Conclusion

Returning to the theorised links between extended essay marking mode, processes and outcomes (Figure 1), it appears that mode does have an important influence on some examiner marking processes, but that this does not necessarily influence their marking outcomes. The key practical implication of the findings of this project is that extended essays can be marked on screen without necessarily compromising accuracy. This project supports the conclusions of the Johnson and Nádas (2009) project, and quantitatively demonstrates that the marking of extended essays on screen is feasible. The finding that mode did not present a systematic influence on essay marking outcomes can help to reinforce the defensibility of those marking outcomes and contributes in some way to the maintenance of levels of trust in the assessment system. These findings are of great importance to educational assessment agencies and their stakeholders, and potentially opens the way to the expansion of screen marking to high stakes assessments involving extended essays.

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EXAMINATIONS RESEARCH

The effects of GCSE modularisation: a comparison between modular and linear examinations in secondary education

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In this article, a summary of some key aspects and findings from a research project carried out to investigate the effects of modular assessment at GCSE level is presented. The research is described in depth in Vidal Rodeiro and Nádas (2010).

Introduction

GCSEs (General Certificates of Secondary Education) are the qualifications taken by the largest number of students in England. Over five million GCSEs were awarded in 2009, across a range of more than 40 subjects.

As part of the reform of 14–19 education, the national regulator in England revised the subject criteria for GCSEs in collaboration with teachers, awarding bodies, subject associations, higher education organisations and other interested parties. One of the main changes to these qualifications was the increase in the number of unitised or modular specifications.

Up to 2008, modular GCSE specifications were mainly confined to English, ICT, mathematics and science subjects, but since September 2009 almost all specifications are modular in structure, meaning that GCSEs are more in line with A levels, which have been modular since 2000.

A modular specification is one in which the content is divided into a number of units or modules, each of which is examined separately. Module examinations may be taken in different sessions (e.g. January, March, June) and any or all modules may be retaken if the student wishes, with the highest mark for each module retained. However, GCSE

qualification criteria (QCA, 2008) states that unitised specifications must:

- contain a maximum of four assessment units in a single award;
- allocate a weighting of at least 20% to each assessment unit;
- allocate a weighting of at least 40% to terminal assessment;
- allow only one re-sit of an assessment unit, with the better result counting towards the qualification (subject to the terminal rule);
- ensure results for a unit have a shelf-life limited by the shelf-life of the relevant specification.

Linear specifications are usually examined after two years of continuous study, and a candidate normally sits two, three or four papers.

The OCR[1] awarding body took this opportunity to improve the quality of their GCSEs in three key areas: updated and relevant content; focus on developing students' personal, learning and thinking skills; and flexible assessment.

This research focussed on the third key area: *flexible assessment*. This change, which was developed by OCR following extensive consultation (involving teachers, heads of department, local authority advisers, subject associations, professional membership groups and other subject experts), gives schools the flexibility to choose the assessment approach best suited to their students.

The assessment of the new OCR GCSEs is organised into units which can either all be taken at the end of the course in a linear fashion, or can be taken in different sessions throughout the course (for many subjects, assessment is available twice a year) to follow a more unitised approach to teaching and learning. It should be borne in mind that unitised does not mean staged. Units can be taken in any order, rather than being restricted to being assessed in a particular sequence.

When modular and linear paths exist for the same subject, it is left to the schools to decide whether the assessment of any particular subject should be modular or whether they should enter candidates for the linear examination.

Over recent years, there has been a clear trend in the development of the upper secondary curriculum to increase the use of modular or unitised qualifications. In particular, in the 1980s much interest was shown in modular courses and many such courses were developed and introduced in British secondary schools. As a result, the rationale for modularisation and many of the issues arising from it were addressed (see, for example, SEC, 1987; Moon, 1988; or Warwick, 1987).

The drive behind some of the attempts to modularise qualifications came from teachers seeking to make the curriculum more relevant to their students and to increase their motivation through the setting of short-term assessment targets. An early example of modular assessment within the school examination system is described in Thomas (1993), who discussed the introduction of a modular science course and the reactions of teachers to this course, focussing, in particular, on the impact on organisational issues and teaching methodology.

The earliest attempts to modularise A levels occurred in the 1980s/1990s, for example, the Wessex A levels (Macfarlane, 1992) or the UCLES scheme (UCLES, 1986; Nickson, 1994). However, by the early 1990s there were already concerns about modular courses being too easy in comparison with terminally examined courses. Some of the reasons for these concerns were: modular courses had been associated with lower

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1. Oxford Cambridge and RSA Examinations

attaining students; candidates could retake modules to improve grades; and candidates could be examined on parts of a subject rather than on the entire syllabus. Others argued that modularisation could make the courses more difficult because candidates were expected to work and be assessed at A level standard from the first module taken early in the first year and therefore might be potentially disadvantaged by their relative immaturity, if not their narrower experience of the subject. In fact, on the subject of modular syllabuses, UCAS (1994) stated 'It should be clearly understood that modular syllabuses are no easy option, as all modules are assessed to full GCE A level standard without allowance for maturation, including those taken at an early stage in the course'. It was the Dearing Review (Dearing, 1996) that provided the template for the current model of modular A levels and led to the development of the 'Curriculum 2000'. As a result of the implementation of this initiative, a number of evaluations and reviews were carried out to ensure the validity and reliability of the modular assessment and the challenges to the quality of teaching and learning (e.g. Hayward and McNicholl, 2007).

The proponents of modular schemes have long argued for their advantages in terms of curriculum flexibility, short-term assessment goals, regular feedback, re-sit opportunities and increasing motivation for students. On the other hand, critics of the modular assessment claim that it leads to fragmentation of learning, students entering examinations when not ready, more teaching to the test and over-assessment. Furthermore, it is also being claimed that GCSEs are becoming less and less demanding, which might lead to a diminution of trust in the qualification among the general public, higher education tutors and university admissions staff. Studies have identified a number of advantages and disadvantages of modular assessment which are discussed in detail in Vidal Rodeiro and Nádas (2010) and briefly outlined below.

Advantages of modular courses and assessment

- There is a choice of learning approach: linear or unitised;
- the assessment can be timed to match the point of learning within the course, making it easier for candidates to show what they know, understand and can do;
- students can re-sit a unit rather than repeat the entire assessment;
- modular feedback enables students to 'remedy weaknesses' before the final examination;
- students are better motivated as they receive feedback on performance more frequently and earlier in the course;
- the pace of students' work is brisk at the beginning of the course;
- a unitised approach makes it easier for students to stay on track with their studies and manage their time effectively;
- the assessment load is spread more evenly over two years, reducing examination stress and the pressure of an 'all or nothing' assessment;
- modular assessment enables students to plan their studies;
- revision is more manageable;
- assessment is potentially more reliable because it is based on more assessed work in total (e.g. in GCSE in Religious Studies there were 147 raw marks available in the linear specification (OCR, 2000) and 192 in the modular specification (OCR, 2009));
- with a similar format to A levels and Diplomas, the unitised GCSEs will help prepare students for the next phase of their education;
- a sense of ownership is forged, leading to less disaffection among students.

Disadvantages of modular courses and assessment

- There is a danger of fragmentation of learning and lack of coherence in learning programmes due to both the teaching methods and the assessment practices;

- there can be a poorly developed overview of subjects and an inability to connect discrete areas of knowledge;

- adopting a modular approach can disrupt the provision of a coherent and developmental course;

- assessment becomes dominant throughout the course, rather than towards the end of it;

- deadlines on units can limit a teacher's ability to teach important topics in the way that he or she would choose;

- it is possible for a student to sit an examination before being ready (disregard for individual intellectual maturity);

- short-term targets often dominate over longer-term goals, encouraging a cram-and-discard approach;

- if re-sits are not well managed, students could re-sit too many modules. This increases pressure on school resources and on students' workload;

- the general public, higher education tutors and admissions staff are less trusting of modular qualifications, which they perceive to be easier.

Aim of the research

This project combined quantitative and qualitative research methods to investigate the impact of modular assessment on GCSE students.

The main aim of the statistical strand was to explore the differences in outcomes between candidates who took assessments in GCSE specifications in a terminal or linear approach (all units at the end) and those who adopted a modular approach (taking units throughout the two-year course).

The qualitative strand of the project aimed to investigate, in the school context, the effects of modularisation on students and teachers in terms of motivation, consistency and amount of workload, exam pressure and effects of feedback.

In particular, the research aimed to answer the following questions:

1. Are there differences in examination outcomes between the students who take assessments in a terminal or linear approach and those who adopt a modular approach, once their general ability is taken into account?

2. Are students at a disadvantage by their relative immaturity or narrow experience of the subject if they enter for an examination early?

3. Are students benefiting from being able to re-sit modules?

4. Does regular feedback (positive or negative) motivate students?

5. Does regular feedback help students to identify their learning needs?

6. Does modular assessment remove the pressure of an all-or-nothing exam?

7. What are the characteristics of modular students' test-taking motivation?

8. What are teachers' attitudes towards modularisation and what is the impact of modular assessment on their workload?

Research methods

Previous research (e.g. Ofsted, 1999) has suggested that modular specifications work most successfully in subjects such as mathematics or physics and are less suited to subjects like English or modern foreign languages. Therefore, two contrasting subjects at GCSE level were selected for this research: English and mathematics. Only candidates who sat an examination in these subjects with the OCR awarding body were considered.

For the quantitative strand of this research, examination outcomes in both subjects, at specification and at unit level, were obtained from OCR's examinations processing system. The data comprised personal details (name, sex, date of birth and school) and assessment details (session, tier, final mark and final grade). Six successive cohorts of English students (2004–2009) were investigated. However, as the unitised GCSE mathematics specification was first certificated in 2008, only two cohorts of mathematics students (2008–2009) were available for analysis. Descriptive statistics were used to investigate the entries and the re-sit patterns for both assessment routes and regression analyses were carried out to explain the differences in attainment between linear and modular routes once the general ability of the students, measured by prior/concurrent attainment at school, was taken into account.

In the qualitative strand of the research, questionnaires and face-to-face interviews with students and teachers in schools offering either modular or linear GCSE English and/or GCSE mathematics were carried out in order to collect data on motivation, feedback, exam pressure and workload. In particular, data on motivation was collected using an intrinsic motivation inventory survey developed by Ryan and Deci (undated), which has six subscales – choice, competence, effort, enjoyment, pressure and value – that measure different aspects of test-taking motivation; effects of feedback on students were mapped in interviews conducted after candidates had received the grade reports on the unit examinations; and perceived workload data were collected via a survey in the form of a self-report workload chart for students and teachers to fill in retrospectively. In the qualitative strand of the research, 62 students and two teachers of GCSE English (all in one school) and 61 students and two teachers of GCSE mathematics (grouped in two schools) took part.

The structure of the two subjects considered in this research is described briefly below.

GCSE in English

The OCR GCSE in English (OCR, 2003) has a unit-based structure, enabling both linear and modular assessment routes. Units which are externally assessed by written examination contain two options: a foundation tier component and a higher tier component. Coursework units are not tiered. Table 1 shows the specification structure.

In order to certificate for a GCSE in this subject, at least four units must be taken, including:

– one component from Unit 1

– one component from Unit 2

– *either* one component from Unit 3 or Unit 4

– Unit 5

Although the specification is unit-based, it is possible to follow a linear route and take all the necessary units in the same examination session.

For the modular/unitised route, four or more units, as specified above, may be entered across two or more examination sessions. Units may be re-taken once, if wished, prior to certification and the better score will be used towards the overall grade (subject to the terminal rule). However, at least 50% of the qualification needs to be taken as terminal external assessment.

The first certification session for this qualification was June 2004. Thereafter, assessment was available in January and June each year.

Table 1: OCR GCSE in English structure (OCR, 2003)

Unit	Option	Title	Format
1	2431 F	Non-fiction, media and information (Foundation Tier)	Written Exam
	2431 H	Non-fiction, media and information (Higher Tier)	Written Exam
2	2432 F	Different cultures, analysis and argument (Foundation Tier)	Written Exam
	2432 H	Different cultures, analysis and argument (Higher Tier)	Written Exam
3	2433 F	Literary heritage and imaginative writing (Foundation Tier)	Written Exam
	2433 H	Literary heritage and imaginative writing (Higher Tier)	Written Exam
4	2434	Literary heritage and imaginative writing	Coursework
5	2435	Speaking and listening	Coursework

GCSE in mathematics

OCR offers three different routes to obtain a GCSE in mathematics:

  – GCSE mathematics A: Linear Assessment

  – GCSE mathematics B: Mathematics in Education and Industry

  – GCSE mathematics C: Graduated Assessment (unitised)

The focus of this research was on GCSE mathematics A and C. Both subjects are identical in content but different in structure.

The scheme of assessment for the GCSE mathematics A (OCR, 2006a) consists of two tiers, foundation and higher. In each tier, candidates have to sit two examination papers and submit coursework. Candidates wishing to re-sit this qualification must re-sit both written papers at the appropriate level but may carry forward their coursework mark.

The GCSE mathematics C (OCR, 2006b; OCR, 2007) has been divided into a series of ten stages which are graduated in content and level of difficulty. Corresponding to each stage a module test was set. Table 2 shows the qualification structure.

Candidates normally take the course over two years and must enter at least two different module tests. Most modules are available in January, March and June sessions and in most cases they target a pair of grades. All candidates have to take one terminal examination. The tier of entry for the terminal examination determines the overall grades available to the candidate. Candidates may re-sit any module test once prior to certification and the better score is used in the aggregation. After certification, candidates who wish to re-sit must sit at least the terminal paper again, but might carry forward their coursework mark (if applicable) and/or their module test marks.

Both qualifications were first certificated in June 2008. Thereafter, certification was available in January and June each year.

Table 2: OCR GCSE in mathematics structure (OCR, 2007)

Units	Target grade
M1	G
M2	G,F
M3	F
M4	F,E
M5	E
M6	D
M7	C
M8	B
M9	A
M10	A*
TF – Terminal Paper (Foundation Tier)	G–F, E–C
TH – Terminal Paper (Higher Tier)	D–C, B–A*

Key findings

Entries and assessment route

● Higher percentages of candidates entering for a GCSE in English followed a linear assessment route than a modular assessment route (e.g. 80% vs. 20% in 2009). However, entries for the modular assessment route were on the increase in the period of study and entries for the linear route were decreasing. On the contrary, the majority of the candidates studying for a GCSE in mathematics followed a modular assessment route (e.g. 63% vs. 38% in 2009).

● In four of the five GCSE English units the majority of candidates took the examination in the terminal session. However, the percentages of candidates sitting units in early sessions had been increasing over time. It can be the case that the more able students are being stretched by completing some modules at an early stage and then progressing to other work. The entries for the remaining unit were well spread throughout the two-year course. In GCSE mathematics, for the majority of the units, less than 20% of the entries were for the terminal session. This shows that, in mathematics, candidates made use of the flexible assessment by getting units out of the way rather than taking them in a narrow window at the end of the two-year course. In particular, the majority of the mathematics students interviewed in this research reported that they welcomed external examinations during the school year.

● Previous research into modular examinations (e.g. Ofsted, 1999), showed that modular syllabuses are more successful in mathematics and are less suited to English, where the assessment can interrupt the teaching of themes that run across more than one module. In this research, the proportions of candidates who took all their module examinations in one session suggest that modular assessment is thought less appropriate for English than for mathematics. The results from the qualitative strand confirm that the students of mathematics were generally in favour of modular assessment and the students of English appreciated some characteristics of the modular assessment but they did not express a strong preference towards modularisation.

● Both strands of this research show that the introduction of the unitised specification in GCSE English did not lead to many changes in the way the subject was taught, studied and assessed, as it mostly continued to be addressed as if it were linear in design. Factors such

as maturity or parallel teaching across modules in English might have led many students to sit the majority of their modules terminally.

- The degree of flexibility in the number and timing of the modular examinations was illustrated in this research by the large number of unit combinations that led to a GCSE in each subject. This proves that modular syllabuses are seen as a method of giving students a degree of choice in syllabus content and assessment session. However, the most frequent combinations of modules may be more likely to reflect the teaching resources available within a centre or the schools' preferences as opposed to any other factors. The reasons why schools offer modular syllabuses in certain subjects or prefer the linear approach in others warrants further study as modular courses are becoming increasingly popular.

- It should be noted that due to the 'newness' of the modular schemes at GCSE, the pattern of entries may be reflecting some experimentation on the part of the teachers in deciding the points in the course when their students should sit the examinations. Also, it is possible that different patterns of entry may emerge as the modular schemes mature and teachers and candidates become more confident in making decisions regarding the most appropriate time to sit module examinations.

Linear assessment vs. modular assessment outcomes

- The quality of the entry in each of the assessment routes was different. GCSE English students following a linear assessment route had, on average, higher ability than candidates following a modular route. Mathematics students following a linear assessment route had slightly lower ability; this might be due to the fact that lower ability mathematics students do not welcome many external exams during the school year due to the additional workload involved and they prefer an end-of-year examination. This fact has been confirmed by the mathematics students interviewed in the qualitative strand of this research. It was important then to take into account students' ability when talking about the performance in each of the assessment routes.

- In GCSE mathematics, candidates following a modular route obtained higher grades than candidates following a linear one once their ability was accounted for. In contrast, and contrary to anecdotal evidence, which suggests that with modular syllabuses it is easier to attain higher grades, modular routes in GCSE English led to lower grades than linear routes.

- It should be noted that the fact that candidates obtain higher grades from a modular scheme does not necessarily mean that standards have dropped. It has been suggested (e.g. Gray, 2001) that, in a modular scheme, setting targets throughout the course, having ongoing feedback and allowing a certain amount of re-taking within the course leads to candidates learning more – thereby obtaining higher grades.

Maturational effects

- According to previous research, candidates cannot be expected to perform as well in early sittings as they would later on in the course (Clarke, 1996; Taverner and Wright, 1997). Students might be at a disadvantage if they are entered for an examination before being ready as they might not have the experience of the two-year course

and might be at different levels of age and maturity. Therefore, there can be powerful arguments for linear assessments as certain skills may develop progressively through several modules.

- This research showed that, in the modular routes of GCSE English, students opting for certificating midway throughout the course[2] were at a disadvantage compared to those who opted for certificating at the end. Girls were at a greater disadvantage than boys. The gender effect was in line with previous research which showed that boys were more likely to take advantage of modular examinations than girls (McClune, 2001). On the other hand, girls following a linear assessment route and certificating early in the two year course had a higher probability of achieving a given grade or above than those who certificated late. In English, subject maturity, which is thought to improve performance, is important and the modular route is, therefore, a more difficult one. This finding is supported by previous research (e.g. SCAA, 1996).

- For GCSE English, maturational effects differed by unit. In the modular assessment route, candidates sitting early any of the three externally assessed units (by written examination) did not perform as well as those sitting them later. At unit level, analyses by gender did not reveal statistically significant differences between boys and girls. In the linear assessment route, girls, who are generally considered to mature earlier than boys, seemed more likely than boys to benefit from taking the examination early in any of the three externally assessed units. Boys, on the other hand, seem more likely to benefit from taking the examination in the later part of the course. However, early assessment seemed to be an advantage for both girls and boys in the coursework units in both the linear and the modular routes. Students might have wanted to carry out their coursework assignments early in the course to relieve the workload towards the end of the year and they worked hard to do so.

- GCSE mathematics students obtained, on average, significantly higher marks in early sessions than in later sessions. In particular, candidates taking modules targeting grades A*–D (modules M6 to M10) performed much better, after allowing for their ability, in the earlier sessions than in the terminal session.

Patterns and impact of re-sits

- In both GCSE English and GCSE mathematics the research showed an increase over the period of study in the percentage of students taking re-sits (e.g. the percentages of students taking re-sits in English increased from 4% in 2004 to 10% in 2009 and in mathematics from 46% in 2008 to 52% in 2009). However, some schools have the view that the number of re-sits should be limited since they are expensive, cause timetabling problems and many students do not make sufficient progress to warrant them.

- Looking at the changes in marks/grades between the first and second attempts of a unit, the benefits of re-sitting seem clear. Across all units investigated in this research, the majority of candidates did better on their second attempt than they had on their first, with percentages of students obtaining an improvement in the unit grades ranging from 25% to 65%, depending on the unit and the subject[3].

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2. Students completed the course following a modular route but they did so in less than two years.

3. These are percentages of students taking re-sits and not percentages of the total entry in the relevant unit.

It should be borne in mind, however, that the knowledge that a re-sit was available may have lessened a candidates' resolve to do their best at the first attempt. Students of modular syllabuses interviewed in the qualitative strand of this research mentioned that the possibility to re-sit a module relieved some of the stress and pressure of the modular exams and admitted that they would have worked more had there been only one chance for them to pass their examinations.

- The fact that a relatively high percentage of students improved their unit marks/grades after a re-sit taken later in the course may suggest that some students were entered for unit examinations before they were ready. Teachers, therefore, will need to make sure that their students are ready when deciding the points in the course when they should sit the examination. There might be the case that candidates take examinations at an early stage of the course to familiarise themselves with the demands of the modular examinations or as confidence/motivation building sessions. Other candidates might take them at a later stage to improve an earlier result.

- The differences in the re-sitting patterns by centre type were small, with the percentage of students taking no re-sits being higher in the independent sector. This was in line with a study carried out by QCA (2007) about re-sitting patterns and policies in respect to GCE A levels in seven subjects (including English literature and mathematics) which indicated that there was very little difference in the scale of re-sitting behaviour in terms of centre type. However, the QCA study highlighted that there were differences across the different centre types in terms of the training that a candidate might receive when preparing for a re-sit. For example, in a number of independent centres unlimited support had been given to candidates wishing to re-sit in comparison to the majority of the state schools, where past papers tended to be all that was offered to re-sitting candidates.

- Opinions are divided as to whether re-sits should be allowed. Re-sits are perceived by some as unfair as some candidates might not have the opportunity to attempt one unit twice (maybe due to school policies on re-sits or cost). It should be borne in mind that there is some improvement that is 'valid'. For example, students might have performed better in the re-sit than in the first attempt of an examination due to extra teaching or personal circumstances out of their control which may have affected performance at the first sitting. Also, there is a maturation benefit and, for example, students may be able to improve their general understanding and ability in a subject over time.

Regular feedback

- Students of all abilities taking GCSE English or GCSE mathematics found feedback (positive and negative) useful and motivating and reported that it encouraged them to do better on the next modules and/or on the terminal papers. Students appreciated seeing the units' grades and they felt that they received feedback soon enough after sitting the exam. Students also found it useful to be informed about how much improvement they could expect in their terminal paper.

- Mathematics students were more satisfied with their grade reports (most common form of feedback) and gained more information from them than students of English. Furthermore, mathematics students found it easier than English students to identify the strengths and weaknesses of their performances.

- However, grade reports were not helpful in identifying students' learning needs and informing their learning strategies. Students reported missing the opportunity of going through their own marked papers (as the scripts arrived too late after the examination) or receiving suggestions about the areas they needed to improve on in order to change, if necessary, their focus of learning and strategies of exam preparation.

The pressure of an all-or-nothing exam

- Modular assessment does not remove the stress and workload of an all-or-nothing exam.

- Students in the modular routes reported that the pressure to achieve a good grade placed significant stress on them during both the modular and the end-of-year examinations. However, the possibility to re-sit modular examinations was mentioned as helpful in alleviating some of the examination stress experienced during modular exams, as it gave some students confidence about what to expect on their subsequent exams.

- Students of modular mathematics experienced longer periods of higher workload than linear students did in the first half of the year.

- For students of English, the workload varied considerably during the course of the year but there were no differences in linear and modular students' workload levels. Some students found the January modular exams quite stressful due to them coinciding with other unit examinations and the coursework assignments.

Students' motivation on modular exams

- Modular mathematics students perceived their modular exams to be quite valuable, and they were generally motivated to do well. However, the results of the survey indicate that these students did not really 'own' the examination, and that instead of being intrinsically motivated, they perceived it as an externally imposed, compulsory task. Students scored high on pressure and they reported putting forth a lot of effort during the sitting of the examination. On the contrary, students scored very low on perceived competence and perceived choice in sitting the exam, and they obtained the lowest ratings in the enjoyment scale.

- Students of English had high scores on effort and value, which implies that they appreciate the usefulness of the examinations and make appropriate effort to do well on them. Despite feeling under less pressure than mathematics students, students of English had low ratings for intrinsic motivation (i.e. for enjoyment, competence and choice).

Teachers' workload and attitudes towards modularisation

- Teachers in the modular assessment system appreciated the better planning opportunity around the exams, the clarity of the focus of their teaching requirements and felt that modular assessment contributed to their approach to assessment for learning. They also appreciated not having to re-motivate students at the end of the year and felt that modular assessment helped to encourage continuous study and revision in students who were difficult to motivate.

- Teachers in the linear route appreciated having more space and control to deliver the content effectively; furthermore, they did not

find it a burden to revisit topics and re-motivate students before the end-of-year examination. In particular, one teacher of mathematics was concerned about modular students having to revisit materials from long-forgotten modules before the final examinations and felt that the linear route allowed her to deliver the content more effectively and in a more enjoyable and mixed structure.

- Mathematics teachers' workload levels varied with the assessment route: the linear assessment placed very high levels of workload on the teachers at certain times whilst the modular assessment provided a more evenly spread workload rising throughout the year.

- English teachers' workload levels were continually increasing between September and December, when teachers were marking mock exams and preparing for unit examinations in January. From that point onwards, workload levels varied by teacher.

This research has addressed some of the key issues relating to the effects of unitised specifications at GCSE level (e.g. curriculum flexibility, short-term assessment goals, maturity, regular feedback to students, re-sits, increasing motivation) and provides evidence of students' and teachers' general attitudes to modularisation and reasons for the differences in the outcomes of students who took different assessments routes (linear vs. modular). It should be noted though, that the qualitative strand investigated only the views of a selected few students and teachers at three schools who do not represent all the population. However, by reporting the students' voice, the results of the statistical strand were enriched.

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