



Thrown in at the Deep End? Exploring Students', Lecturers' and Teachers' Views on Additional Support Lessons at University

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Abstract

The transition from school to higher education has attracted considerable attention in recent years. Research suggests that as they begin university study, students experience multifaceted challenges which are often attributed to ineffective pre-university education. In many countries, universities are addressing these challenges by offering additional support lessons, in an attempt to bridge new undergraduates' skills and knowledge gaps. The British Government has indicated its desire to reform A levels (qualifications for 16 to 19 year olds) in England and Wales to ensure better preparation for university study, through greater collaboration between schools and universities in curricular re-developments. The present study related to this issue. It explored the content of the additional support lessons for new undergraduates. It also explored the lecturers', undergraduate students' and teachers' views of these lessons. Case studies of additional support lessons were conducted at biology, English, and mathematics departments in nine contrasting English universities (three universities per subject). Qualitative data collection sessions comprised: lecturer and student interviews; lesson observations by researchers and A level teachers; and facilitated discussions between the teachers and lecturers. The case study data was transcribed, coded and analysed thematically. Comparisons across participants and universities related to multiple themes including: knowledge and skills covered in the additional support lessons; and recommendations for changes to be made to the content taught in the A levels. There were several commonalities in the content and skills covered in the universities' additional support lessons. In English, these included emphasis on critical thought development and academic writing. The focus in Biology was on data analysis and report-writing. The findings from this study are discussed in relation to longitudinal curriculum coherence. Furthermore, the methodology could be employed in other countries to inform curricular developments and school to university transition.

1. Introduction

A number of studies have been conducted to understand the learning experiences and levels of preparedness of first year university students [1] [2]. The general consensus is that several students experience academic difficulties in the first year, particularly in relation to independent learning, academic writing and critical thinking. To address these transitional difficulties, universities in several countries offer additional support to first year students. In a recent large scale survey, which asked lecturers in the United Kingdom for their views on student preparedness for university, 60% claimed that their institutions offered additional support lessons to new students [3]. A large proportion of the lecturers perceived undergraduates' lack of preparedness for university study to be linked to learning and assessment strategies developed at school.

Three main approaches towards additional support have been identified [4]: (i) 'bolt on' study skills which are offered as standalone modules; (ii) 'built in' integrated modules which embed the development of transferable skills with knowledge building within a subject area, and (iii) using particular pedagogical techniques to develop specific skills. For example, the mathematics department at a university in Hong Kong developed students' mathematical thinking by providing additional instruction in advanced calculus, axiomatic method, logic, and set theory [5], while the education department at an Australian university used various pedagogical processes to develop new students' skills in teamwork, note-taking and use of IT resources [6].

In England and Wales, A levels (Advanced Level General Certificates of Education) are the most common route to university study, and are typically taken by 16 to 19 year old students. A levels are studied over a period of two years: the Advanced Subsidiary component in Year 12 and the A2 component in Year 13. Students take between three and five subjects in Year 12 and usually drop one subject after one year [7]. The British Government has indicated its desire to reform A levels to ensure better preparation for university study, through greater collaboration between schools and universities in curricular re-developments [8]. The present study was conducted with the aim of exploring in depth



the additional support lessons in biology, English and mathematics, with a view to using the findings to develop more fit for purpose A levels in these subjects. The study addressed three research questions:

- What is taught in additional support lessons for new undergraduates?
- What are lecturers', undergraduates', and A level teachers' views of the lessons?
- Do the teachers think that the knowledge and skills covered in the additional support classes can be included in A levels, or are they already included in A levels?

2. Methods

A case study approach was employed to understand the content and structure of the additional support lessons offered to first year undergraduates in biology, English and mathematics. Nine universities across England were recruited to participate (three per subject). The universities varied in terms of their academic prestige and admissions criteria. Five types of Qualitative data were collected at each university.

Individual interview with a lecturer A lecturer who was involved in either the delivery or the organisation of the additional support lessons was interviewed about

- new undergraduates' preparedness for university study
- the effectiveness of additional support lessons
- recommendations for changes to be made to the A level content in their respective subjects. Nine lecturers were interviewed (one at each university).

A paired interview with second year undergraduate students Undergraduates who had some experience of the additional support lessons in their first year were interviewed on the following issues:

- the usefulness of specific A level subjects as preparation for university study
- the effectiveness of additional support lessons
- changes to be made to A level content. Sixteen second year undergraduates were interviewed across the nine universities.

Observations of the additional support lessons Teachers who had experience of teaching English, mathematics or biology at A level were invited to observe the additional support lessons in their particular subject at university. Each lesson was observed by one A level teacher and the research team. The teachers used an observation schedule to note their views on the content and pedagogy of the lesson. Six A level teachers participated in the study.

Reflective comments At the end of each data collection session, the A level teacher completed a 'reflective comments' form about the similarities and differences in aspects of the additional support lesson at university and A level lessons. These aspects included general and specific features of the coverage of content, type of pedagogy, and the nature of assessment.

Facilitated discussions Following the observation of the support lesson, an open-ended discussion was facilitated between the university lecturer and the A level teacher. These discussions offered teachers the opportunity to address any queries relating specifically to the lessons or the university course in general. It also allowed the opportunity for lecturers to obtain clarification on the coverage of content and skills at A level in their respective subjects. During the session, the teacher and lecturer were encouraged to discuss how the A level could be changed to become more effective in facilitating students' transition to university.

The case study data was transcribed, coded and analysed thematically. For each subject this article will:

- provide a brief overview of the content of the additional support lessons
- summarise some of the key views of participants concerning the lessons
- summarise participants' recommendations for changes to be made at A level.

3. Results

3.1 Biology

- Overview of additional support lessons

The biology departments had introduced the support lessons in the last four to twelve years. The lessons were offered in a formal and structured format. At all three universities, the main focus of the lessons was on general and subject-specific skills, and not particular content areas. The following



transferable skills were common to the lessons across the three universities: report-writing; literature search; data analysis and presentation; and laboratory skills.

- Views on additional support lessons

At all three universities, the students were positive about the support they received. They thought the lessons facilitated their understanding of the demands and expectations of university study, and developed specific skills which transferred to other areas of their degree course. The A level teachers felt that some of the skills targeted in these lessons (e.g. graph drawing, scientific calculations) were also taught at A level, but were covered more superficially at A level.

- Recommendations for changes to A level biology

There was a strong consensus amongst the lecturers, teachers, and students for inclusion of more extensive practical work in biology A level, as this would support the development of numeracy, report-writing and referencing skills.

3.2 English

- Overview of additional support lessons

The English departments had introduced these lessons in the last four to twelve years. The lessons were compulsory at all three universities and covered some subject-specific content (e.g. critical approaches) and a range of general skills (e.g. literature searches and referencing).

- Views on additional support lessons

Students were confident about the role that the lessons played in improving their knowledge of critical approaches in English. The lecturers and students were also optimistic about the usefulness of the lessons in preparing students for other areas of the course.

- Recommendations for changes to A level English

Several participants emphasised that increasing students' knowledge of the conventions on how to write an academic essay at A level would ease their transition to university. Lecturers, teachers and students advocated that introducing an independent essay into A Level English assessment would improve the development of critical analysis skills.

3.3 Mathematics

- Overview of additional support lessons

The Mathematics departments had introduced the additional support lessons in the last eleven to sixteen years. All the universities adopted a formal lecture format in these lessons, and focused on mathematical knowledge rather than skills. There was considerable variability in the content covered across the universities. Topics covered included differentiation and integration, A level mechanics, and, complex numbers.

- Views on additional support lessons

The students and lecturers felt that the main aim of these lessons was to acquaint students with necessary core knowledge in Mathematics, which some students may not have encountered at A level, or may have experienced in a different context. The A level teachers felt the lessons were building students' confidence to think critically about mathematical problems.

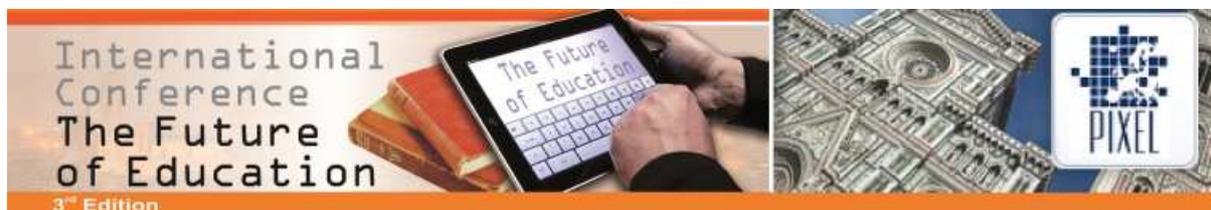
- Recommendations for changes to A level Mathematics

Several students thought that their transition to university would have been eased if they had been given some experience of proof during their A Level courses. The lecturers and teachers felt that mechanics should be prioritised above decision maths at A level. The teachers were also in favour of establishing greater links across different areas of A level mathematics.

4. Conclusions

All the universities in this study offered 'built-in' additional support to address first year students' transitional challenges. The focus in biology and English was on developing subject-related transferable skills, whereas in mathematics, the focus was on specific mathematical content. Although the selection of students was not random, all the students interviewed considered these lessons to be useful and relevant. The A level teachers who observed the lessons felt that there was some scope either for introducing new topics, or for emphasizing existing topics, in their subjects at A level.

The views collected in this study reveal that there is a need to introduce curricular reforms in A level biology, English and mathematics, to facilitate students' transition to university study. However, paramount to curricular reforms are sustained dialogues between teachers and lecturers. The method



used in this study facilitated participating teachers' understanding of academic expectations at university. Furthermore, it also developed lecturers' awareness of A level content in their subjects. This increased understanding of school and university contexts facilitated the discussions between lecturers and teachers about the potential changes at A level, and the feasibility of these recommendations.

A particular strength of the present study is that it explored transitional issues in considerable depth, for multiple subjects, at multiple universities. Most studies involving in-depth investigation of additional support at university tend to be based on single cases. Furthermore, most studies tend to collect views of either students or lecturers, whereas this study included perspectives from various key stakeholders. This method could be used to determine the specific areas for curricular reforms in other subjects in the UK and also in other countries.

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