviews being in England, and the focus of some discussion guides, this section focuses on Ofqual's role as a regulator. However, HEI interviewees in Wales and Northern Ireland were asked general questions on regulators and regulation. As there were no differences between the views collected between countries, the findings in this section can also be applied to regulators in those countries.

Knowledge of Ofqual's regulatory process differed by audience. In general, knowledge among employers was negligible, was very low among representatives of HEIs, higher among (some) teachers, while representatives of higher education bodies and Learned Bodies tended to be relatively well informed. This correlated with overall levels of knowledge about the A level system itself. General views should be read as opinion based on interviewees' overall views of the A level system rather than a detailed understanding of Ofqual's actual remit which, in summary, is:

"... maintaining standards, improving confidence and distributing information about qualifications and examinations. [Ofqual] regulate general and vocational qualifications in England and vocational qualifications in Northern Ireland.

[Ofqual] give formal recognition to bodies and organisations that deliver qualifications and assessments. [Ofqual] also accredit their awards and monitor their activities (including their fees).

Ofqual Website¹⁴

Overall, many participants across all audiences just presumed that the regulation of A levels happened without really knowing or questioning what it might entail. However, few thought that HEIs were in any way involved in this process though some said it was important that the sector should be involved.

¹⁴ <http://www.ofqual.gov.uk/about-us> [accessed 27/03/2012]

Where knowledge was greater, and in particular among teachers, there was sometimes scepticism as to Ofqual's independence from Government. This was, in part, a broader sentiment that education policy is too politicised and rarely decided in the interests of the most important stakeholders.

"They [Ofqual] are politically led rather than educationally led and that is the problem with it. I don't think it is anything to do with education."

"I think it is to do with whatever the government of any particular colour...whatever they want then Ofqual is sort of their lackeys who actually sort of implement that without any reference at all really, it seems to us anyway, to either schools or universities."

Teachers, STEM subject, Grammar school

There was also a large measure of suspicion of the different Awarding Organisations due to past problems with marking and also perhaps linked to this lack of knowledge about how they are regulated.

Purposes of regulation

Overall, views on the regulation of A levels were linked to process while most criticisms of the A level system related to content and assessment. Issues with content and assessment are discussed in the next chapter on the design of A level qualifications.

Most HEI representatives thought that the prime purpose of regulation should be to ensure equality between Awarding Organisations within subjects so that they can be sure that students with the same grades are equally well qualified. It was often unclear exactly what was meant by this idea which was expressed in a number of different ways, such as "evenness" and "consistency". This lack of clarity seemed to be due to the fact that most respondents were thinking only about the *outcome* of regulation rather than the *process*.

"Marking standards, can you be assured that if you're taking an A level chemistry paper from board one it is of an equivalent standard as that of board two?"

As noted in Chapter 7, teachers were also of this view. Ensuring as much as possible that A levels are consistently demanding across all Awarding Organisations and subjects would allow all teachers to choose the specification with the content and mode of assessment that they thought best for their students.

For some, a secondary purpose was to retain standards within subjects from year to year. For interviewees, a logical outcome of this idea is Awarding Organisations (or potentially Ofqual) should have some responsibility for stopping so-called 'grade-inflation'. As noted elsewhere in this report (Chapter 2), the proportion of students achieving A grades at A level has steadily risen over the years and partly because of this, some felt it should be Ofqual's role to address the causes and effects of such perceived grade inflation¹⁵.

Finally there was the perception among some that regulation should attempt where possible to ensure the grades achieved in different subjects represented the same standard of achievement, or, that at the very least, grades in closely related subjects represented a similar level of ability in the student. Teachers in particular thought that within broad subject groups (e.g. STEM, 'traditional humanities') it should be clear that an A grade in one subject represented comparable overall abilities to a student with an A in another subject. Many interviewees said that some students, A level teachers and those in higher education perceived that certain subjects were less demanding than others.

It should be noted that this wish for comparability in grades across subjects is in conflict with the finding across HEIs and some schools that different A levels would benefit from different methods of delivery and assessment. If this was the case, consistency across subjects might be harder to achieve (as opposed to intra-subject consistency).

¹⁵ Ofqual's role is explained in its chair's recent speech at "A New Look at Standards: <http://www.ofqual.gov.uk/news-and-announcements/83/752> [accessed 01/04/2112]

A few interviewees took a more strategic view. They felt that there was a role for Ofqual in maintaining an overall level of difficulty to be associated with A level. In their view, maintaining the overall level of difficulty was the primary purpose of regulation. From their perspective, some of these interviewees thought that the current focus is too much on ensuring *statistical equality*, which they felt is not the same as assuring standards.

“Standards shouldn’t be about the proportion who get the grade but the absolute standard of how difficult the A level is.”

Lecturer, HEI, Northern Ireland, Mechanical Engineering

The quote above airs a concern, cited by a few interviewees, that statistical measures of the first two purposes (maintaining standards across boards and years) can mask an overall decline in the quality of passes, as outlined in the literature (Coe et al, 2007). How this might occur was outlined in more detail by an interviewee of a learned body:

“[One year] you award 1,600 A grades. The next year [the borderline is x or y and it is] either going to be 1,580 or 1,610 children. Do you reduce the number of A grades by setting the borderline at x, or let them go up by ten by putting the borderline at y?

As a commercial organisation, it is very risky to say we have, we awarded fewer A grades this year. The only thing you can do is say “this year we want you to award fewer A grades”. Each year the standard hasn’t really dropped perceptibly but after a number of years it does.”

Learned Body, STEM subject

Related to this, two interviewees who were involved in admissions at *Selecting HEIs* thought that Ofqual should be doing more to benchmark UK qualifications against those in other countries, so that school leavers have the kind of education they need for competing in a global jobs market.

“I think we have probably lost sight of where we stand internationally...are we keeping pace with what’s going on elsewhere in the world? Are we encouraging innovation?”

Head of Admissions, HEI, England

This view was in marked contrast to the concerns of those who work with specifications on a daily basis. Teachers thought that oversight of marking *within* Awarding Organisations should be a key component of A level regulation, as any irregularities in this area impacts very heavily on individual students, in particular where an unexpectedly low result in a module results in them not achieving a university offer.

While the majority of HEI respondents focused their responses on regulation of standards, some thought that Ofqual should have an important role to play in helping to keep the curriculum up-to-date and relevant, as well as ensuring the traditional knowledge and skills imparted by a specific subject are retained. It should be noted that issues surrounding the curriculum are currently not in Ofqual’s remit. The extent to which respondents who were aware of the limits of Ofqual’s remit thought that it should be changed so that it becomes a part of their role depended somewhat on their confidence in Awarding Organisations to fulfil this task well. This role is potentially at odds with those in the higher education sector who felt the depth of subject knowledge suffered because of the breadth of the curriculum. So the inclusion of contemporary content needs to be considered in relation to the core skills that are essential to a given subject.

Views of current regulatory system

Due to their lack of knowledge about the regulatory system, many respondents were unsure as to how well it achieves these outlined purposes in practice. There was an implicit acceptance from many that grades from different Awarding Organisations broadly ‘meant’ the same thing, in that no HEI admissions staff we spoke to looked in any detail at which Awarding Organisation a student took their exams with as part of the selection process.

Some expressed disappointment that there is a higher likelihood of a student achieving an A* grade in certain subjects although this point fails to recognise that a student typically chooses to take a subject like Further Mathematics rather than Sociology for different reasons. This was felt by some to create challenges in using the A* for selection, as the relatively lower likelihood of a student getting an A* in a Humanities subject has to be taken into account, which is difficult to do for universities that rely heavily on UCAS tariff scores in the admissions process, as all subjects are counted equally in the calculation of the overall score.

“If you do Mathematics and Science A levels, particularly Mathematics and Physics and Further Mathematics, you’ve got a much better chance of getting A than you have in other subjects¹⁶”.*

Head of Admissions, HEI, England

Those making these points cited the inherent differences between STEM and Humanities subjects and how they are examined and marked as the cause of this. While they did not think that this was an excuse for keeping the situation as it is, it does highlight their awareness that consistency between different A level subjects is something which is very difficult to regulate

The most informed respondents (in general, those in admissions roles or working for Learned Bodies) tended to be more sympathetic towards both Awarding Organisations and Ofqual and the “thankless task” in which they must engage, acknowledging the challenge in reconciling some of the purposes mentioned above, most importantly, standards across time and standards across subjects. They thought that, in general, those working for Awarding Organisations were committed educationalists, with a large amount of in-house expertise, who try to design the best qualifications that they can within the A level framework.

Some respondents with limited knowledge of regulation cited anecdotal evidence which led them to suspect that grades from some Awarding Organisations for the

¹⁶ The Joint Council of Qualifications published cumulative subject level pass rates for GCE from 2001: http://www.jcq.org.uk/national_results/alevels/ [accessed 01/04/2012]

same subject did not evidence the same abilities in students. Some found it difficult to believe that the outcome of having several Awarding Organisations in competition with each other could ever be anything other than a “race to the bottom.” In general, it was felt that Awarding Organisations are the “weak link” in the A level system, precisely because they are the only group involved whose motives are not purely educational.

“I must admit I’m a bit suspicious [of profit making Awarding Organisations]...the quality control probably isn’t going to be there quite so much as it would be if it was handled by someone that was a bit more impartial.”

Senior Lecturer, HEI, Wales, History

Teachers tended towards cynicism about regulation, citing concerns about the marking of A levels, and perceptions about levels of demand across Awarding Organisations and subjects, as outlined in the previous chapters. Mistakes in marking concern them greatly as it can have immediate negative effects on students’ futures, and as such they think that Ofqual should take stronger action to penalise Awarding Organisations who make so many errors in marking. They also think that Ofqual should be doing more to ensure that the level and detail of advice from Awarding Organisations to schools is the same for each body and subject.

The validity and reliability of A levels

Awarding Organisations and Learned Bodies noted that there is a fundamental tension in the regulatory process between the need to produce results that were reliable and also valid. Validity is a measure, based on evidence and theory, of the overall quality of a test meeting its intended use. A test that provides the right information from which to make some form of judgement can be called valid (Ofqual, 2010). For the purpose of this report’s research aims pertaining to higher education, validity refers to the extent to which an A level qualification prepares a student for higher levels of study. Reliability is an aspect of validity and describes the consistency of a test i.e. the ability of a test to provide the same outcome if repeated (ibid).

Reliability was particularly important to higher education interviewees as it allowed them to have confidence in using A levels as their sole selection criterion.

“They (HE) expect there to be a huge consistency year on year, across Awarding Organisations, across subjects, everything...drives the assessment down the road perhaps too much towards external assessment and that, having that reliability of assessment instead of necessarily good validity of assessment... we were driven that way with the last review of A levels.”

Awarding Organisation

By contrast, improving validity may involve a variety of different assessment methods that may be too costly or logistically difficult to administer (e.g. extensive coursework, oral exams, practical laboratory exams), and which may not be acceptable to universities or the public at large. The frustration for Awarding Organisations seems to be that in order to meet the regulatory need for reliability; they may be designing qualifications that do not fit the broader needs either of students or of HEIs. Making A level results valid and reliable is very difficult to do at the scale required for A level.

“The dilemma that you’ve always got there that they want these skills (independent learning) developed, but then [HEIs are] not prepared to allow the sort of assessment that will give that [in relation to the internal assessment of the EPQ]”

Awarding Organisation

A STEM learned body thought that striving for both validity and reliability can have negative impacts on preparing the student for higher education as they felt it limits the types of questions that can be asked and the types of assessments that can be used. Their overall perception is students can be under-prepared for higher education because they learn how to respond to a narrow range of assessments which is not a reflection of academic life.

“If you’re setting trivial questions, well, even demanding questions that you can be coached for, then that’s what will happen, and it tends to be the valid and reliable questions are the ones that you can coach people for, rather than

having to do broad thinking, getting them to investigate deeply the nominal thing talked about.”

Learned Body, STEM subject

This learned body said the degree of uncertainty of around a half a grade in humanities A levels stated by Ofqual would also, in their view, be a suitable outcome for STEM subjects if it would allow for questions that stretched candidates further (e.g. more multi-step or synoptic questions).

“They [humanities exams] are good exams because if you’re having questions that you set, broad questions about the poems of DH Lawrence, it means that children have to study the poems of DH Lawrence. If you said what’s the third word in the fourth line of Pomegranate then they would just learn Pomegranate by rote.”

Learned Body, STEM

There was also concern among a few in higher education and Learned Bodies that Ofqual, while well equipped to regulate the technical aspects of the A levels, lacks the subject expertise to really be able to regulate the content effectively, in part due to the reorganisation it has gone through in the recent past. As highlighted in Ofqual’s own documentation (Ofqual, 2010a), regulating content is outside of the scope of the organisation. Several Learned Bodies were concerned about the level of detailed review of new specifications prior to accreditation, and questioned whether Ofqual has the necessary subject expertise to examine in detail a large number of specifications for every subject. A solution that was suggested was to have formal input from Learned Bodies at this stage, but it is unclear whether there is capacity in all of the Learned Bodies to do this, or an appropriate learned body within each subject to carry out this work.

Finally, perceptions of the efficacy of regulation were influenced by views of the purpose of the A level system. One Awarding Organisation thought that Ofqual should be the people to deal with this issue i.e. that they should clarify the purpose of A levels and regulate on that basis.

Overall, where interviewees had an opinion of the regulatory process, there was the perception that Ofqual may need to be a tougher regulator, in particular when trying to maintain the absolute standard of a qualification so that UK school leavers are undertaking upper secondary examinations that are “as tough as anything out there in the world,”¹⁷ given that they will be entering into an increasingly global workforce.

“I’m not sure that Ofqual... and others had the teeth over the last years to say this is not on [with relation to standards]”

Head of Admissions, HEI, England

This is because of the perception that Ofqual is the only organisation involved in A levels (besides perhaps the most selective universities) with a strong interest in maintaining standards.

“It’s clearly to the advantage of the kids to get the highest A levels. it is clearly the advantages of the schools and colleges in terms of league tables to have the best results. We have heard one of the industry Awarding Organisations say they cannot afford to make our A level harder than the opposition. The universities like to have high A level grades, high UCAS points on their admissions, so they can brag about it. That helps them in their league tables. Only Ofqual really has any responsibility to keep standards up.”

Learned Body, STEM subject

Ideas for future regulation

Interviewees said the easiest way to inspire more confidence in the regulation of A levels would be improved communication on how regulation works for the key stakeholders. When most of the information about the process is gleaned from

¹⁷ Head of Admissions, HEI, England

newspaper headlines, it is unsurprising that some of our respondents were sceptical as to its efficacy.

“I suppose I only hear about them when things go wrong, so with the recent fuss about the exam papers and, was it recently where people from exam boards were found telling people, telling tutors what would be on the papers.”

Head of Admissions, HEI, England

Several interviewees specifically suggested that better communication from Ofqual about what it does and how it regulates standards would go a long way towards improving this.

The pros and cons of multiple Awarding Organisations

A few respondents thought that most issues with regulation could be solved by having only one Awarding Organisation per subject. Often they also had ideological reasons for favouring this in that they either thought that private companies should not profit out of such an integral part of our education system or could not see how competition improved A level qualifications.

“That probably reflects my political views on the role of the private sector in what I think are ethical issues around the development of young people in our society through the education system.”

Head of Admissions, HEI, England

Teachers were particularly concerned about the ethics of making money from public examinations and again some suggested limiting the number of Awarding Organisations to one. However, most thought that greater transparency around their marking and grade boundary setting would greatly help to alleviate their concerns. These views illustrate the general finding that many interviewees did not recognise most Awarding Organisations are not-for-profit organisations.

Overall, the majority of respondents who spoke about Awarding Organisations could see merit in having several different specifications for each subject, particularly in terms of the choice it offered between more traditional and cutting edge

specifications and this was a particular “selling point” to the teachers who delivered the qualification. The argument that the existence of the different Awarding Organisations can lead to innovation in curriculum design was broadly accepted; however the overall feeling was that competition was not necessary to ensure choice.

A compromise was suggested by one learned body: a franchise system whereby the different Awarding Organisations could bid for the licence to develop specifications (as many as necessary to meet student, teacher and university demand) for specific subjects for a set number of years. It was suggested by teachers that moving to one Awarding Organisation per subject might deal with the perception they have that the replication of work for large numbers of specifications means that subject expertise is spread too thinly across the different Awarding Organisations.

Respondents who were knowledgeable about the process thought that there was no reason for Ofqual not to see examination papers before they are sat, and the retrospective regulation of these unnecessarily limited their power.

“Ofqual are essentially crash scene investigators whereas it would be better to have air traffic controllers. But all they can do is if someone produces a paper one year that is pathetically undemanding is go back and say you need to put more demanding questions in. So it is a small rap on the knuckles, it is get it right next time...they need more teeth.”

Learned Body. STEM subject

Another was for Ofqual to convene subject committees consisting of representatives from the higher education sector and schools to provide a representative education sector view on the accreditation of specifications.

Two of the higher education bodies we spoke to thought that Ofqual need to be taking a more systematic approach to ensuring confidence in the A level system. Although outside of the remit of Ofqual, these interviewees felt that such an approach would entail either:

- conducting a thorough review of fitness for purpose of assessments by subject where “fitness for purpose” relates to preparing students for higher education; or,
- conducting robust comparability assessments across subjects i.e. checking the extent to which a grade given in one subject represents a level of achievement which is the same for grades in other subjects.

Summary

Low awareness of the regulatory process meant that many of our interviewees lacked strong opinions on Ofqual, its role or its current efficacy. Often those who did have opinions on its efficacy held erroneous views about its remit. Whether interviewees should know more about Ofqual itself is arguable, but communications on activities Ofqual carries out to improve the system would help counter-balance some of the incorrect perceptions held.

Representatives of higher education said they would generally be satisfied with regulation that ensured equality between Awarding Organisation *within* subjects, as there is a certain level of scepticism that this is currently the case. Teachers would rather better regulation of marking to reduce errors and increase their confidence that their students are being treated fairly. Suggestions made from a limited understanding of Ofqual’s remit for achieving these outcomes included:

- Approval of examination papers by Ofqual before students sit them;
- Greater use of punitive measures by Ofqual when mistakes are made in marking;
- Reviews of fitness of assessments in each subject;
- Reducing the number of Awarding Organisations per subject to one.

Among both audiences there was a sense that regulating so that all subjects are of the same standard is a difficult and potentially impossible task. However, given the use of UCAS tariff points (and thus notional equivalence of all subjects) for selection

by most universities, ad-hoc solutions to differences in the awarding of grades by subject included a cap on the proportion of A* grades per subject.

Among some interviewees, including some employers, there was a sense that regulation should be focused more on ensuring the absolute standards of exams, i.e. that they were of the right difficulty. It was felt this would either ensure that the A level students that they encounter are better prepared for work or higher education, or that UK school leavers are equipped with the right skills and knowledge to compete against others in a global marketplace. This might entail reviewing the design either of the system or of the individual A levels themselves, a subject discussed in the following chapter.

The design of A levels

9. The design of A levels

One of the key questions arising from this research is: how could the process of designing A levels be improved to address some of the concerns outlined in Chapters 3-7. To this end, it was important to understand interviewees' current involvement with the process of A level design. Very few of the interviewees, either from HEIs or schools, were involved in any stage of the process and interviewees were not sampled with this in mind. In fact, only representatives of Learned Bodies had had any recent input into the development of A level specifications and where this had happened it was often on an informal and ad-hoc basis. Employers and employer representatives were, unsurprisingly, even further from the process of design, but did suggest several useful ideas for how future engagement and consultation could work.

Lack of involvement of HEI interviewees is symptomatic of their wider disengagement with A levels and the final two years of secondary education. Many respondents happily admitted that they had not actually seen an A level paper in years and most knew very little about the subject content or the different specifications available (although there were some who did make an effort to look at these, especially when they identified that their students were struggling with first year material).

While respondents knew about their own level of involvement, they were often less sure as to the current level of involvement in the sector as a whole. Some assumed that HEI representatives must be involved in all aspects of design and regulation, others thought that this involvement was "very weak" e.g. simply commenting on draft specifications. HEI interviewees also did not know how this level of involvement is changing. Several respondents thought that it was dwindling and had been for a number of years, whereas a representative of an HEI who had a broad view of the A level system thought that it had been increasing recently. Interviews with Awarding Organisations seem to suggest that the latter is closer to the truth as several were in the process of getting "subject groups" off the ground while another was making further efforts to get more HEI involvement in their extant groups.

Awarding Organisations often put a large amount of work into stakeholder engagement and noted that they try to incorporate the needs of HEIs into their

specifications but that this often needs to be balanced by the views of other important groups. As one member of one of these organisations explained:

“Higher education colleagues can have unrealistic expectations of what is reasonable to expect of a 17 or 18 year old in their subject, because they are by definition experts in that, they take people into their university who have the potential to be experts in that. They don’t have the notion that in an A level you’re dealing with young people who will achieve from a grade E to an A.”

Awarding Organisation

However, it is worth noting that at one Awarding Organisation their subject groups tended to be made up primarily of teachers who could be seen as the most important stakeholder group from an Awarding Organisation perspective because they were the ones making the decision about which specification to use in their school.

Who should be involved in the process?

There was no clear consensus over who should be involved or how. As noted by a representative of an HEI, the link between A levels and higher education is particularly strong. As three quarters of all A level leavers go on to university this interviewee said it was vital that HEIs become more involved than they have been. This was echoed by many representatives of HEIs who were of the opinion that those who ‘receive’ A level students should have an input into what they have learned up until then.

However, few, even within HEIs, thought that this should be solely the responsibility of universities and in fact many mentioned that the structural and pedagogical design of an A level was the job of “professionals”.

Representatives of Awarding Organisations expressed the view that several groups need to be involved. As one of the key purposes of an A level is assessment (which then enables selection by HEIs), there needs to be input from those who understand assessment methods and how they are applied to higher education selection. The broad view from higher education sector interviewees was that it would be useful to

have a general governing body or advisory committee of end users for each subject to inform the process of specification design but not necessarily to run it.

Teacher involvement

There was some consensus that teachers should have input in the design of A levels. Teachers themselves were very clear about this. They are concerned that academics do not know enough about the capacities and knowledge base of students who have just taken GCSEs and note that they are the only ones who know about the skills and abilities of pupils completing Year 11. However, those we spoke to found it difficult to imagine a structured way in which they could get involved. Most had been to Awarding Organisations' meetings and conferences but think that teacher input was necessary far earlier in the process. In particular they would like to comment on the usability of a specification so that it can be ensured that it will work well in a classroom. This would also help to deal with the issue of unclear specifications and criteria which were seen as open to misinterpretation, as outlined in Chapter 7.

Some teachers were cynical about working with Awarding Organisations, particularly when prior complaints had not been adequately dealt with. Others (typically in *multi focused schools*) thought that it is inevitably the schools where most students achieve high grades that get involved in the design which leads to A levels being designed only with a specific type of middle class student in mind (and a certain level of aspiration, skills and knowledge presumed) and thought that this was a key area for change.

Other groups also thought that teacher involvement in A level design was very important. Most HEI respondents seemed to assume that this was a key stakeholder group and one that was vital in ensuring that the feasibility of subject criteria or a specification was always considered. A representative of a learned body also noted that it might be useful to have school heads involved in the process as they can take a broader (rather than subject-based) view of the needs, skills and knowledge of a student at this level.

However, based on the analysis presented in this report, there may be a risk in having a disproportionate involvement of teachers and especially head teachers in design of A levels given the current incentives in the education system. Where A

levels results are perceived as a comparable measure of school performance, school representatives may be incentivised to think about the structure of A levels with this in mind (as opposed to thinking about the A level purely as a means of teaching subject knowledge and learning skills).

HEI involvement

Several advantages to greater HEI involvement in A level design were mooted:

- It might add to the 'rigour' of the syllabus, both in terms of subject knowledge and the academic skills it develops which was currently felt to be lacking by some HEI representatives;
- Academics have a good understanding of new developments in their subject and thus can help keep the A level criteria and specifications up-to-date as well as advise on the level of detail in which new topics should be covered;
- They can be open-minded and think creatively as they are not involved in the delivery;
- Using the sector to design assessments with a greater ability to differentiate high performers could help *Selecting HEIs* cut down the number of other means they now use to sort their students (this was only mentioned by one interviewee at a selective university);
- Awarding Organisations would benefit as greater higher education involvement might help them to prove that they are producing an exam that is 'fit for purpose' (where the transition to higher education is the purpose); and,
- It may also benefit students by challenging the annual debate on A level pass rates. The involvement of the higher education sector in the process provides evidence that activity is happening to consider concerns and that student grades are not seen as somehow inferior to those given in the past.

However, there was scepticism among HEI interviewees and other respondents about the wisdom of too much university influence. One Learned Body noted that it is good that the traditional strong relationship between specific HEIs and boards no longer exists as higher education has changed too much for this to be a sustainable model that meets the needs of all the institutions and students. There were also a number of specific concerns about higher education involvement:

- HE representatives could try to load criteria or specifications with too much content, particularly in STEM subjects. However, the authors note that higher education interviewees that were critical typically sought more depth rather than breadth of content;
- As there is no such thing as a perfect specification it would be impossible for representatives of different HEIs to ever agree on one (because, for example, of the variety of different research interests) which is particularly important at criteria level. As an Awarding Organisation representative put it:

“Ask 6 Mathematics departments what they want in the criteria and you’ll get 12 different answers.”

Awarding Organisation

- Academics may not have enough awareness of pedagogy and assessment at A level (unless it is of research interest to them) to be able to be involved in design in any more depth than commenting on content. As such, it was suggested by several respondents that the most appropriate higher education representatives at the specification and assessment design stage are those who work in education departments rather than within specific subjects.

Many interviewees mentioned resource constraints would limit greater university involvement, even if there were a move towards their greater input. The most important of these was simply that academics lacked the time to contribute to such processes. In some universities this is due to the competing demands of research, in others heavy teaching timetables. For some interviewees this meant that they thought it more appropriate that other “general institutions” such as Learned Bodies or the QAA lead on higher education sector input into A level design.

As with schools, a few representatives of *Recruiting HEIs*, perhaps mindful of the strong influence of Russell Group universities on the entire higher education sector, noted that it was important that a cross section of universities are involved in the design process. Again it was also mentioned by one respondent that it would be

useful to get admissions staff involved for a broader view of the needs of HEIs more generally outside of subject-specific concerns.

Employer involvement

Some HEI interviewees expressed reservations about the idea of employers or industry being involved in this process. They were concerned that they might have too narrow an agenda which would distort content towards short-term trends in a particular area at the expense of providing a thorough grounding in a subject. Others took a more general ideological view that the purpose of education is not to prepare students for the workplace and A level should not be expected to be a perfect preparation for either university or work. As one admissions tutor noted:

“Universities are expected to be prepared to accept students who’ll come from all sorts of different backgrounds and experiences, and your first year is often a year to settle people in, same thing applies for employment.”

Head of Admissions, HEI, England

However, some took a more positive view of incorporating topics which also provide workplace skills in secondary school qualifications. In Geography, for example, the inclusion of training in using Geographical Information Systems (GIS), which is used in many workplaces, was seen as a useful addition to the syllabus by those working in higher education.

Employers themselves were generally not interested in being involved directly in criteria or specification design. As outlined in previous chapters, their main concern is wanting overall 16-18 education to provide students with better core skills and orientation towards the world of work, neither of which are likely to be affected primarily by the design of specific subjects.

Subject/professional associations and Learned Body involvement

Some HEI representatives thought that the best means of involving subject expertise in the design of A levels would be through their professional bodies or appropriate subject or professional associations.

“You’ve got 100 and something higher education institutions in the country and you’ll get 100 and something different answers about what should be in there [A level design]. But there are general organisations, certainly there’s the Institute of Physics that liaises quite strongly at all levels”

UK, HEI, England, Biomedicine

The Learned Bodies themselves were very strongly of the opinion that they are the best placed to be heavily involved in qualification design because they can, through already existing links, help to coordinate higher education, schools and employers. They saw themselves as the only group who “think about the subject in its entirety” and have the best interests of the subject at heart rather than the conflicting interests that affect each of the other stakeholder groups.

The Learned Bodies said they were willing to feed into specifications for each Awarding Organisation but thought that the processes by which this happens were not well-coordinated. One learned body mentioned an Awarding Organisation which had set up 28 different research groups as part of developing a new subject specification. Many of these research groups contacted the body separately for advice and input which seemed to them a deeply inefficient process. Given the number of Awarding Organisations and specifications, providing thorough input or even examining a qualification for accreditation is resource-intensive and several Learned Bodies said a formalised system should be in place along with remuneration for the work involved.

Employer umbrella body involvement

A couple of spokespeople from employer umbrella bodies, although not directly involved in the design process, emphasised that they could see themselves playing a similar role to Learned Bodies in the process of A level design, fostering links between industry, HEIs and schools and managing the sometimes unrealistic expectations that employers have of A Level leavers.

“We can be the link for Ofqual. We can work with [them] to bring the right players around the table because we have members in each relevant field – industry, schools, HEIs....”

Several spoke passionately about the purpose of the A Level qualification as being much more than just a 'ticket' to university, which they felt was sometimes a perception that was filtered down to students at school and it was thought that through subtle changes to the way A Levels are taught, students could be made more aware that the subjects they take at A Level are a preparation for life, not just for further study.

However, these spokespeople were also acutely aware of the relatively 'simple' outlook of employers, whose focus was on the 'end product' of A Level education (i.e. new recruits), rather than on the specifics of the A Level curriculum. As a result, employer body representatives tended to take a pragmatic view on the extent to which redesign of current A Levels was required. In line with this, they saw their future involvement as two-fold. First, they saw themselves as taking part in, and facilitating, a discussion about curriculum and ensuring that classroom teaching hones the transferable life skills needed for the workplace. And second, they saw themselves providing a framework for industry to become more directly involved with schools through 'school ambassador' schemes and more targeted careers advice. The latter tended to be where they saw themselves adding most worth and while they recognised this as running alongside A Levels themselves, they thought it was important not to detach this from the question of suitability of A levels, since boosting these other types of resource could be one way of relieving some of the pressures put on the A Level qualification and teaching itself.

“To develop the basic competencies like punctuality and teamwork you don't need to be sitting in a classroom...the A level can't do everything, no qualification can.”

Students' involvement

One final group that was mentioned by a small number of respondents was university students. Several thought they would have been a useful audience for this piece of research. Others noted that those who are going through their first year are the best

placed to understand what the transition from school to university entails, and how well A levels prepared them for the intellectual demands of higher education.

Across the different groups interviewed for this research, respondents placed caveats on their views of these issues and questioned how thorough the process of involvement in the design of A levels would be. Few groups want to get involved in this time-consuming process without strong guarantees that their input would be heeded and put into practice. As such, they wanted the process to be carried out thoroughly and, importantly, adequately resourced as it would take a lot of money to take higher education staff away from their regular roles in order to be able to be fully involved. On the other hand one HE Strategic Body respondent noted that universities need to become more proactive in the field of upper secondary education as until they do their complaints are difficult to take seriously.

The connection between higher education, employers and schools

When discussing contributing to the A level system, many respondents thought the overall connections between HEIs/employers and schools should be taken more seriously. There was still concern among some, particularly at selective universities, that schools are operating “in a vacuum”, and that their knowledge of what actually happens at higher education was patchy, a view that was echoed by some of the teachers that we spoke to. Employers too thought that students of A levels are often completely separated from the world of work, and it would be helpful for them to begin thinking about developing workplace skills at this stage.

Representatives of HEIs thought that their greater interaction with schools would help students arrive at university better prepared for the demands of their courses by helping to put their A levels and other 16-18 learning in context. There were also benefits for HEIs. Several representatives of *Recruiting HEIs* noted that it would help them to design their courses if they had a better understanding of what their students actually know on entering the degree course and potentially help to mitigate some of the issues of overlap between A level and first year content that a few respondents had identified.

Often this communication was already happening and there seemed to be strong links between some Low-tier universities and local colleges especially in the case

where extensive widening participation programmes exist. One respondent noted that a lot of the funding for this type of interaction has been cut and that the demands on the time of schools and higher education representatives are such that it is very difficult to organise and sustain, especially within a two year A level qualification. As a result, contributing to the design of A levels and other qualifications might be seen as the only systematic way of higher education engaging with 16-18 year olds at school.

Addressing the perceived skills gap through the design of A levels

Reflecting on the previous chapters, many of the things that universities and employers would like to see improved in the A level system, particularly around encouraging the development of core skills and the right orientation for higher education, might not be solved by having higher education more involved in the development of separate subjects. There is the risk that greater involvement by HEIs and employers in the design of specific A levels would focus on the content of criteria and, as a result, would not address than the skills gap seen in some students who have taken a 'set' of A levels. Thus many of the issues raised in this report concerning students' core skills, academic skills and orientation would continue to cause problems for employers and universities. As noted in Chapter 5, HEIs appreciated that the skills of first year undergraduates would be varied and that they will always require some action to get students to the same level. In terms of the structure of A levels generally, higher education sector interviewees feel that some exposure to different methods of learning would be valuable at A level as opposed to a perceived focus on learning to pass an examination.

The respondents that we spoke to did not usually directly express ideas about how they could be involved in any process that would help to address this perceived skills gap. This was partly because they saw the causes as part of the A level system and the education system more broadly, and it was difficult for them to visualise how they would be involved as employers or subject teachers at HEIs.

However, analysis of the specific skills issues, and suggestions by teachers, explored in more detail in Chapter 7, suggest several changes that could be made to the A level system and to the structure of specific A levels to help to address some of these

gaps. It should be noted that some interviewees were of the opinion that the changes to A levels made in 2008 (which were seen as an attempt to address some of these issues around skills and challenge) had only just begun to bed down and deliver some improvements, and the effects of these changes should be reviewed before more are introduced.

- A more linear system of learning, where this is appropriate to the subject. In most subjects, it was thought that this would allow the time for a more coherent educational experience, one in which students gain a theoretical oversight of the subject and retain knowledge at entry for HE; and have more time to develop their academic and critical skills.
- Changes to the resit system, potentially to apply restrictions to one resit per module with the second mark the final one. This might help to decongest Sixth Form timetables, allowing students to spend more time on and thus think more holistically about their subjects, as well as developing the mature attitude to examinations necessary for study at HE;
- Better incorporation of synoptic learning in A level specifications, and more appropriate examination of this type of learning in order to develop the academic and critical skills needed for higher education. This would vary by subject, and could mean a synoptic module or exam paper, which was generally seen as appropriate in STEM subjects, or a piece of extended coursework in the humanities;
- Changes to methods of assessment so that students' skills (both general and subject specific) are being assessed, as well as their knowledge. This might include, as appropriate, more use of coursework, practical assessments including laboratory and fieldwork or oral examinations. However, it is recognised that such changes face significant constraints due to the volume of students taking A levels.

At the broadest level, most of those in higher education and some employers would appreciate changes to the A level system aimed at ensuring better core and critical skills among students. A small number of higher education interviewees had strong

views on the development of a Baccalaureate-style system in which students, along with their three main A levels, would have to undertake some form of independent learning which involves:

- A sustained piece of written coursework (along the lines of the EPQ);
- Show some development of Mathematics;
- Undertake formal study of critical thinking skills; and,
- Potentially studying a language.

It was felt that an overarching qualification covering the points above would better equip the students not only for academic learning, but for the jobs market in which they are competing with graduates from all over the world who may have had a much wider upper secondary education than what is currently on offer in the UK.

However, most higher education interviewees did not see the need for moving to a system very much broader than the one we have now, because, as noted throughout this report, the level of specialism that the A level system currently entails broadly 'fits' the higher education system in the UK, particularly with regards to STEM subjects. In addition, there was concern among some in higher education, as well as teachers, that a Baccalaureate system, and in particular the IB, is only suitable for students of very high ability.

As outlined in Chapter 5, it seems that most of higher education respondents would be satisfied if the skills that they perceive to be lacking were developed within the three main subjects, or at most through 'additional' A or AS level subjects such as Critical Thinking, English Language or use of Mathematics, or extra qualifications such as the EPQ. The higher education representatives we spoke to were not concerned about whether or not the qualifications that develop these skills were included in the admissions criteria for their course or institution. They saw the development of these skills as a crucial part of the A level system's purpose of preparing students for higher education (as opposed to other possible purposes).

Summary

On the question of who should be involved in the design of specific subject A levels, interviewees suggested a variety of different audiences. There was also a general feeling that HEIs could be more involved than they have been in the recent past. However, queries were raised as to how feasible this is and there were barriers identified to higher education sector involvement not least of which was the time required to input into all specifications for every board. Higher education sector interviewees felt that the optimal outcome might be for Ofqual to convene and coordinate the involvement of a representative group of HEIs and other stakeholders in offering substantive input at the criteria stage, and then involve these same people at the review and accreditation stage, when it receives specifications from Awarding Organisations. Interviewees felt that in this way; Awarding Organisations could involve HEIs and other stakeholders in their own specification designs as they see fit, although it may be that Ofqual would mandate the level of consultation needed as a part of their regulatory responsibilities. In addition, interviewees from the higher education sector felt an efficient way of involving Learned Bodies at this stage would be valuable, as well as a reconsideration of how to compensate them and any higher education representatives involved for their time.

As to the A level system more generally, the audiences interviewed found it difficult to envisage how they might be better involved. However, it was thought that a move towards a more linear system of examination, changes to the resit system, better incorporation of synoptic learning, and changes to methods of assessment could all change the student experience of upper secondary education and go some way towards better preparing them for higher education and the world of work.

Conclusions

Overall conclusions

Overall, the A level system works well for many students and most Middle and Low-tier HEIs. The main issues highlighted throughout this report concern high achievers at A level, the HEIs these students will apply to and certain subjects. However, any changes made to the A level system to alleviate these problems will affect *all* of those connected to higher education.

A level pass mark data shows that students increasingly achieved better A level grades between 1996 and 2010. HEIs do not report a comparative increase in the abilities of first year undergraduates, despite the rise in the number of first class degrees over the same time period. If anything, students' theoretical subject knowledge was said to have grown broader but shallower and some foundation academic skills declined to the degree that remedial action by HEIs to correct these deficiencies has increased. It should be noted that at some of the HEIs represented in this research, the student body increased over this time, which may help explain the wider mixture of abilities these HEIs experienced. However, these were the very institutions that had raised the UCAS tariff points they demanded for entry without significantly affecting demand. These institutions did not report a corresponding reduction in remedial action to help plug gaps in knowledge or skills despite higher entry requirements.

The review of the literature and the primary evidence collected in this study suggests that students are instead getting better at passing exams, and teachers are getting better at training students to do so. The reasons for this improvement were felt to be due to several structural elements of A levels:

- The modular structure of A levels rewards students who take a conscientious approach to learning what will be tested by the syllabus at regular intervals. A linear structure is felt to be a better way to assess students on their understanding of the topics within a subject and their abilities to make connections and solve problems by applying their knowledge of these topics. Alongside these synoptic skills, a linear approach is also viewed as a better way of developing analytical and interpretive skills, and critical thinking. Such skills are seen as more valuable at the undergraduate level.

- Students can resit examinations simply to improve a passing grade, and can resit multiple times.
- A level teachers concentrate on teaching the test not the subject. They are under significant constraints to deliver the curriculum within the modular timetable and due to the pressure of maintaining their school or college's position in league tables.
- The increase in the number of A level students places pressure on Awarding Organisations as more papers require marking. Due to constraints on time, resource and because of the overall importance of grades to the students and their schools, methods of external assessment need to be transparent and easily administered. The drive for reliable grades means methods of assessment which might provide a better indicator of ability cannot be used because they are too costly to assess externally, take too long to administer or rely on marking through professional judgement which is more open to challenge.

However, we found a genuine appetite among teachers to move away from a focus on exams and towards a system A levels in which they had greater freedom to teach, less emphasis on assessment, and could advise all students to take the subjects that most interested them, rather than those it is perceived that they will get the best grades in. Whilst schools can offer differently structured A levels within the current system, the competitive pressure applied via school league tables and the potential effect on students at their school act as barriers to their adoption. A school or college is competing for students with others. Any changes made that decrease emphasis on assessment need to be mandated across the system rather than chosen by individual schools. This is because of a perception that a school offering a modular structure with resits would have an advantage in the grades it could achieve compared to a school offering a linear qualification with final exams.

Our discussions with A level teachers and some in the higher education sector pointed to some key opportunities for improving the design, regulation and application of the A level qualification. Ofqual has a crucial role to play in helping to initiate some of these improvements because it is perceived to be the only body

working in the sector that is fully independent and whose objective is to maintain standards. Such improvements include:

- Ensuring that A level qualifications are equally difficult across Awarding Organisations and, insofar as possible, subjects would help mitigate concerns about students being less prepared for higher education or employment due to them studying a specification or a subject which is perceived to be less demanding;
- A more rigorous assessment of synoptic learning which is taught throughout the A level course could help identify those students who are the most prepared for higher education, and should form a key part of being able to achieve a high grade;
- A move away from modular assessment – although not necessarily to a full two year linear model – would foster an environment where students are more able to develop synoptic learning and allow more space for teachers to focus on skills and subject narrative. It might also give students time to explore their subject independently, or develop their skills for higher education by taking the EPQ or other enriching qualifications; and,
- A review of the way in which students are able to resit exams would encourage a more appropriate attitude to learning and completing assessment at higher education.

However, the role of Ofqual could be further strengthened if the purpose of A levels was clarified. Any such decisions around this role would have to be taken at a ministerial level within the Department for Education. This research suggests that clarifying the role of A levels could have numerous benefits for the higher education sector, employers, teachers and the students who take them.

The potential purposes of the A level are numerous and include: differentiating between the very best and less able students to aid university selection; allowing all students to attain some sort of useful grade for entry into higher education or the wider world of work; preparing students for employment. These purposes may not always conflict; our research suggests that if the primary purpose of the A level was

seen to be developing the skills necessary for higher education, the skills gap could be addressed, and the A level could still fulfil the other purposes listed. If the A level were seen to be more successful in developing academic skills, this would raise its status as a qualification and thus benefit all students taking it, whether they were continuing on to work or higher education. There is evidence that the academic skills resulting from a linear structure address the needs of employers who seek maturity and a higher level of cognitive skills from A level job applicants. By directly focusing A levels to meet the needs of the higher education sector, the needs of employers could be met indirectly.

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Appendix 1

Sample structure of interviewees

HEI Interviews Achieved by Tier	
Top Tier	23
Middle-tier	18
Low-tier	14

HEI Interviews Achieved by Subject Area			
Admissions/Vice Chancellors: 11			
STEM		Non STEM	
Mathematics	3	Psychology	3
Engineering	4	Geography	1
Aerospace technology	1	English	2
Plant Sciences	1	History	3
Chemistry	1	Creative Arts	3
Physics	2	Economics	1
Biomedical Science	4	Linguistics	2
Computer Science	2	Social Studies	3
Biotechnology	1	Media and Music	1
Accounting	1	Architecture	1
Archaeology	1	Law	1
Dentistry	1	Religious Studies	1
Total Achieved	22	Total Achieved	22

HEI Interviews Achieved by Country	
England	37
Ireland	9
Wales	9

Interviews Achieved with Learned and Strategic HE Bodies	
Strategic HE Bodies	5
STEM Learned Bodies	4
Non STEM Learned Bodies	2
Awarding Organisations	5

Recruitment of Schools	
Establishment Type	
Maintained School	4
Maintained school (where IB taught)	2
FE/Six Form/Tertiary College	2
Independent School	2
Average Point Score	
High	3
Medium	4
Low	3
Subject Grouping	
Humanities	5

STEM	5
Total	10

Recruitment of employers	
Business Sector	
Blue Chip & Retail	1
Blue Chip Multinational IT Company	1
Charity	1
Commercial Services	2
Commercial Services/ Retail	1
Commercial Services/ Hospitality	1
Manufacturing	3
Multinational Distribution Company	1
Multinational Manufacturing	1
Multinational Security Systems	1
Production	3
Production/ Manufacturing	1
Retail & Distribution	1
Transport	1
Water Filtration	1
Total Employees	
1 - 40	4
41-249	6
250+	10
Region Workplace Based	
London	3
Midlands (Birmingham)	3
North England (Leeds)	3
Northern Ireland (Belfast)	2
Scotland	3
South England (Bristol)	1
South England (Hampshire)	1
South England (Norfolk)	1
Wales	3
Total	20

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