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First-year teaching-learning environments in Economics

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Abstract:

This paper offers an analysis of selected first-year teaching–learning environments in economics. Evidence is derived from 41 semi-structured interviews conducted as part of the Enhancing Teaching–Learning Environments in Undergraduate Courses (ETL) Project with staff and students in three introductory economics modules from three different UK economics departments. The literature about teaching and learning economics at university level suggests that teaching–learning environments in economics adhere to a fairly uniform format and, as expected, each of the modules investigated was found to follow a content-driven lecture–tutorial approach, complemented by the use of textbooks and tutorial question sheets. The paper discusses the implications of such an approach for student learning. By applying and extending Biggs' notion of *constructive alignment*, variation between the three settings is attributed to attempts to align the environments with the students whom each module accommodates, in particular with students with and without previous knowledge of economics. The inductive, *problem-first* approach is interpreted as one possible way of aligning the teaching–learning environment with students, as it takes the importance of real-world examples and application of theory for student learning into account. This differs fundamentally from the more common deductive, *theory-first* approach.

1. The Enhancing Student Learning in Undergraduate Courses

(ETL) Project The ETL Project is part of the UK-wide Teaching and Learning Research Programme (TLRP), funded by the Economic and Social Research Council (ESRC), whose overarching purpose is to support and develop educational research leading to improvements in outcomes and to narrow the gap between educational research and educational practice. The ETL Project focuses on the nature of higher education teaching–learning environments within specific institutional and modular contexts and across contrasting disciplines, of which economics is one. The research is set in a range of institutions across the UK and carried out in collaboration with university teachers. The project team provides partner departments with rich empirical data on a first-year and a final-year undergraduate module or course unit, with a view to identifying existing and new ways of encouraging high-quality learning, and aims to develop conceptual frameworks that are tailored to specific disciplines. Our initial thinking about high-quality teaching–learning environments has been informed by prior research on student learning and a number of generic concepts.^(note 1) One of them is Biggs' notion of *constructive alignment* (Biggs, [1996](#), [1999](#)), which describes teaching–learning environments as complex systems in which all aspects must work together in harmony. Teaching–learning activities and methods of assessment in particular must be aligned with curriculum objectives. In a constructively aligned teaching–learning environment, the emphasis is on the way in which knowledge is constructed by the students. The ETL Project's interpretation of Biggs' notion of constructive alignment includes *alignment with students* and it will be shown in this article that alignment with students may be of considerable relevance for understanding and enhancing teaching–learning environments in economics.

The author of the present study is not an economist. The perspective taken is that of an educational researcher who has gradually gained familiarity with the discipline, predominantly through analysis of the empirical data collected in three different settings as well as through fieldwork, conversations with economists and a review of the economics in higher education literature. The focus of this article is on a description of discipline-specific practices that economists might take for granted, but which are notable to an outsider investigating the disciplinary nature of teaching–learning environments in a number of different subjects.

2. The nature of teaching-learning environments in economics:

insights from the literature Before moving to an analysis of the data that were generated by the ETL Project, this section briefly explores the way in which the literature depicts economics teaching–learning environments in higher education. The image that emerges from the literature is one of a relatively traditional, uniform environment characterised by a core of common teaching–learning activities on the one hand, and by attempts to innovate and introduce new approaches on the other.

Economics instructors frequently adopt a lecture approach, emphasizing passive learning, narrow forms of evaluation, few or no writing assignments, and a reliance on textbooks (rather than real books) and routine problems set. ([Siegfried, 1998, p. 67](#)) A volume edited by Becker and Watts

(1998) advocates departure from an approach which, according to its authors, is still the most widely used in US economics departments: 'chalk and talk'. Its pervasiveness does not appear to have changed over time (Becker and Watts, 1996, 2001) and there is an indication in the literature that lecturing is also a dominant feature of economics teaching in the UK. In the UK lectures tend to be complemented by relatively rigidly structured tutorials/seminars (Taylor, 2002a), during which prepared questions or worked examples are discussed (Taylor, 2002a; Sloman, 2002; Forsythe, 2002; Volpe, 2002).^(note 2) Uniformity is also evident in assessment.^(note 3)

Students are expected to prepare answers to a series of 'shortish' conceptual questions that are subsequently discussed in tutorials in an informal way under the leadership of the tutor, with the implicit expectation that the tutor provides model answers. Midway through the module, students submit an essay from a broad list of questions. The majority of the final mark comes from an unseen examination, usually taken at the end of the module. Students are normally asked to answer three or four questions of a fairly broad nature but closely related to the material of the lecture course and the principal textbook. Typically, answers are in essay form, each of them three or four pages in length. (Miller, 2002, pp. 4–5)

According to the literature, a standard approach is taken not only to teaching and assessment, but also to the selection and organisation of the curriculum. Various publications (Lawson, 1989; contributions to Walstad and Saunders, 1998; in particular, Siegfried, 1998; Frank, 1998; Boskin, 1998; McConnell, 1998; Davis and Erekson, 1998) seem to suggest the existence of a widely accepted, quasi 'natural' curricular progression. This general agreement and resulting curricular uniformity, which is also strongly reflected in undergraduate economics textbooks, appears to be linked, to a certain extent, to the dominance of the neo-classical approach to economics. Uniformity is also suggested by the fact that courses in different European countries use some of the same recommended textbooks (Gärtner, 2001). The homogeneity of textbooks regarding content coverage and the lack of radically new approaches to teaching and learning is striking and has been noted by several authors (Siegfried and Walstad, 1998; Walstad *et al.*, 1998). Despite debates and disagreement within the discipline and the emergence of new research approaches and paradigms, the core material in 'principles of economics' textbooks has not changed much and there is 'a surprising degree of consensus among the textbook authors' (Walstad *et al.*, 1998, p. 199).

This considerable degree of standardisation of the curriculum appears to be a distinctive feature of economics and perhaps a relatively rare one, at least among the social sciences. It is somewhat surprising, considering that economics as a discipline is also characterised by different schools of thought, political agendas and disagreement. Some authors have argued that diverting from the dominant (neo-classical) approach may have positive implications for the quality of student learning. Cole (1993), for instance, argues that a different quality of economic understanding could be achieved by explicitly recognising and teaching about fundamental differences between economic schools of thought. From a broadly feminist perspective, Bartlett and Ferber (1998) criticise the 'traditional definition of economics and the narrow methods employed ... to the virtual exclusion of other definitions and methods' (p. 110), as this alienates female and black students. Taylor (2002b) argues

that a rigid curricular progression is dated, as it does not allow for the choice and flexibility that modular degrees are intended to promote. [Ormerod \(2003\)](#) suggests that economics should be taught ‘as more of a way of thinking about the world which can be of help in understanding a wide range of business, economic and social issues’ (p. 73), while the prevailing approach makes it appear as a received and validated body of knowledge that students simply need to absorb. In practice, however, many economists seem to agree that an understanding of the main principles as defined by neo-classical economics is necessary for students before moving on to alternative approaches and more critical perspectives. Doing anything else would risk being regarded as dumbing down and as not teaching ‘proper’ economics. This is perhaps why even those courses offered by departments whose staff represent more radical viewpoints follow a relatively standard mainstream curriculum.

Considering the uniformity of teaching–learning environments in economics, it is hardly surprising that some of the literature concentrates on introducing nontraditional and more interactive methods of teaching economics and ways in which teaching–learning environments can be made more engaging and student-centred (e.g. [Sloman and Mitchell, 2002](#); [Taylor, 2002a](#); [Welsh and Saunders, 1998](#)). Several of these innovations reflect current developments in economics as a discipline and include, for instance, classroom experiments,^(note 4) games, simulations and case studies ([Sutcliffe, 2002](#); [Holt and McDaniel, 1998](#); [Williams and Walker, 1993](#); [DeYoung, 1993](#); [Volpe, 2002](#); [Buckles, 1998](#); [Noussair and Walker, 1998](#); [Oxoby, 2001](#)), problem-based learning ([Forsythe, 2002](#)) and the use of topics and materials that are not inherently economic, such as literary texts and sports, as a vehicle to introduce basic economic theories and principles ([Siegfried and Sanderson, 1998](#); [Hartley, 2001](#); [Watts, 1998](#); [Kish-Goodling, 1998](#); [Scahill, 1998](#); [Watts and Smith, 1989](#)). Other authors highlight the importance of writing ([Greenlaw, 2003](#); [Petr, 1998](#); [Hansen, 1998](#)) and discuss the application of information and communication technology (ICT) to teaching and learning economics (e.g. [Hobbs and Judge, 1995](#); [Brooksbank *et al.*, 1998](#); [Sosin, 1998](#); [Chalmers and McCausland, 2002](#); [O’Leary and Ramsden, 2002](#); [Elliott, 2003](#)). It remains to be asked whether the literature advocating these innovations has actually led to changes in current teaching and assessment practices and, if teaching practices have changed, whether this has had a positive impact on student learning. The following sections will provide some insight into these issues by using the three introductory first-year modules investigated by the ETL Project as examples.

3. The settings investigated

In economics the ETL Project has been collaborating with three institutions, which were selected to include different institutional types and geographical areas, based on the departments’ overall interest in teaching and learning issues. The project’s main concern was to study real-life teaching–learning environments in context. E1F, E2F and E3F are the codes that were used to identify the three first-year economics modules investigated within the framework of the ETL Project. Table 1 summarises their main characteristics and the similarities and differences between the three settings.^(note 5)

Table 1: The settings

	E1F	E2F	E3F
Type of university	'New' post-1992 university	'New' post-1992 university	'Old' university
Position of economics within university	In business school	In economics department	In economics department
Size of module	10-20	200+	200+
Type of students	Non-traditional Economics majors With and without previous knowledge of economics	Non-traditional Mainly other majors + some economics majors Mainly without previous knowledge of economics + small minority with previous knowledge of economics	Traditional Economics majors + some other majors With and without previous knowledge of economics
Typical entry-level grades for A-levels or Highers	CCD/CDD	CCC	ABB + grade A at GCSE in maths (or higher-level maths)
Module content	Microeconomics	Micro + macroeconomics	Micro + macroeconomics
Length of module	2 semesters	1 semester	2 semesters
Main recommended textbook(s)	Begg et al. (2003)	Sloman (1998) + own flexible learning materials	Begg <i>et al.</i> (2003), Blanchard (2000), Parkin <i>et al.</i> (2002)
Assessment	50% coursework 50% exam 1 essay, 1 exam with essay questions	100% coursework (5 assignments) 2 in-class tests, 3 open book assignments to be carried out in own time, including 1 essay, true–false, short answer and essay questions	100% exam + 2 formative assignments 1 formative test, 1 formative essay (marks do not count for final grade), 1 exam with short answer and essay questions

4. Methods and data

The insights reported in this paper are exclusively based on semi-structured interviews that focused on capturing staff and students' perceptions of the teaching–learning environments provided by the

modules in question. Table 2 gives an overview of the data that were analysed for the purpose of this study.

Table 2: The data

	E1F	E1F	E2F	E3F
	1st round of data collection	2nd round of data collection	1st round of data collection	1st round of data collection
Timing of data collection, data under consideration	2001/2, semesters 1 + 2	2002/3, semesters 1 + 2	2002/3, semester 1	2002/3, semesters 1 + 2
No. of students on module	17	8–13	226	216
No. of student interviews	1 group n = 8	9 one-to-one n = 14	8 groups n = 52	7 groups n = 33
No. of teaching staff	1	1	7	4
No. of staff interviews	1	2	7	4

5. Findings

5.1 Dimensions of commonality and variation in first-year teaching–learning environments in economics: insights from the data

The following sections will describe the three first-year modules in terms of both the commonalities and the variation encountered between these settings, bearing in mind that such classification is crude and will, by its nature, simplify a much more complex reality. Recurring themes and prominent features of the settings will be identified and illustrated by key quotes from the interviews. Where appropriate, the concerns and perceptions of staff will be contrasted with their students' experiences on the modules. The pedagogical implications of the issues raised by the empirical data will be examined, focusing on the nature and quality of student learning and ways in which it could be enhanced.

The literature has led us to expect considerable commonality in the teaching and learning of economics in higher education and this was to a large extent confirmed by the data. The following commonalities between the modules E1F, E2F and E3F were identified:

- reliance on lectures, complemented by small group teaching in tutorials/seminars;
- a content-driven, ^(note 6) frequently fast-paced approach taken in lectures;
- tutorials/seminars, during which lecture material was revisited, or developed and applied;

- a ubiquitous use of tutorial question sheets;
- reading material provided through introductory economics textbooks, which are crucial for learning, but can be a barrier to understanding.

Variation between the environments seemed to be due to attempts to align the respective teaching–learning environments with the students who were part of them. To varying degrees, the modules comprised students with and without previous knowledge of economics, with and without previous knowledge of mathematics, economics specialists and students majoring in other disciplines, school-leavers and mature students, students with higher and lower entry-level grades, UK and international students, students from ethnic minorities, males and females. This heterogeneity was brought up by students as well as staff. The following two interview extracts illustrate our departmental partners’ concern for the changing characteristics and diversity of the students within their modules. In the first example, the lecturer refers to the variable ability, motivation and academic profile of students on E1F; in the second example, reference is made to the differing disciplinary backgrounds that students not majoring in economics bring to E3F.

L: The main issue ... certainly over the last 2 or 3 years, has been the variable ability and possibly even motivation of students ... We have always taken students with non-traditional A-level backgrounds, but we are taking student(s), increasingly over the last 2 or 3 years, that had fairly modest academic profiles upon entering. (E1F-sta1)

L: The mathematicians and natural scientists [among the students on E3F] have difficulty actually looking at the real world and constructing a logical argument in essays. The other extreme, you get the politicians, the historians, who are not very good with maths. So you’ve got different skill bases there. (E3F-sta1)

As will be shown, the economics data discussed in this study illustrate that constructively aligning teaching–learning environments with the very diverse groups of students whom contemporary UK higher education comprises was one of the main challenges for the three first-year teaching–learning environments investigated and may be crucial for the quality of teaching and learning in economics. This has also been shown for other subjects investigated by the ETL Project ([Hounsell and McCune, 2002](#)). The following aspects and challenges that such an alignment poses will be discussed in some depth:

- aligning the intended learning outcomes with students;
- aligning the teaching–learning environment with students’ previous knowledge of economics;
- aligning the teaching–learning environment with students through applications and examples.

5.2 Aligning the intended learning outcomes with students

According to the module documentation and the interviews with module leaders, all three modules intended students to understand and apply a number of fundamental economic principles.

Considering the widely accepted standard economic curriculum discussed in section 2., this was to be

expected. There was, however, considerable variation in the expected depth of understanding, the number and complexity of economic concepts introduced and the contexts in which students were expected to apply these concepts. Whereas E2F predominantly focused on students being 'able to take something that looks like a major economic theory and . . . to break that down into something which they can see in their day-to-day environment' (E2F-sta1), E1F and E3F both aimed to provide their students with a foundation and firm theoretical basis for subsequent years of study. E1F also emphasised the application of theoretical principles by devoting the entire second half of the module to it. In addition, the E1F module leader wanted students to understand how microeconomics 'fits in with the other sub-disciplines of, say, business and finance and European' as well as 'be[ing] analytical and critical and understand[ing] a fairly rigorous treatment of economics' (E1F-sta1). For E3F, the aims of understanding the nature of knowledge as an 'outcome of dispute, of academic debate' (E3F-sta1), the importance of schools of thought and of technical skills were highlighted by the module leader. A number of key skills were also listed as learning outcomes in the E3F module handbook.

The intended learning outcomes of the three modules showed commonalities as well as variation. While the commonalities were likely to be a result of strong disciplinary conventions and expectations for introductory courses, it is suggested that the variation between the intended learning outcomes can be interpreted as attempts to align the modules with the different types of student that each module accommodated. The fact that E1F and E3F were geared towards students majoring in economics determined some of the commonalities between their intended learning outcomes, while the learning outcomes for E2F showed more differences as the module predominantly catered for students from a very wide range of business and social science disciplines, mainly without backgrounds in economics or intentions to specialise in the subject. An orthodox take on Biggs' notion of constructive alignment would be to place the intended learning outcomes at the centre of a constructively aligned teaching–learning environment. The argument proposed here, however, is that within a constructively aligned system, the students are at its core and the intended learning outcomes themselves are aligned to the students whom each teaching–learning environment accommodates. To the outsider it seemed that the implicit norm to deliver an approved body of knowledge on the one hand and the perceived need to align intended learning outcomes with students on the other produce a tension that is not always easy to consolidate.

5.3 Content-driven, fast-paced lectures

Lectures, complemented by small group teaching in seminars/tutorials, were the common form of delivery in all three first-year modules. Both E2F and E3F delivered lectures to approximately 200 students at a time.^(note 7) Although these two modules differed in many other respects, virtually all E2F and E3F interviews contained considerable reference to the brisk pace of the lectures and the large amount of information students had to take in. The following two extracts convey the impression of an unrelenting sequence of principles, bullet points and, in the case of E3F, graphs.

S: Fifty-five slides in one lecture of 50 minutes, I just thought that was a bit too much, more than a slide a minute. It got a bit crazy, there was just too much trying to be squeezed in, I think. Some of it didn't need to be there. (E3F-stu5)

S: You go very, very quickly through the lectures and you spend most of your time at lectures trying to get everything down without actually stopping and thinking about what it is. You never really stop, trying to understand it, you [are] just concentrating on finishing that sentence before he wipes it off the board. (E2F-stu2)

Keeping up with such a brisk pace caused problems for some students, particularly for those without any previous knowledge of economics. Fast-paced lectures led them to focus on note taking instead of concentrating on understanding the information conveyed, and the interviewees expressed a need for more background information, detailed explanation and examples as well as more time to process the material and to form an opinion about it. For students on E2F, which aimed to provide an overview of economics for students majoring in other disciplines, the brisk pace was coupled with a perceived lack of depth and the impression of 'skimming' or 'glazing the surface' of economics.

S1: [The lecturer] needs to slow down a little bit.

S2: And go into a little bit more depth. The notes we get just glaze the surface. (E2F-stu5)

Lecturers who are driven by the necessity to cover a large number of economic concepts might be tempted to take a lecturing approach that focuses on information transmission (Prosser and Trigwell, 1999) to the detriment of fostering in-depth understanding. If students are confronted with a fast pace and a very full curriculum that cannot be coped with, and if they are under the impression that in-depth understanding is neither required nor encouraged, there is a danger that these perceptions might lead them to abandon a deep approach to learning and to rely on surface strategies (Marton and Saljö, 1997).

The issues of fast pace and lack of depth that were raised repeatedly both by E2F and E3F students were not reflected in the same way in E1F interviews, although the approach taken in E1F still appeared to be 'chalk and talk'.

S: There wasn't really a lot of interaction, it's more, we'd have a question or some information we had to read through it and then he'd go through it on the board and we'd just add our points, we never really had [a] big discussion. (E1F-stu1)

Delivering lectures in E1F, however, appeared to be different to lecturing on E2F and E3F. It might be the smaller size of the group which made it easier for the lecturer to pace the lecture, to be flexible, to attend to individuals and, as a possible consequence, to achieve constructive alignment of the teaching-learning environment with the students.

S1: Getting us involved, like asking us, not just sitting there reading out the lecture, asking us questions. Getting us to talk as well.

S2: When he's standing there, he'll ask us and stuff like that.

S1: [With it being?] a small class as well, you can talk to each other better and things instead of being in a big lecture theatre and they're just reading out to you all the time. (E1F-stu2)

There was also some evidence in the data that the large number of economic concepts that introductory lectures tended to cover may have made it difficult for students to make connections and develop an integrative understanding of the subject. Making connections, however, has been repeatedly shown to be essential for the development of personal meaning and deep understanding.^(note 8) When asked which concepts, topics or ideas were of particular importance for their respective modules, there was considerable variation and little overlap between the aspects identified by different individuals and groups of students talking about the same module. This might indicate that, metaphorically speaking, students may have found it difficult to 'see the wood for the trees', i.e. to make connections and distinguish core ideas from less important ones. In introductory modules with a very full curriculum, everything can appear to be of equal importance, as the following excerpt from a one-to-one interview illustrates:

I: What are the most important things you have learnt on the micro module so far ...?

S: How do you mean? I don't know what you mean.

I: ... If you go through the module and you think: what have I actually learnt so far? What are the kinds of things you have learnt?

S: Supply and demand I think ...

S: Monopoly we have just been doing, God, I can't remember anything else [laughs]. Oligopoly.

S:... What else? Oh, start again, consumer choice, decisions.

S: I can remember supply and demand, I can remember monopoly because we have just done that. And I have been reading the oli-, whatever it is, myself.

I: If there are any particular economic concepts that are important to that module or have been so far, would that be the ones you have just mentioned?

S: Yeah, I would think so.

I: I'd like to focus on two concepts and one of them is ... elasticity.

S: Oh yeah, we have done that [laughs], I remember now. (E1F-stuD)

The student quoted above appears to have conceptualised (micro)economics as a linear sequence of somewhat unrelated concepts. The outsider doubts that economists want to foster such a view of the discipline in their students, but wonders whether this view may in fact be a consequence of the way in which introductory economics is taught. To avoid this, it may be necessary to foreground as much as possible the most important concepts and the relationship between them as well as helping students to make these connections for themselves. The Teaching for Understanding (TfU) framework^(note 9) (Wiske, 1998; [Teaching for Understanding](#)) advocates concentrating on throughlines, i.e. overarching goals that capture the essence of an entire course and tend to represent deeply rooted, often tacit ways of thinking and practising a particular discipline.^(note 10) Throughlines need to be revisited frequently throughout a course and can provide a strong focus for planning individual teaching units. Some of the intended learning outcomes described in section 5.2, such as understanding the nature

of knowledge or schools of thought in economics, might serve as throughlines and could contribute to students making connections between individual concepts. The notion of *threshold concepts* may provide another perspective on helping students to appreciate what is crucial for understanding economics. Meyer and Land (2003) argue that, when understood, a threshold concept opens up a new and previously inaccessible way of thinking, which leads to a transformed internal view of subject matter. Constructively aligning teaching–learning environments in economics with threshold concepts might thus be a powerful way of advancing students’ understanding. [\(note 11\)](#)

5.4 Revision of lectures and development through questions in seminars/tutorials

Another uniform feature of the first-year teaching–learning environments was the fact that lectures were complemented by small group teaching in seminars/ tutorials, [\(note 12\)](#) which appeared to perform similar functions and were structured in a similar fashion across the three settings. Virtually all student interviewees agreed on the crucial importance of seminars for their understanding, provided they were not conducted like mini-lectures. The students described the seminars as fulfilling two major functions. On the one hand, they had the explicit purpose of taking content introduced in lectures further and applying the concepts covered. This was exclusively done through ‘tutorial question sheets’. Tutorial questions were used in all the settings, even extending to the final-year modules investigated by the ETL Project. Although the use of tutorial question sheets might be taken for granted by economists, its ubiquity was notable to the educational researcher, who was wondering whether other approaches had been considered. The other purpose of seminars that students described was to go over lecture material by revisiting it and providing additional explanation and depth. This is evidently linked to what has been said above about the nature of lectures: if lectures did not provide the explanation and depth that was necessary to achieve understanding, the seminars had to compensate for this lack. So although the declared purpose of seminars may have been to work through tutorial questions, a considerable proportion of seminar time seemed to be spent going over lectures, and students without previous knowledge of economics in particular highlighted the importance of this approach for their understanding.

S1: They go over it more and explain it more than they do in the lectures. In the lectures she doesn’t explain what she’s talking about. In the tutorial we go over what she’s been talking about.

S2: In the lecture she’s just putting up slides and stuff and you’re just sitting writing and you can’t really listen or take it in. In the tutorial the following week they go over it again and you can actually sit and listen to what’s going on and learn it.

S3: I think it’s just the fact that it’s the second time round and you understand because you’ve heard it before.

S4: He does more examples, real-life examples. It’s just, the more examples they give us the more chance we have of understanding it. (E2F-stu7)

5.5 Inaccessible language in textbooks

The use of set textbooks was another uniform feature of the first-year teaching–learning environments in economics. When asked what was necessary to do well on the modules under consideration, many interviewees emphasised the importance of reading. Although reading and working through the textbooks was seen as vital for learning, however, the nature of the textbooks was sometimes described as hindering understanding. This was due to the language and jargon employed by textbook writers as well as the way in which the information was presented. Such difficulties particularly affected students without any previous knowledge of economics.

S1: I was reading the economics books last night. And I have to read it five times for it to sink in and then you've got to try really hard to try and remember it. I think it's just written in really dull language.

S2: Yeah, there isn't anything that jumps out at you to make you remember some parts of it. Because I was reading it as well last night and I sat up till 1 o'clock, just sat reading and I thought I've got nothing from this because of the language that they're using in it and then they'll abbreviate things that they don't tell you that they've abbreviated and so you just don't understand.

S1: It's like they've written it not caring if we're going to understand it or not, just to get it written. They've not changed it to make it easier for us to learn. (E2F-stu4)

These comments are in line with analyses carried out by applied linguists who draw attention to the specific difficulties of the language used in economics writing, including that of textbooks (contributions to Dudley-Evans and Henderson, 1990). Other research has equally highlighted the impact of linguistic factors on understanding in economics. A study conducted by Meyer and Shanahan (2001) found that having English as a second language had a negative effect on learning outcomes within first-year economics. It may be important to think about ways in which these difficulties could be addressed: for example, by integrating an explicit focus on effective reading and comprehension strategies into introductory modules.

5.6 The challenges of aligning the teaching–learning environment to students' previous knowledge of economics

It has been mentioned above that the heterogeneity of student cohorts was a major challenge for the modules investigated and the difference between the student cohorts appeared to be responsible for much of the variation between the settings. The way in which students with and without previous knowledge of economics were accommodated within the respective teaching–learning environments stood out as particularly important. All three modules comprised students who had previous knowledge of economics (e.g. A-level, Higher, HND or access courses), as well as students who did not, albeit in differing proportions (see Table 1 in section 3). The perceived difference between students with and without knowledge of economics gained through previous study was brought up in virtually all the interviews with students and staff.

L: It's the main challenge for our teaching and their learning. If ... we pitch it too low, we demotivate the students that already have quite a good economics background. If we pitch it too high, we demotivate those that haven't. It's a real battle, constantly. (E1F-sta1)

L: As an introductory core module we have a very wide range of ability in fact, and those people who've done no economics and no maths beyond the age of 16 ..., whereas others have come in with a fairly high degree of specialisation in economics and maths at A-level. And between those two extremes there is a whole range of different combinations and backgrounds. Including some people who are doing economics as a main degree at all, some people just doing one module of economics and this is the module to take. So there is a very wide ability range, a wide range of motivations and in a lecture hall of 200+, so you've got to hit all of those bases, you've got to offer something to everyone in a sense. (E3F-sta1)

The students with and without previous knowledge varied considerably in their perceptions of the modules, and interviewees from both groups seemed to agree that a background in economics made taking the modules much easier and decreased the workload considerably. Students with previous knowledge of economics tended to be familiar with a large proportion of the learning content, particularly in microeconomics, and therefore did not need to put much effort into understanding the material. Students without previous knowledge, on the other hand, were more likely to struggle to understand and had much more work to do in order to keep up, as the following quote illustrates:

S: I did just choose it as an optional module, thinking it would be quite interesting. To a large extent it has been interesting, but I have found it difficult. It is a lot of work, for one module, especially if you are not doing economics as a main subject. I think one of [the] things that it says is it doesn't assume A-level Economics, but I have looked at the A-level syllabus and quite a lot does come up in this, and it would have been very useful if I had done it. (E3F-stu1)

Along similar lines, some students on E3F mentioned the impact that a higher-level qualification in mathematics had on their understanding. Students without a background in mathematics felt equally disadvantaged to students without previous knowledge of economics. These observations are consistent with findings from a study by Meyer and Shanahan (2001) that established a direct relationship between those forms of prior knowledge and learning outcomes.

Since the modules under investigation contained different proportions of students with and without economics backgrounds, *aligning the environment with the majority* seemed to be the most common strategy taken, although this clearly had implications for the minority. E3F, for instance, was geared towards students majoring in economics and predominantly aligned to students with existing knowledge^(note 13), who were described as 'highly trained', 'with very good grades' and 'very critical if they're not getting what they think is good enough' (E3F-sta1).

L: They've got to leave 1st year well equipped for 2nd year, 2nd-year single honours economics. So there is a relatively high standard that's got to be achieved. Now that is a problem for those who don't want to go on with economics again because it does require a depth of analysis maybe they'll never see again, and some of them actually complain a bit. (E1F-sta1)

As a consequence, students on E3F were critical of the claims that no previous knowledge was required to take the module. In contrast, E1F and E2F staff were trying to tailor their modules to students who had not studied economics before. This is why E2F students with previous knowledge of economics, who had expected to go beyond what they already knew, were surprised about the lack of in-depth study that E2F provided for them. Note how in the following quotation 'going into every fact and every side', 'looking across the board' and 'further than what has been taught', 'knowing every point in the book' and sitting a 'big exam' is contrasted with E2F, which was experienced as 'touching' on topics and asking 'simple' assessment questions that can be resourced by students themselves.

S: We've been doing [something] on employment and inflation, we've just touched on inflation and touched on the question and that was it done, whereas with the HND you went right into it. You went into every fact and every side of the whole area of employment or inflation and then you were examined on that. But the exam was a big exam, it was an hour or hour and a half and you had to get a lot into that, whereas this is just a simple question on one area and you just answer it and you've got time to resource it for yourself. You're covering what you've been taught, you're not having to look further into it. With the HND you were expected to know, look across the board, and know every point in the book. (E2F-stu6)

There was evidence in the interviews, as the next extract illustrates, that a considerable proportion of students with previous knowledge of economics in all three settings perceived their introductory modules as predominantly providing revision, particularly in microeconomics.

S: Because I have done economics at A-level, so I am finding the work easier ... It's really hard to concentrate in lectures because I know most of the stuff in micro ... If you know the stuff as well, [it] makes you feel a bit lazy, [you] don't concentrate on lectures then. (E1F-stuH)

The perception of the environment as predominantly providing revision might well have a negative impact on student learning. It is beyond the scope of this article and the ETL Project to make any judgements about the similarities and differences between secondary and higher education teaching-learning environments in introductory economics.^(note 14) However, it may be the content-driven nature and the standard sequence of neo-classical concepts discussed above which produce an overall appearance of sameness, thus making differences less noticeable. Among students with prior knowledge of economics this might give rise to perceptions of the environment as mainly providing revision.

The interviewees did not only talk about the similarities, but also about some perceived differences between teaching and learning economics at school and at university. While some students only saw this difference as a question of detail, other students, particularly those in E3F, talked about the increased level of uncertainty, the importance of different schools of thought and the fact that the reasoning behind things was explored and explained, rather than facts being regurgitated.

S: I'd say like the Phillips Curve in macro and deriving like aggregate demand from ISLM, we had done at A-level, but just drawing it, taking it as given, but we're shown how to draw it, ... that [is] interesting. (E3F-stu3)

S: I think it is more technical, and analytical, the reasons why things happen, why that happens and has an effect, and yet there is more maths as well. (E3F-stu4)

A-level economics, on the other hand, was said to be more slowly paced and to include more real-world application as well as less theory and mathematics. One interviewee pointed out that having a prior understanding of economics can mean having to rethink something one thought one already knew. However, reconceptualisation and the replacement of potential misconceptions by more sophisticated conceptualisations will take place only if the environment provides sufficient stimuli for students to review and revise their existing knowledge. If, as some students' comments suggest, a large proportion of the material appears familiar, a fossilisation of students' existing conceptions might be the consequence. Whether this is the case and exactly which aspects of the environment lead students to perceive it as providing revision and which aspects stimulate them to revise their existing conceptions will need to be explored by further research.

There were some instances in the data which illustrated the way in which staff were trying to achieve constructive alignment with students. In E3F, for instance, separate tutorials for students with and without previous knowledge of economics were held and one tutor described his approaches as, on the one hand, providing reassurance and revision of lecture material to students *without* previous knowledge and, on the other hand, challenging students *with* previous knowledge of economics by using difficult tutorial questions and emphasising what they should know already. This example demonstrates that constructively aligning the teaching–learning environment with students with different levels of previous knowledge may potentially be achieved within the confines of the prevailing lecture–tutorial approach.

5.7 Alignment with students through applications and examples

As already noted, introductory economics modules can be relatively abstract and theoretical. When asked what engaged and motivated them in their studies of economics, the common thread through virtually all the interviews was the way in which the students talked about the importance of examples and the application of theory to real life and current issues. Satisfaction was experienced when the study of economics enabled them to understand the world around them. Examples were not only said to promote engagement, but also to contribute to understanding. This insight applied to all the economics modules under investigation by the ETL Project, including final-year modules.

S1: [He] is brilliant, he likes to use examples.

S1: He puts economics in a way that we can understand. He uses football matches –

S2: – or alcohol.

S1: Something that we can relate to and we can say, right, we see what you mean. (E2F-stu3)

S1: See economics practically applied to the modern world is the whole reason why we are doing it. It's quite nice to see that it does actually work. With real examples, it is up to the lecturer, if he is good enough, to identify these examples in the modern world to show you that ...

I: So these examples are quite important for your enthusiasm?

S2: Personally they help me to make it a bit more interesting. You kind of go away and remember that a little bit more with a real-life example. It helps to explain it as well. (E3F-stu4)

Indeed, all three modules recognised the importance of examples and application for engagement and understanding, but in very different ways. This can be illustrated on a micro-level by looking at the introduction of the concept of elasticity.

Interview excerpts from two settings contrast two very different approaches to teaching elasticity. The first quote illustrates the more common *deductive* approach, which, in this specific case, follows a sequence of (1) introducing the concept of elasticity by providing (a) a definition, (b) the relevant graphs and (c) the mathematical formula for the calculation of elasticities, (2) illustrating the concept of elasticity with a variety of examples, and (3) reinforcing and assessing students' understanding of the relationship between theory and examples in an essay assignment. This is an example of what Vidler would call a *theory-first* approach 'in which students are schooled into an understanding of various theoretical models and then invited to apply such models to contemporary problems' ([Vidler, 1993, p.179](#)).

L: Initially, there will be formal lectures on elasticity ...

L: I would explain the concept ... Then in the tutorials we would go through pricing strategies and see how elasticities are applied to, say, on-and-off peak rail travel, pricing of goods in motorway, railway service stations being more highly priced than the same item outside of a monopoly position.

I So you would explain that to them – ?

L – I would explain that to them and give them examples of how pricing strategies is central to firms' production decisions and consumers' consumption decisions. And under certain circumstances elasticity will change ... What I then do, I deposit this idea of elasticity within a wider assessment. ... We will go to a Mintel Report which is a marketing report that has data on demand and supply, price changes, which they can plug into the theoretical and the formula for calculation of elasticities. And they'll work out elasticities for quite detailed product groups: deodorants, bottled beer, sports footwear. And they'll be able to work out elasticity and then map out supply changes, demand changes, income and substitution effects of price changes which link into elasticities. Through that a very practical and a very detailed case study on using that. And then we'll generalise it out to see if there are any generalisable issues that can be concluded from that analysis. (E1F-sta1)

In line with the aim to make economics accessible to non-specialists by concentrating on what is called a 'clear principles of economics' approach and by using examples that are as close as possible to the student experience, an *inductive* approach was taken in E2F. It started with an example of a situation in which the students have first-hand experience of elasticity and which was then used to deduce the concept and its associated graphs.

L: ... Concepts like elasticity, ... my way of teaching that is to use a 'what if' approach. ... Instead of lecturing and giving you questions, we'll start from scratch. 'How much [on?] average would you pay for a beer, glass of wine, gin and tonic, in a pub?' 'About £2.' 'How much do you drink a week in terms of units?' We add that up and that's the first point in our demand curve and then [you] say 'What if [it] went up to £4?' Then someone says, 'Well, I don't spend very much anyway, so I'd buy the same number' or 'I'd buy fewer'. So you ask a few students, then you say 'What if the price went [up] to £20?' You're getting hypothetical numbers and you've constructed a demand curve for a sample of those students, so they get the point ... The textbooks just draw these curves and do the equations and that explains that, the other things [being?] equal as well ... Alcohol is a good one with students, cigarettes is an appropriate one ... It's a hell of a lot better than talking about making pies in a factory. (E2F-sta2)

Although all three modules were trying to tailor their teaching–learning environments to the way in which students learn by using examples and applications, the example quoted above illustrates that there might be fundamentally different ways of achieving this. Further research will need to determine whether inductive and deductive approaches to teaching economics do in fact result in different forms of engagement and understanding, and whether varying or changing the approach is a possible way of constructively aligning teaching–learning environments with students. What appears to be a choice between different teaching methods, however, may also have implications for curriculum content. While a theory-first approach will ensure that the main neoclassical concepts are definitely covered, a problem-first approach is more conducive to different explanations of economic phenomena and therefore less likely to guarantee complete adherence to the mainstream orthodoxy.^(note 15)

6. Conclusion

Looking at teaching–learning environments in economics from the perspective of an outsider has helped to identify commonalities as well as differences between the three introductory modules investigated in this study. As suggested by the economics in higher education literature, the modules followed a relatively uniform lecture–tutorial approach, which was complemented by the use of textbooks and tutorial question sheets. Although using a standard format is not problematic *per se*, the discussion has highlighted a number of issues that may negatively affect student learning within such teaching–learning environments. While the commonalities could, to some extent, be attributed to the dominance of a mainstream approach to economics, the differences were interpreted as attempts to align the teaching–learning environments with the students on the respective modules. Such an interpretation expands Biggs' concept of constructive alignment by shifting its focus from intended learning outcomes to students.

To the non-economist, two opposing forces seem to be at work which create a tension as they pull economics lecturers in different directions. On the one hand, constructively aligning teaching–learning environments with the students is seen as a major challenge, since introductory economics modules comprise such heterogeneous groups of students. On the other hand, the mainstream orthodoxy leads lecturers and module designers to adhere to a standard curriculum of widely accepted intended

learning outcomes and to deliver an approved body of knowledge through uniform teaching methods. Coupled with the demands of quality assurance and benchmarking,^(note 16) it is hardly surprising that most lecturers will not depart from these disciplinary norms and will continue to conform to the standard format rather than risk being accused of 'dumbing down'. Only subtle or implicit adjustments are likely to be made, while explicitly aligning intended learning outcomes with students will not be regarded by many as a viable option. In theory, however, lecturers could choose a much more radical departure from the traditional introductory economics curriculum, determining learning outcomes that are different, but of comparable high quality and equally conducive to taking a deep approach to learning and studying.

Another possible alternative appears to consist of maintaining the same or similar intended learning outcomes, while adapting teaching methods to meet diverse students' needs. A discussion of the way in which examples and applications were used in different settings illustrated the fundamental differences between the approaches that can be employed to teach introductory economics. While economics has traditionally used a deductive theory-first approach, the New Economics has highlighted the advantages of an inductive approach, in particular the way in which it might challenge students' everyday conceptions of economic phenomena ([McCormick and Vidler, 1994](#); [Vidler, 1993](#); [Thomas, 1991](#)). Studies carried out in disciplines other than economics as well as more generic educational research have equally emphasised the benefits of an inductive, problem-first approach for an active construction of conceptual understanding and the acquisition of expert problem-solving strategies (e.g. [Dukes et al., 2002](#); [Neubert and Binko, 1992](#); [Heller et al., 1992](#); [Heller and Hollabaugh, 1992](#)). Exemplified by some of the data presented above, such an approach would start with problems or cases and derive concepts, theories and models from them, as substantiated by the case study, problem-based or experimental approaches reviewed at the beginning of this article. In problem-based learning (PBL),^(note 17) for instance, 'the problems *are* the curriculum, and in going about solving those problems the learner seeks the knowledge of the disciplines, facts and procedures that are needed to solve the problems' ([Biggs, 1999, p. 207](#)). Hounsell ([1997](#)) cites a study conducted by Eraut, MacKenzie and Papps in 1975, during which students of economics learnt concepts and analytical techniques in a problem-first rather than a theory-first approach, thus allowing them to 'anchor' their knowledge 'in a recognisable reality' (Hounsell, 1997, p. 244). In line with students' preference for examples and applications, an inductive, problem-first approach could contribute to understanding and engagement. It would also have the potential to circumvent the perception of revision as students with previous knowledge of economics would be confronted with problems and questions they have not encountered before. Within a constructively aligned system, such an approach would also have implications for changes in the assessment.

It is the non-economist's conjecture that the options outlined above would allow better alignment with students whilst maintaining or even enhancing the focus on teaching students how to think like economists, albeit by different means. Ultimately, however, only economists will be able to judge whether the description and analysis presented in this article is valid and whether the propositions made are both convincing and workable.

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Notes

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[1] A more comprehensive discussion of the concepts and the conceptual frameworks that have been used and developed by the ETL Project can be found in [Entwistle \(2003\)](#).

[2] The fact that the lecture–tutorial approach to teaching is not only pervasive in economics, but also in a large number of other subjects in UK higher education is reflected in handbooks on teaching and learning, such as [Fry *et al.* \(2003\)](#) and [Brown and Atkins \(1988\)](#).

[3] In line with attempts to generally diversify approaches to assessment in UK higher education (e.g. [Brown with Bull and Pendlebury 1997](#); [Hounsell and McCulloch, 1999](#)), several authors urge economists to consider using a larger variety of assessment tools rather than exclusively adhering to one widely accepted standard format ([Miller, 2002](#); [Walstad, 2001](#); [Taylor, 2002b](#)). This can be regarded as further evidence for the fact that the uniform approach described above still applies very widely. In the USA multiple-choice and true–false questions appear to be much more widely used, while short answer questions, essays and term papers feature much less frequently ([Hansen, 1998, p. 81](#); [Walstad, 2001](#)).

[4] One entire issue of the *Journal of Economics Education* (1993) is devoted to classroom experiments.

[5] For intended learning outcomes, see section 5.1 below.

[6] The term 'content-driven' was used by Dai Hounsell in discussion and has subsequently been integrated into this paper, as it captures the emphasis that is placed on content coverage.

[7] (1998) regards large classes as one possible reason for the standard lecturing approach to teaching economics.

[8] Relating ideas is one characteristic of a deep approach to learning and studying, which parallels Pask's notion of a holistic learning strategy ([Entwistle *et al.*, 2002](#)). With reference to his study of students' experiences of understanding when revising for final examinations, [Entwistle \(1998\)](#) describes understanding as 'a feeling of coherence, connectedness and provisional wholeness' (p. 84) and relates this to Svensson's description of holistic learning outcomes.

[9] Further details on the TfU framework and practical advice on course design and teaching can be found on the very informative TfU website (<http://learnweb.harvard.edu/alps/tfu/index.cfm>).

[10] Ways of thinking and practising (WTP) is a concept that has emerged from the ETL Project and is being developed for the four disciplines under investigation ([Hounsell and McCune, 2002](#)).

[11] A curriculum development project focusing on embedding threshold concepts in first-year economics modules has been submitted to the UK Fund for the Development of Teaching and Learning (FDTL) and successfully passed phase 1 of the bidding process.

[12] Both terms are used interchangeably to refer to small group teaching.

[13] It must be noted, however, that previous knowledge of economics was not a prerequisite for E3F.

[14] Since higher education teaching–learning environments in economics have been shown to be relatively uniform, there is a likelihood that environments in secondary education may be equally similar. On the other hand, the 'new' 16–19 A-level Economics seems to have moved away from presenting economics as a sequence of economic concepts supported by brief illustrations ([McCormick and Vidler, 1994](#); [Vidler, 1993](#)).

[15] This was pointed out to me by P. Davies, University of Staffordshire (personal communication).

[16] Readers may find it interesting to compare the economics benchmark statement with that of history, which hardly prescribes any concepts or standard approaches at all.

[17] A more generic discussion of PBL can be found in [Savin-Baden \(2000\)](#) and [Biggs \(1999, pp. 206–13\)](#), while the contributions to [Boud and Feletti \(1997\)](#) are concerned with the application of PBL to a variety of disciplines, in particular related to professional education. [Forsythe \(2002\)](#) demonstrates the relevance and feasibility of PBL in economics.