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WHAT UNIVERSITY TEACHERS TEACH AND HOW THEY TEACH IT

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Abstract: In this chapter we make three related arguments. The first, is that different teachers have different intentions concerning what students will learn and consequently in their teaching they constitute the topic or subject to be taught quite differently. The second is that a teacher's intentions concerning what it is that students should learn is closely aligned with a teacher's expectation of how students learn and how they can be helped to learn through teaching. The third is that when teachers focus specifically on the teaching of a particular topic within a specific context, there is a close relationship between their intentions and their teaching practice. In this chapter we explore these arguments through an empirical study which considers the different ways in which 26 university teachers intended to constitute a subject or topic for their students to study, how they then taught the subject and subsequently how consistent were their intentions and their practice. The analysis shows that when the context of teaching and learning is tightly defined there is a clear relationship between a teacher's intention and their practice. In particular, university teachers who adopt more conceptual change and student-focussed approaches to teaching constitute objects of study which are more relational and focus on the student's knowledge. Approaches which are more information transmission and teacher-focussed constitute objects of study which are more multi-structural and have a focus on knowledge which is constituted as being external to the student

1. INTRODUCTION

It is often taken for granted that university students will learn differently when taught by different teachers and the reason for this is commonly assumed to be quite obvious: some teachers know more than others; either they know more subject knowledge and/or they know more teaching skills. This is the implicit argument in

books which offer advice and hints on developing teaching skills (see, for example Gibbs, Habeshaw and Habeshaw, 1986).

In this chapter we offer a different perspective on why it is that students learn differently when taught by different teachers. Simply put, we argue that the critical issue is not how much teachers know or what their level of teaching skill is, but what it is they intend their students to know and how they see teaching helping them to know. We want to make three related arguments.

- First that different teachers have different intentions concerning what students will learn and consequently in the teaching they constitute the topic or subject to be taught quite differently. This is the case even when teachers teach the same curriculum towards the same examination.
- Second we argue that teachers' intentions concerning what it is that students should learn, in a particular context, is closely aligned with teachers' expectations of how students learn and how they can be helped to learn through teaching.
- Third, we argue that when teachers focus specifically on the teaching of a particular topic within a specific context, there is a close association between their intentions and their teaching practice.

In other words, we suggest that when teachers make decisions about what is to be taught and how it will be learned they do so in line with an explicit or implicit theory of what teaching and learning the subject matter involves.

In this chapter we describe the results of an empirical study which explored the qualitative variation in the way 26 university teachers intended to constitute a subject or topic for their students to learn; how they then taught the subject and subsequently what, if any, inconsistencies emerged between intentions and practice. In doing so, we provide evidence to support the three related arguments referred to above, and discuss some of the implications for the theory and practice of teaching and learning in higher education.

2. THEORETICAL BACKGROUND

This study operates from the broad theoretical tradition of non-dualism in educational research (Marton and Booth, 1996). From this perspective it is asserted that meaning is created or constituted in the relationship between the individual and the context. This is in opposition to the dualist view that knowledge exists independently of the knower and can be learned and applied separately from its context, or exists within the knower independently of the context he or she is in.

Within this broad tradition of non-dualism there are a number of different research perspectives. The one focussed on in this chapter is phenomenography. From a phenomenographic perspective it is argued that knowledge cannot exist in a context independently of the knower, rather knowledge is constituted in the relationship between the knower and the context. So, from this perspective, teachers constitute knowledge within the teaching and learning context, and attempt to bring their students into relationship with that knowledge through their teaching in that context.

Previous research from a phenomenographic perspective has shown that there is substantial variation in the way that students conceive of and learn a topic and the way teachers in higher education conceive of and approach their teaching. Perhaps most importantly, from an educational perspective, there is also a relation between how teachers conceive of and approach their teaching in a particular context and the quality of student learning outcomes.

The idea of variation is an important one in phenomenography. It is argued that it is through attention to the variation in ways of seeing or experiencing a phenomenon that understanding develops (Marton and Booth, 1996).

A series of investigations have explored the relations between how teachers think about and conceive of their teaching (Martin and Balla, 1991; Prosser, Trigwell & Taylor, 1994), how they approach teaching (Trigwell, Prosser and Taylor, 1994) and how approaches to, and conceptions of, teaching affect the learning of students (Trigwell, Prosser and Waterhouse, 1999). In brief, it has been argued that where teachers see teaching as having a focus on the teacher, and where they see the task as either transmitting information or getting students to adopt the concepts and ideas of the discipline, then students will learn less well. In contrast, where teachers see the focus being on student learning (as opposed to being on teaching) and where teachers work to help students develop or change their own understanding of relevant ideas and conceptions, then students will learn more effectively.

It is important to emphasise that in these investigations teachers have been asked to focus on a particular teaching/learning situation with a specific group of students. Consequently, what is being described by these studies are specific responses, not general orientations to teaching. The focus of this chapter is not on how teachers conceive of and approach their teaching but rather on what it is that teachers within their classrooms intend to constitute for their students to learn and the relation between what it is intended be constituted for students to learn and how teachers intend to approach their teaching. We then examine the practice of teachers to see if there are inconsistencies between their intentions and their practice.

What it is that teachers constitute for their students to learn has been explored and called 'the object of study' by Patrick (1992). Patrick explored the teaching of Year 12 examination curricula in history and physics and found considerable variation in each of the disciplines, both in terms of what was constructed for students to learn and what was attended to and learned by students.

The idea of object of study has also had some exploration at university level. Martin and Ramsden (1998), working with teachers of creative writing, found considerable variation in the way teachers of the same, or very similar, curriculum constructed an object of study for students. They also found a relation between the object of study constructed by the teacher and the learning outcome of students. At one extreme teachers represented creative writing to students as the acquisition of writing skills. At the other extreme they represented it in a more complex way: creative writing involved an exploration of the thing the student had to say, and an engagement with language, as well as the history and tradition of language, to craft words which best carried a message. The comments and resulting work of students in the Martin and Ramsden study suggested that they had very often learned what it was their teacher presented for them to learn, so students whose teachers presented

creative writing as a series of skills were likely to develop relevant skills but see the subject as involving little more than skills acquisition. Those who learned with teachers who represented the subject in a more complex way were likewise more likely to develop a more sophisticated understanding. The range of learning outcomes identified in the study was subsequently fitted in to four of the five categories of Biggs's SOLO taxonomy of structured learning outcomes, with the lowest level of response (which has been described above) being classified as 'multistructural' and the highest level of response (again indicated above), being categorised as 'extended abstract' (Biggs & Collis, 1982).

The variation in the way teachers approach their teaching in higher education has been explored recently by Trigwell, Prosser and Taylor (1994). In their study of 24 university science teachers, Trigwell, Prosser and Taylor found a variation in the way the teachers approached their teaching in first year science classes. The variation was analysed in terms of teachers' intentions and strategies. Broadly speaking, the majority of the 24 teachers adopted approaches with an intention to transfer information and/or concepts to students by teacher focused strategies. A minority of teachers adopted approaches with an intention to help students develop and/or change their understanding of key ideas by student focused strategies. As has been mentioned previously, this variation in approach to teaching has been found to be associated with a variation in the way students approach learning.

3. CONDUCT OF STUDY

For the present study we interviewed 26 university teachers prior to their teaching of a topic, within a large first-year subject, in four discipline areas: social science and humanities, business and law, science and technology and health sciences. The focus of those interviews was two fold. First, we focused on the object of study the teachers intended to constitute for their students, and second on how the teachers intended to approach their teaching. On the basis of these interviews a hypothesis was formed as to how the teacher would teach in the classroom. For each of the teachers, the teaching of two major classes, usually lectures, was observed. The aim of the observation was to determine if the hypothesis formed after the interview held or whether what was observed challenged the original hypothesis. In all cases the hypothesis which was developed before the observation was not disproved by the observation and observed teachers agreed that, by and large, their expectations of the classes were met.

3.1 Conduct of the interviews and analysis of the interview data

An essentially phenomenographic perspective has been adopted for the collection and analysis of the interview data (Marton, 1988).

The data was collected by in-depth, semi-structured interviews with 26 teachers across the four fields of study. The interviews aimed at probing the teacher's conception of their object of study and their approach to teaching in relation to that object. The interviews were based around the following questions:

- What is it you teach these students?
- What must students know and understand?
- How will students be brought into relation with this knowledge?

The analysis was conducted in two stages. The aim of the first stage was to identify the qualitative variation in conceptions of the object of study and approaches to teaching, and to describe this variation in terms of categories of description. The identification of the conceptions and approaches involved several sub-stages - an initial identification of a set of categories of description based upon reading a subset of the full set of transcripts, on analysis of the structural relationship between the categories, independently of the transcripts, and iteration between the transcripts and the structural relationships until a stable set of categories was constituted. In the second stage, these categories were used to classify all the transcripts, with some subsequent adjustment to the categories and their structure, to ensure that they captured the full variation represented in the full set of transcripts.

3.2 Conduct of the observations

A *Planning for the Observation* pro-forma was developed, summarising the key aspects of the interview and identifying the sorts of things we would expect to see in the observation consistent with the summary. The *Planning for the Observation* pro-forma was structured around the following headings:

SUMMARY OF INTERVIEW

Object of Study:

How students are brought into relation with the object of study

Approach to teaching:

Approach to learning:

Desired learning outcomes:

STRATEGY FOR OBSERVATION SESSION

Lecturer's intentions:

Hypothesis:

Teacher/student interaction:

Things to watch for in the observation:

The lectures were observed, and detailed notes were taken during the observation, with the observer maintaining a focus on observing aspects consistent with and inconsistent with the completed *Planning for Observation* pro-forma. Based upon these detailed notes and the completed *Planning for Observation* pro-forma, a judgement was made about the rejection or acceptance of the hypothesis.

In the next section we describe the variation in the objects of study and approaches to teaching we found in this study and the relationship between the two.

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