Emerald Books

International Perspectives on Higher Education Research
Volume 10

Theory and Method in Higher Education Research II

Jeroen Huisman
Malcolm Tight
Editors

Emerald

Emerald Group Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2014

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-78350-999-7
ISSN: 1479-3628 (Series)

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Certificate Number 1985
ISO 14001

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LIST OF CONTRIBUTORS

Gerlese Åkerlind	University of Canberra; Australian National University, Canberra, Australia
Paul Atkinson	School of Social Sciences, Cardiff University, Cardiff, UK
Sara Delamont	School of Social Sciences, Cardiff University, Cardiff, UK
Fiona Hallett	Edge Hill University, Ormskirk, UK
Paul Hodge	Discipline of Geography and Environmental Studies, University of Newcastle, Callaghan, Australia
Cecilia Jacobs	Stellenbosch University, Stellenbosch, South Africa
Peter Kandlbinder	Institute for Interactive Media & Learning, University of Technology Sydney, Sydney, Australia
Manfred Lueger	Vienna University of Economics and Business, Vienna, Austria
Mandy Lupton	Queensland University of Technology, Brisbane, Australia
Jo McKenzie	University of Technology, Sydney, Australia
Fee Mozeley	Discipline of Geography and Environmental Studies, University of Newcastle, Callaghan, Australia
Brian Paltridge	Faculty of Education & Social Work, University of Sydney, Sydney, Australia

Louise Ravelli — School of the Arts & Media, University of New South Wales, Sydney, Australia

Farshid Shams — School of Management, University of Bath, Bath, UK

Sue Starfield — The Learning Centre, University of New South Wales, Sydney, Australia

John Struthers — Isle of Man Department of Health, Strang, Isle of Man

Malcolm Tight — Department of Educational Research, Lancaster University, Lancaster, UK

Jonathan Tummons — School of Education, Durham University, Durham, UK

Oliver Vettori — Vienna University of Economics and Business, Vienna, Austria

Sarah Wright — Discipline of Geography and Environmental Studies, University of Newcastle, Callaghan, Australia

Oili-Helena Ylijoki — School of Social Sciences and Humanities, University of Tampere, Tampere, Finland

EDITORIAL INTRODUCTION

This is the second volume in this series that focuses on the critical discussion of aspects of theory and/or method being applied or developed in higher education research. Its aims are to both encourage higher education researchers to give more attention to these issues and to provide a forum for their discussion.

We have taken a rather pragmatic stance regarding what constitutes a theory or a method. Our point of departure was that theory may refer to specific mid-range theories developed within higher education – for example academic literacies, communities of practice, diversity, modes of knowledge, threshold concepts – as well as to broader discipline-based (psychology, management, history, linguistics, public administration, political sciences, sociology, economics) perspectives. The methods considered would include the broad range developed within educational and social research – for example multivariate analyses, documentary analyses, interviews, observation, cross-sectional and longitudinal studies, secondary data analyses – as well as methodologies specifically developed within higher education research (e.g. phenomenography). We think this broad conceptualization, warranted by the rich diversity of approaches in the field of higher education, has allowed contributors more scope to present what they thought was relevant and important.

With recognizing that it may not always be possible to make clear distinctions between theory and method, this volume contains five contributions which feature theory strongly (learning architectures/communities of practice, theories of teaching and learning, theories of time, threshold concepts, variation theory), a larger proportion than in the previous volume.

It is striking to see that most of the contributions to this volume, as with the first one, focus on qualitative methods, with only one focusing explicitly on quantitative methods (fuzzy set analysis) and two paying attention to both qualitative and quantitative methods (both of which illustrate their argument with bibliometric data).

So, if you're interested in contributing to a future volume on *Theory and Method in Higher Education Research*, contributions that examine aspects of theory and/or quantitative methods would be particularly welcome.

Jeroen Huisman
Malcolm Tight
Editors

THEORISING TEACHING AND LEARNING IN HIGHER EDUCATION RESEARCH

Peter Kandlbinder

ABSTRACT

This chapter explores the theorising practices of successful researchers in higher education. The biographical case studies use teaching and learning as their focus to provide four succinct accounts of how the researcher's thinking around their signature concepts evolved over time. They analyse the narrative that surrounds these signature concepts to understand what successful researchers do with their ideas to maximise their symbolic capital in the higher education research field. The researcher's experiences of theorising highlight the contextual factors that have influenced them as they tried to explain how they achieved the outcomes of their research. The chapter concludes with an overview of the beneficial strategies used in these four cases, so potential researchers can appreciate the approaches to theorising that are compatible with higher education research traditions.

Theory and Method in Higher Education Research II
International Perspectives on Higher Education Research, Volume 10, 1–22

ISSN: 1479-3628/doi:10.1108/S1479-3628(2014)0000010006

DATA, THEORY AND THEORISING

Thinking theoretically is a necessary part of any research project. Since Kuhn's (1970) investigation of scientific research practice we have come to see that even the most objectively framed research method is theoretically informed. It is the theories of the research field that help researchers identify their data, and the same theories provide the structure for understanding the meaning of what was learned. Researchers need to come up with explanations for the outcomes of their investigations in order to make their research data comprehensible to others. A key role for theory is to put research findings into a broader framework to allow debates among scholars, in which the veracity of explanations are tested (Popper, 1972).

Research outcomes cannot be expected to stand on their own without the researcher explaining the significance of what was discovered by completing the research project. However, ideas do not spontaneously spring into the minds of researchers. Like many academic tasks, theorising requires more effort than inspiration. Not only is it generally recognised that theorising is important, it is usually acknowledged that it is also difficult (Kettley, 2010). Not only do ideas need to be novel, they need to be compatible with the culture that they address. While personal descriptions of theorising are hard to find, those who describe their method of thinking theoretically describe the process as 'messy, incomplete and non-inductive' (Clegg, 2012, p. 407).

Consequently, there is not a great deal of guidance on theorising available for academics new to higher education research. Most studies of knowledge construction have focussed on the natural sciences (e.g. Knorr-Cetina, 1981; Latour & Woolgar, 1979). Yet, to be proficient in thinking about higher education requires the same learning about the traditions of the field, as well as how to use these traditions to examine research questions important in higher education. This is particularly challenging for academic staff new to higher education teaching and learning, who can struggle to come to terms with a new discipline and sometimes have difficulty seeing the complexity in the field's key concepts (Kandlbinder & Peseta, 2009).

A further complication comes from the reliance on part-time researchers who dabble in higher education research for short intervals in their academic careers (Kandlbinder, 2012). As such, they rely on methods and methodologies from their home disciplines, even when they may not be suitable for researching higher education teaching and learning. They are not necessarily committed to the different ontological, epistemological and

methodological assumptions that guide the decisions made by higher education researchers (Tight, 2003). Nor are they aware that certain theoretical perspectives have been found to be more engaging for higher education research, such as ideas around diversity or scholarship (Tight, 2004).

The competing definitions of theory, disciplinary differences in knowledge construction and different traditions in how theory is used combine to make theorising particularly challenging. When it comes to higher education researchers building powerful explanations of teaching and learning in higher education the successful theory building strategies are not obvious. Accordingly, this chapter throws light on how highly respected researchers in higher education teaching and learning developed the theoretical components of their research. The reputation and prestige of each of these researchers was such that their body of work contains a signature concept that addresses a distinctive aspect of academic knowledge (Kandlbinder, 2013a). I will use a detailed analysis of the narrative that surrounds these signature concepts to understand what successful researchers do with their ideas. The aim is to learn from beneficial theorising strategies used by others, so potential researchers in higher education can appreciate which approaches to theorising are compatible with higher education research traditions. The chapter concludes with an overview of, as well as recommendations for, researchers who seek to incorporate these techniques into their own research repertories.

SIGNATURE CONCEPTS

Signature concepts are a useful analytical framework for understanding how researchers have gone about theorising in the past. A signature concept is different from a key concept since it is the authors in the field who recognise the importance of an idea in a researcher's body of work. A key concept is subjective in the sense that it hinges on individual personal preferences that can change at any particular time. Moreover, a signature concept is associated with a specific researcher, and is objective in that this association is recorded in the references to the concept made in the major journals in the field.

Tight (2003) undertook the first comprehensive study of higher education publications to show that particular journals focus on different segments of the research field. Drawing on Tight's analysis I was able to show that authors in the four dominant non-North American journals of higher

education teaching and learning – *Higher Education, Higher Education Research and Development*, *Studies in Higher Education* and *Teaching in Higher Education* – have a clear preference for some concepts over others (Kandlbinder, 2013a). As such, they are more likely to discuss the idea that students adopt different approaches to learning, and attribute that concept to any one of four researchers. A similar pattern is found in three North American journals of higher education: *Journal of Higher Education*, *Research in Higher Education* and *Review of Higher Education*. In a review of 17,466 references from 884 articles published in these three journals between 2000 and 2005, I found that authors were most likely to discuss the idea of student persistence and associate this concept with four researchers (Kandlbinder, 2013c).

As well as leaning towards particular concepts for their field, authors attributed particular researchers with developing specific ideas on higher education teaching and learning. The pattern of citation practices in journals located in the non-North American higher education field suggest authors are more likely to turn to seven researchers when discussing matters of teaching and learning. In the North American-based journals the pattern is similar, although it is for a different set of six researchers. Each researcher has produced a significant body of work, and when the citation practices of authors writing about teaching and learning is analysed we find that, on average, the most highly referenced researchers in the field are cited for one publication beyond all others. That publication was largely used to discuss a single concept, albeit for little more than acknowledging its importance in a research tradition. This signature concept shows that particular researchers are strongly associated with specific ideas, even when a variety of researchers across the field discuss the same concept.

I will use a selection from this pool of 13 researchers – Alexander Astin, Ronald Barnett, John Biggs, Noel Entwistle, George Kuh, Ference Marton, Ernest Pascarella, Paul Ramsden, Sheila Slaughter, Edward St. John, William Tierney, Vincent Tinto and Keith Trigwell – identified by authors as providing the signature concepts for the field, to examine the successful strategies for theorising in higher education teaching and learning. This will take the form of a case study analysis proposed by Gruber and Wallace (1999), who suggested analysing the interactive relationship between individuals and the context in which they work. I will begin with Ference Marton, who was the most referenced researcher in the four non-North American journals of higher education teaching and learning (Kandlbinder, 2013a). Marton's signature concept was the idea of a phenomenographic method for analysing variation. The signature concepts

in the North American field were published over approximately the same timeframe as the non-North American concepts. Alexander Astin was the most referenced researcher over a comparable five-year sample of the literature, and his signature concept was the idea that student interactions with their institution influence student success at college.

PATHWAYS TO SIGNATURE CONCEPTS BY RESEARCHERS IN HIGHER EDUCATION TEACHING AND LEARNING

Both Marton and Astin began to formulate the ideas that were to become their signature concepts well before the date of their most cited publication. On average it took five publications from a researcher's body of work to account for half of their references in the literature. It is this body of work that will be reviewed here, while recognising that these are not the only articles or book chapters the researchers will have published during this time period. These are simply the publications recognised by hundreds of authors over a decade of writing about higher education teaching and learning as making the greatest contribution to the research field. This intertextual referencing is one way in which the story lines of theorising are constructed by authors, who draw their ideas from texts in an ongoing interplay of reading, thinking and interpretation (Gubrium & Holstein, 2009).

What therefore are subjective in this study are the views on theorization expressed by the researchers at the time of publication. It is in the introduction to their research articles or chapters in books that researchers have a conversation with the field, as they attempt to explain the aims of their research programmes. Swales (1990) found authors use a three-part model in the introduction to research articles to orientate the reader to what is to come later in the article. Lewin, Fine, and Young (2001) established that the first two parts of the introduction are where researchers made the claim for the relevance of the research field and establish the gap for the research. The favoured method used by authors is to stress the importance of the research that is reported in their study, followed by claims to novelty of what was described as they indicate the gap or the addition that will be made to what is known (Swales, 2004).

What is presented below are four short biographical studies of these explanations from the publications that account for half of the references by some of the most referenced researchers in the field. As suggested by

Gruber and Wallace's (1999) case study approach, this reconstructs the meaning of the researcher's experience from their own point of view. The goal is to maintain a focus on the theorisation of the research, while outlining the evolving pattern of interrelationships as the researcher interacted with the wider research field. The convention of explaining the development of an idea leads to the construction of a narrative, which I have set out for the publications that make up half of the researcher's references in the field. Each summary is presented in the sequence in which they were written, with the proportion of their total references indicating a relative level of significance assigned to the publication by authors in the journals sampled.

The development of the ideas that led Ference Marton to prominence in the field are described in the introductory comments made in five publications that begin in 1976 and proceed to 1997. In most cases Marton co-authored these publications, firstly with Roger Säljö (1976), then Gloria Dall'Alba and Liz Beaty (1993), followed by Dai Hounsell and Noel Entwistle (1997) and finally with Shirley Booth (1997). The dotted line in Fig. 1 shows the envelop of analysis in which the first and last of these publications account almost equally for the largest proportion of citations in this series.

The short biographical study of Marton's development of phenomenography is followed by a description of the development of student interaction theory by Alexander Astin. The envelope of analysis constructed

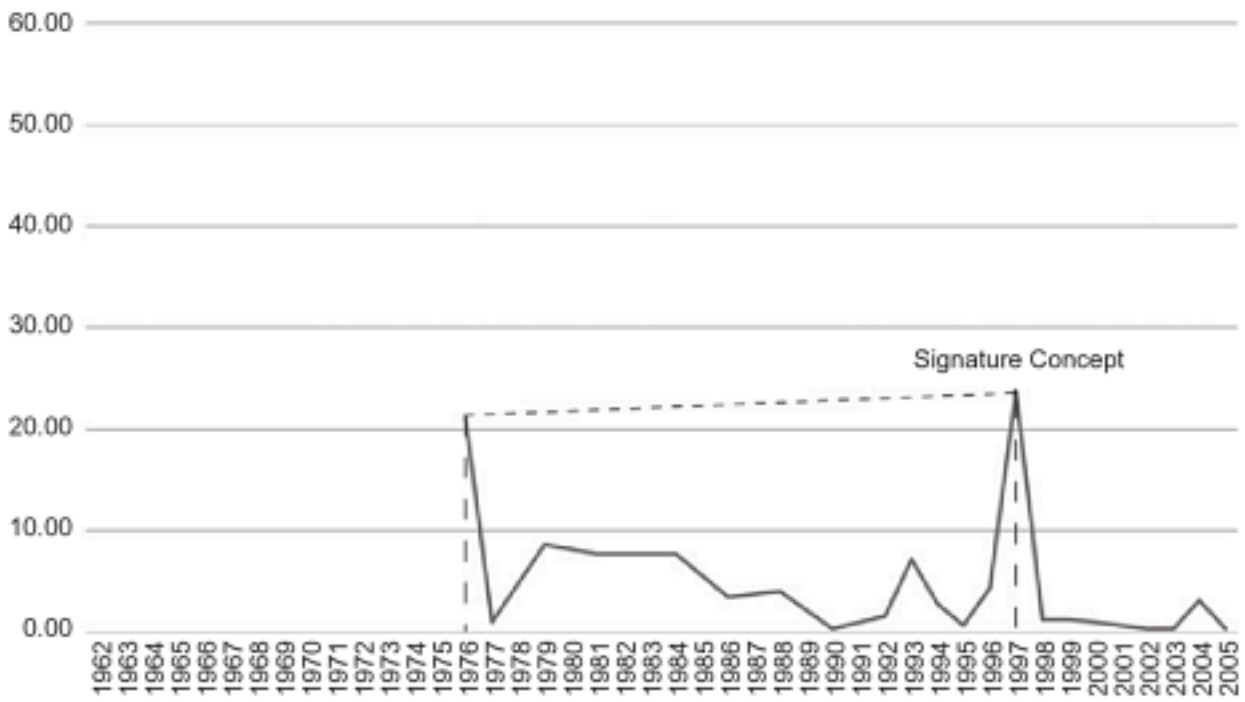

Fig. 1. Percentage of References in Four Non-North American Journals to Publications by Ference Marton.

around Astin's theorising has a different shape to the interaction with the research field that constructed Marton's signature concept. Firstly, Astin is sole author of each of his publications that account for more than half of his references in the three major North American journals of higher education teaching and learning. Secondly, as well as being cited for one fewer publication than Marton, the envelope of theorization described here is somewhat more concentrated, starting in 1977 and proceeding to 1993 (see Fig. 2). This is despite Astin entering into the research literature as early as 1962. Finally, there is not the same launching publication as Marton and Säljö (1976), with Astin's last publication in the series accounting for a third of all his references.

FERENCE MARTON: THEORISING PHENOMENOGRAPHY

Ference Marton was a professor in the Institute of Education at the University of Gothenburg in Sweden when he wrote the first of two publications with Roger Säljö. In their introduction Marton and Säljö (1976) described how their earlier research studies had led them to identify the limitations of previous learning research. They believed learning research

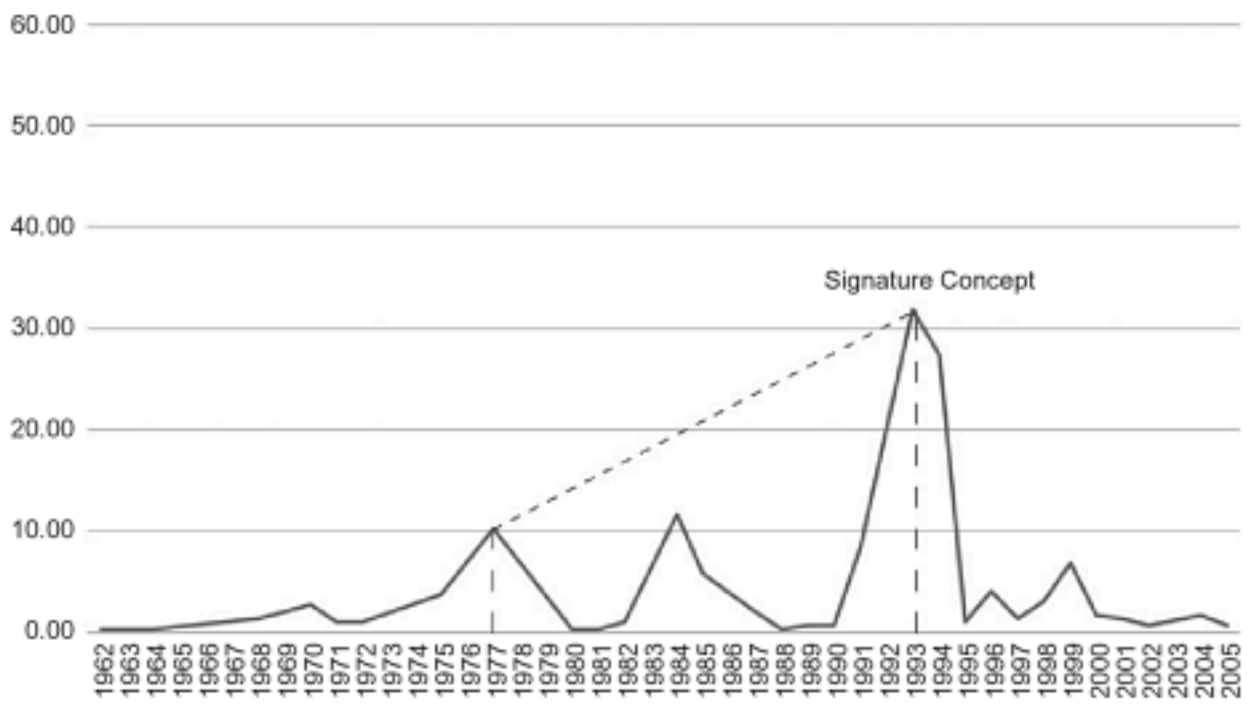

Fig. 2. Percentage of References in Three North American Journals to Publications by Alexander Astin.

focussed too much on the quantitative outcomes of tests. Marton and Säljö wanted to describe what was learned rather than how much was learned. Instead of observing students they asked student volunteers about their process of learning, and found that they described qualitatively different understandings of the same material. Marton and Säljö set out to describe the different processes students used to learn a piece of text, and discovered that they broadly fell into two different approaches that related to the learner's intention for the learning task.

By the time that Marton came to write *Phenomenography* he had begun to make the distinction between first-order and second-order perspectives. A first-order statement is a statement about the world. The second-order statement is about people's ideas about the world. Marton claimed he was only interested in analysing the statements people made about their experiences rather than classifying or judging the people themselves. Instead he wanted to find and systematise forms of thought in terms of how people interpret different aspects of reality. Marton argued that a research programme that aims to describe, analyse and understand what is said about experience rather than experience itself suggests a relatively distinctive field of inquiry, which he labelled 'phenomenography' (Marton, 1981).

Marton et al. (1993) used this distinction of statements about experience to reanalyse an earlier research study by Roger Säljö (1979), which had found five distinctive conceptions of learning. They said they wanted their study to give a more precise characterisation of the differing conceptions of learning, and to identify the relationships between the different conceptions students use when thinking about their learning. They framed Säljö's work within their concept of phenomenography, introducing a distinction between *what* is learned and *how* it is learned.

This newly validated research approach was further confirmed in a compilation of research studies into the qualitative differences in the outcomes of student learning. Rather than focus on individual student differences, three researchers combined to describe how the different ways of understanding a text have come about (Marton, Hounsell, & Entwistle, 1997). This rested on a fundamental assumption that, if the outcome of learning differed between individuals then the process of learning that leads to those different outcomes must also have differed between individuals. Marton et al. (1997) used this opportunity to clarify the kinds of studies that they classified as phenomenography, only recognising those that examined the relationship between the process of learning and the different meanings attributed to learning outcomes.

Finally, Marton provided a detailed explanation of his mature theory in Marton and Booth (1997), with a further shift in focus from descriptions of learning to learning itself. They defined learning as coming to experience aspects of the world in particular ways. What they were interested in was the variation in ways in which people experienced situations and phenomena in their worlds. They broadened their definition of phenomenography to include the research into ways of experiencing things. Marton and Booth (1997) applied this method to the investigation of learning, defined as an increased differentiation and corresponding integration of the whole and its parts to build ever more complex and advanced forms of knowledge.

ALEXANDER ASTIN: THEORISING STUDENT INVOLVEMENT

It took a considerable time for Astin to come to prominence in the U.S. field of higher education teaching and learning. He began by spending 17 years studying the outcomes of students who received scholarships to undertake doctoral degrees. Over that time he came to the realisation that the quality of college graduates largely depended on the abilities and aspirations of students entering universities (Astin, 1977, p. ix). Astin refined his approach for surveying the environmental factors that influenced achievement among the most able students, and applied the same questions of family background, secondary school achievement and educational aspirations to undergraduate students in the first large-scale study of entering freshmen in four year colleges and universities (Astin, 1977). This survey was adopted by the American Council of Education and, over the next 10 years, gradually expanded into an annual national survey of commencing students.

Following the success of his approach for identifying student impact, Astin clarified the features of his theory (1984). Astin explained that he was motivated by a desire for simple theories. For him, student involvement referred to the amount of physical and psychological energy that students devoted to the academic experience. He recognised that there was a growing confusion around the question of student development in higher education, which in part came from the diversity of problems being studied. This diversity resulted in researchers looking at different variables or employing different methodologies to study the same questions. To bring

order to the confusion that had emerged from discussions of his own research, Astin turned to dictionary definitions and alternative wording and phrases that captured some of the intended meaning behind his theory of involvement. Unlike Marton, who shied away from categorising students, Astin felt a behavioural component to student involvement was essential, as he wanted to focus on what the individual did, although he did not deny that motivation was an important aspect in students becoming involved in their studies.

Having clarified the key tenets of his theory and its application to educational research, Astin (1991) then applied the theory of student involvement to what he considered to be a significant problem in higher education; the question of students' experiences of assessment. Astin was convinced that a great deal of assessment activity had very little benefit to students or higher education's educational mission. He reviewed his 25 years of data on assessment and concluded that good assessment used much the same approaches as good research, with the ultimate aim of helping university teachers make better decisions in running educational programmes and institutions.

After demonstrating the general utility of his theory of student involvement to answer questions about student experiences of teaching and learning, Astin updated the results of his original study (Astin, 1993). He summarised the theory of student involvement as understanding the environmental effects on student learning. He had found that learning was enhanced by such things as living on campus and full-time attendance, because students tended to invest more time – as well as physical and psychological energy – into the educational experience. Astin (1993) enhanced our understanding of these processes by showing that one of the most powerful sources of student involvement was the peer group. He suggested that there are a number of additional studies that confirmed his findings, and these findings extended well into the post-college years.

ALTERNATIVE TRACKS TO THEORISING SIGNATURE CONCEPTS

Marton and Astin are the two most referenced researchers in the higher education field of teaching and learning. We can see that they both adopted similar strategies to argue against experimental psychology and provide methodological confidence for their alternative research programmes. First,

they identified inadequacies of prior research approaches, which they then countered in a detailed explanation of the theoretical basis for an alternative approach to higher education research. This new approach was then tested on previous research to show the validity of the proposed alternative. The results of multiple examples of the alternative approach were then used to provide evidence for a fuller formulation of their mature theory.

To test whether this kind of strategy is a common method to theorising in higher education teaching and learning, I will compare the tactics used by the researchers with the shortest and longest paths in developing a signature concept. I will begin by describing the approach used by Sheila Slaughter, who, of the 13 researchers identified with signature concepts, was the only one principally referenced for a single publication. I will follow this with the pattern of interrelationships described in the introductions to the 12 publications required by Noel Entwistle to account for half of his references in the field of higher education teaching and learning. This was the largest number of publications required by any of the 13 researchers in either the North American and non-North American field of higher education teaching and learning.

SHEILA SLAUGHTER: THEORISING ACADEMIC CAPITALISM

Plainly it is not possible to construct the same narrative of development from a single instance. The publication Sheila Slaughter co-wrote with Larry Leslie accounts for 53% of all of Slaughter's references in the field of higher education teaching and learning (Fig. 3).

To recount Slaughter and Leslie's (1997) own explanation of their research, they began by examining the changing nature of academic work and found that the period of their investigation (1970–1995) was a time of extraordinary change not experienced in higher education since the last quarter of the 19th century. Fuelled by globalising economies, universities were experiencing a large reduction in public funding that was leading to dramatic changes in academic work, including undergraduate teaching. Slaughter and Leslie described their choice of labelling this change as academic capitalism as a deliberate play on words, using capitalism to define a system in which decisions were being influenced by market forces and increased competition for resources. Academic capitalism described a distinctive commodity owned by academic staff who engaged in producing

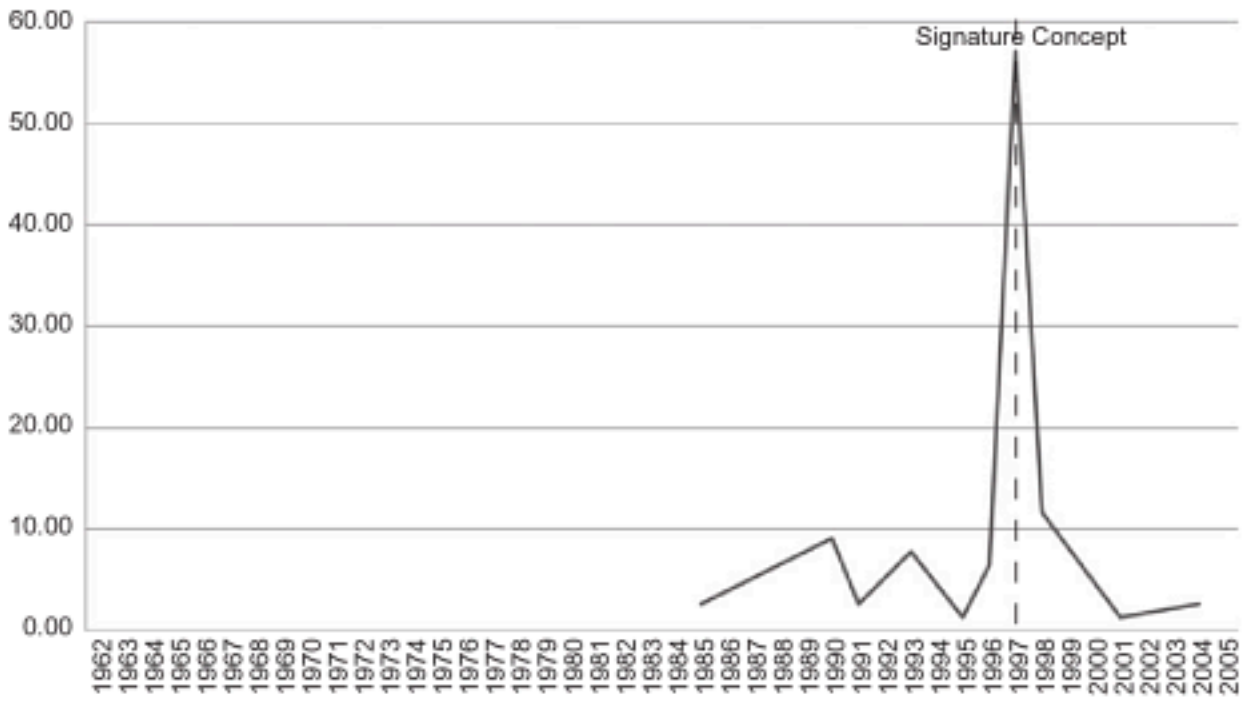

Fig. 3. Percentage of References in Four Non-North American Journals to Publications by Sheila Slaughter.

specialised knowledge for their own benefit, for the benefit of the university they served and for society at large.

NOEL ENTWISTLE: THEORISING STUDENT APPROACHES TO LEARNING

Noel Entwistle rose to prominence in the higher education teaching and learning field shortly after he introduced the Swedish approaches to learning research to a UK audience. Entwistle began writing about learning research in 1981, and his 12 most referenced publications continued on the theme of student approaches to learning until 2003 (Fig. 4). He initially entered the field as a sole author and progressively wrote with other researchers after he had published his signature concept with Paul Ramsden.

Entwistle outlined his break with traditional psychology in 1981. He described the aim of this publication was to bring coherence to a fragmentary set of topics drawn from mainstream psychology, by building a framework with which to understand the learning process (Entwistle, 1981). In so doing, Entwistle outlined many of the main themes of his future research programme, such as the emphasis placed on learning in higher education; looking at learning from the point of view of the learner; awareness of

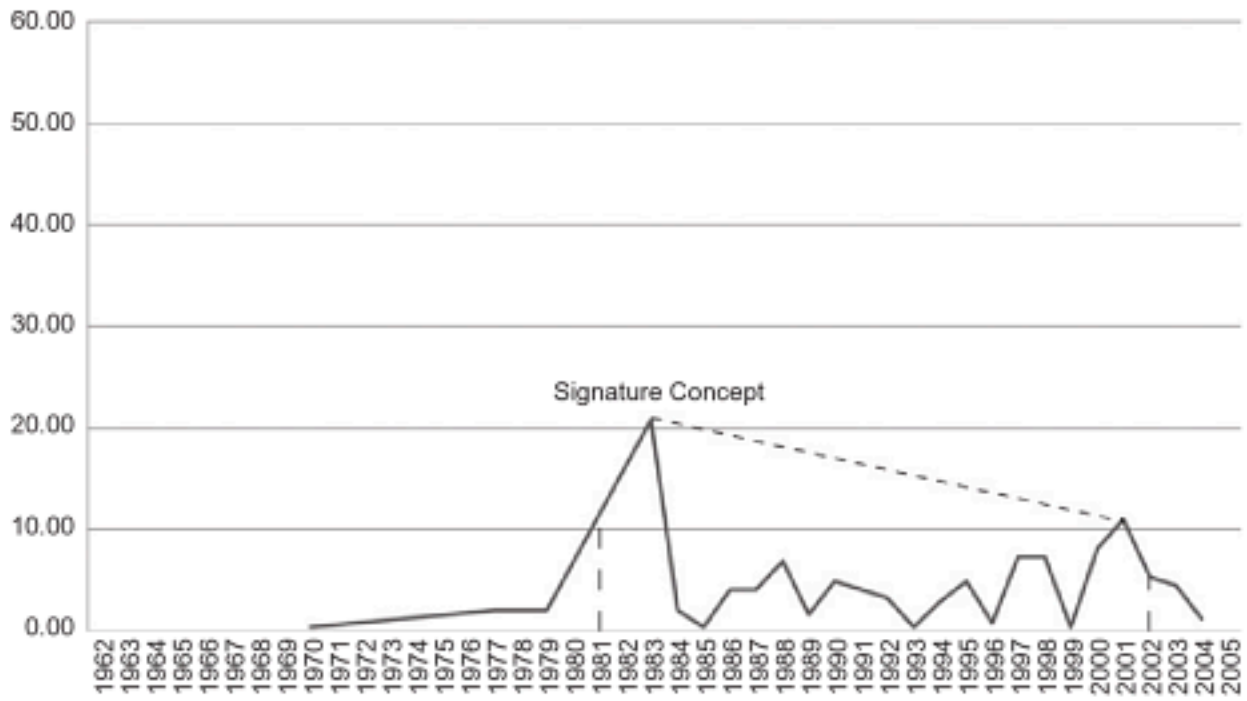

Fig. 4. Percentage of References in Four Non-North American Journals to Publications by Noel Entwistle.

factors associated with success and failure in higher education and showing how theories were related to personal experiences – all of which Entwistle identified as not being fully considered previously.

Entwistle then completed a five-year study to investigate student approaches to learning. The result was the publication most commonly referenced to Entwistle across the four non-North American journals, which was responsible for 20% of his references in the field (Kandlbinder, 2013a). The publication written with Paul Ramsden identified student learning research as examining different conceptions of subject matter and differences in how students tackled learning tasks to determine how these differences arose (Entwistle & Ramsden, 1983). In the process it outlined Entwistle's signature concept that students can adopt a third, strategic approach to learning.

In Entwistle's next significant publication he again attempted to bring together disparate concepts, by providing a survey of important ideas from psychology and matching them with educational issues that had relevance for classroom practice. He selected concepts that portrayed learning from the learner's perspective which also related to classroom realities (Entwistle, 1987). Entwistle (1988) described the theoretical background to an inventory he had devised to determine the organisation of study, active learning processes and motivation for learning. Entwistle then combined with Tait to recap the progress made on student learning research to that

point, to argue for a further examination of the relationships between individual perceptions and approaches to learning (Entwistle & Tait, 1990). They argued that there was sufficient consensus on what constituted good teaching, and the reliability of student feedback questionnaires, to use the outcomes from a variety of surveys to demonstrate that different ways of studying are influenced by particular methods of teaching. This was then followed by a re-examination of previous studies that had found an outlier group who adopted different learning strategies than found in earlier studies (Entwistle, Meyer, & Tait, 1991). These outlier students did not follow the usual linkages between approaches to learning and perceptions of the learning environment, but instead demonstrated a random set of associations that resulted in unsuccessful study behaviour.

Entwistle continued this process of reanalysing, reassessing and revisiting parts of original transcripts to support a new direction in his research. Initially teaming up with Ference Marton, Entwistle began to focus on the different ways students described understanding (Entwistle & Marton, 1994). Having demonstrated the utility of this research tradition, Entwistle described the contribution that phenomenography had made to research in higher education (Entwistle, 1997). Then reusing the strategy employed in the approaches to learning research, Entwistle and Entwistle (1997) identified understanding as the desirable outcome of university learning, and argued for clarity on what was meant by this term. Entwistle then continued the exploration into the distinction between memorisation and understanding, which he identified as the outcome of deep approaches to learning (Entwistle, 1998).

Entwistle returned to the question of outliers and the analysis of earlier surveys to see whether passing and failing students answered their earlier questionnaire differently to other students (Entwistle, Tait, & McCune, 2000). Finally, Entwistle and Smith (2002) returned to the development of a conceptual framework to describe classroom learning from models of learning that had their origins in the classroom, and could be used to improve the quality of teaching.

PATTERNS OF THEORISATION IN HIGHER EDUCATION TEACHING AND LEARNING

The four short case studies of developing conceptual understandings of teaching and learning show four different patterns of intertextual

engagement by researchers, as they built their reputation in the field of higher education teaching and learning. The idea of travelling along a path is an analytical device to understand the links between ideas – those leading to a signature concept or following from it – which are in a constantly moving field of ideas (Tsoukas, 2009). The path to a signature concept is only obvious in hindsight, and should not be seen as a roadmap to predictable results that others can follow. It simply highlights the contextual factors that have influenced four researchers as they were trying to answer the shifting questions central to their field. The value of these cases is they were derived from researchers' actions as they undertook the difficult task of explaining the outcomes of their research. They are not the remembered processes of theorisation derived from participant interviews.

The explanations used by Marton to introduce his research programme to a wider public in his five most referenced publications describe the methods he used to define which research approaches are consistent with his theory of phenomenography. Marton began by identifying inadequacies in the prior approaches to learning research and proposing an alternative approach, which he continually redefined with each new publication deemed significant by authors in the field. To convince others of the validity of this approach he tested its application on previous research, and defined the kinds of research approaches that did not fit with his definition. He then worked with a group of UK-based colleagues to collect examples that matched his notion of research, until he was able to formulate a detailed description of his mature theory.

By comparison, Entwistle's approach of continually revisiting, reviewing and recapping research created an extended period of influence in the field, without the dramatic entry from virtual obscurity experienced by Ference Marton. Entwistle was cited for publications well before he engaged with the ideas of Marton and the Gothenburg School, which he acknowledged formed the theoretical basis for his research after he began to question the value of traditional psychology to classroom practice. It was 13 years from the first reference in the literature to his publication that was responsible for his signature concept. However, this is arguably the only concept that could be conceived as original to Entwistle's body of work, and instead he placed his energies into refining ideas, pursuing studies of integration and revision throughout his career. Consequently, while his signature concept occurred in the early stages of Entwistle's envelope of influence, it tapered off over his career until the refocus on the conception of understanding lead to a minor resurgence towards the end of the sampled articles.

Alexander Astin had the longest career in researching higher education teaching and learning of the four researchers presented here. He was referenced in the sample of articles for publications written over a 43-year period. Yet, it only required four publications within a 16-year envelope of influence to account for half of the references made to his work in North American higher education journals between 2000 and 2005. In Astin's case, there was a steady accumulation of data about students undertaking university studies, with his last publication in his series also being his most significant. Like Marton, Astin (1993) wanted to study the world as it was to provide a comprehensive portrait of student development in all its complexity. Astin also battled against the methodological limits imposed by psychology, which only recognised the superiority of experiments over correlational studies. Again, like Marton, Astin recognised the impracticality of conducting psychological experiments in the classroom and instead set about showing the validity of making causal inferences from correlational data, much as other fields of science unable to control all input variables in their studies had done. Convincing others of the validity of his approach required showing the inadequacies of prior research methods and verifying his theory on previous research outcomes.

At first glance, Sheila Slaughter appears to be at odds with the other three examples selected to discuss theorisation. Like Marton, she has a major launching publication but, unlike the other researchers, she is then largely uncited for her later work following that early success. Similarly to Entwistle and Astin, Slaughter was being cited for work done more than a decade before the publication of the research that was to result in her signature concept. Nonetheless, it is the unique qualities of Slaughter's case that highlights the importance the research field plays in dictating the directions of theorisation.

From time to time it must be possible to achieve the perfect timing of publishing an idea just when authors in a field are looking for explanations that clarify important changes in their circumstances. Sheila Slaughter appears to have achieved such a confluence of factors with the concept of academic capitalism. Slaughter acknowledges that neither she nor her co-author were the originators of the term, which was first used by Hackett (1990) in relation to academic science. Instead of attributing the importance of the concept to this distinctive term, Slaughter and Leslie (1997) argued that it was the dramatic nature of the changes to academic work that were as great as any that occurred during the industrial revolution. It was the universality of the global changes and the consistency of the institutional responses – regardless of the university

system that they had analysed – that created value in the explanation that was being offered.

Still, it is unexpected that this particular research field so strongly adopted a concept that does not obviously address questions of teaching and learning. There was no apparent focus on learning, although Slaughter and Leslie certainly described the effects of economic changes on teaching. By showing that changes in teaching were linked to changes in the economy, Slaughter and Leslie were able to bring in ideas from economics that had previously been considered to be incompatible with theorising teaching and learning. It was through the integration of topics that were often treated as separate that Slaughter and Leslie were able to provide a language for discussing economic forces that resonated with changes that continue to play out in higher education.

In addition, it is unusual for the non-North American field to adopt a signature concept from across the Atlantic. Taking an international view and making cross-sector comparisons allowed others to make sense of changes affecting their own university system, regardless of whether they are located in North American or non-North American countries. Slaughter remains an active contributor to her own field of academic work, and has moved to researching specific examples of academic capitalism, such as the conditions for women in the entrepreneurial university. Moving away from the international perspective means it is unlikely her current studies will resonate so resoundingly with the field of teaching and learning, without another significant shift in the context of higher education. Where Slaughter is cited in reference to higher education teaching and learning, authors continue to prefer the original study on academic capitalism to more recent work.

DOING THEORISING WORK

What distinguishes the successful theorisers discussed above from others in the field is they took a risk to break away from traditional approaches to research, and the field decided these new directions were worth pursuing. It needs to be acknowledged that 58% of the 56,000 references in 1,935 articles only appeared once in the sample of articles reviewed for this study. Stand out performers, like Sheila Slaugher, are rare, and gaining prominence in the field takes many years of effort. Successful researchers, such as Marton, Astin and Entwistle, all produced large volumes of work, of which

only a few key examples are discussed above. What these examples show is only two of the four researchers could be described as having a growing reputation in the research field. That is to say that their later publications received a higher proportion of references from authors than their earlier publications. However, it is worth noting that it took Marton 20 years to achieve the same level of recognition for his most referenced work as he received for his launching publication. Similarly, it took Astin 15 years to build on his first major national study, producing a publication judged by authors in the North American journals to have made a significant contribution to the field approximately every four years.

Finding the problem worth solving was the key to the creative actions in my four case studies. For three researchers these were constraints caused by applying the central ideas from their parent discipline to a new domain, which drove them to modify their ideas as they were assimilated into new situations. Understandably, no one likes to waste his or her time on unfruitful pursuits, yet problem situations are ill defined and difficult to recognise in advance, and it is impossible to know which new direction will succeed ahead of time. In the case of the research method that became known as phenomenography, the limits imposed by methodological requirements for experimental research esteemed in psychology lead Marton to study students' statements about their experiences of learning, and thereby to classify different meanings used to describe how students approach learning. This distinctive approach to studying student learning stimulated a significant body of followers who were looking for a straightforward empirical method specific to learning in higher education settings.

If we look at the explanations used by Astin to gain prominence for his ideas in the North American field of higher education teaching and learning (as offered in the introductions to his four most referenced publications), we can see that he developed his theory of student interactions through an ever-expanding generalisation of his research outcomes to increasingly nation-wide contexts. Like Marton, this began by identifying inadequacies of psychology for understanding factors that impact on student success at college. Astin then clarified features of his theory as it was extended into new domains, firstly for graduate students, then undergraduates, followed by assessment and finally nation-wide experiences of higher education. It is the range of these interactions that Astin summarised in his best known publication (1993) which defines his mature theory.

The process of theorisation, as performed by these four cases in higher education teaching and learning, is then a balance between continuous improvement and originality that leads to a continual refinement of ideas

that address important questions relevant to the field. In addition to a prodigious output, building a reputation in the field required a dedication to a single idea for significant periods in these researchers' careers. There has been a continuity of work that has been recognised as a signature concept, even when these researchers may have been working on multiple research projects. Researchers, much like Entwistle, had to be willing to experiment with alternative perspectives to push beyond the limitations imposed by their parent discipline, until they discovered something of value to higher education teaching and learning. In Entwistle's case, he followed finding an alternative research framework with a commitment to convince the field of the validity of this different direction in higher education research. By testing the boundaries of a research tradition, and having occasional successes, these researchers acquired an international reputation as contributing to our knowledge of teaching and learning.

FINAL THOUGHTS

In this chapter I have looked into the explanations provided by successful researchers as they negotiated the boundaries of higher education research to create new ideas that would become central to the field of teaching and learning. These are intended as succinct accounts of what they have achieved, and how that compared to a few of their contemporaries also working in the field. Comparing their explanations over time shows that their thinking was evolving along a path that would eventually become recognised as their signature concept. Understanding the influence of timing, scale, persistence and the value of translating ideas from other fields enriches our repertoire for appreciating the many ways that ideas are created.

There is much in these examples that warrants further discussion, especially around individual methods of theorisation. While it may not be possible to generalise from their individual motivations or attributes, there are still many more lessons we can learn from individual experiences. For example, did Astin become better at choosing promising lines of inquiry as he refined his methods of correlational analysis that led to his most referenced publication? How was Marton able to launch his earlier research from Sweden into the English-speaking field and retain a foothold, even when the majority of others would have returned to obscurity? What qualities enabled Entwistle to lead others to adopt academic ideas well beyond their central site of inception?

The close relationship between publishing and academic reputation suggests that the growth of higher education journals will provide many more opportunities to publish, and, therefore, the potential to include previously excluded groups (Kandlbinder, 2013b). This requires a willingness to integrate new ideas into local situations, and, if we are to gain a clearer understanding of the process of theorisation, we need to continue examining the interplay between individual and contextual factors and the different ways ideas have been received, adapted or resisted by those interested in answering questions about higher education teaching and learning. When the two factors are aligned new ideas can be embraced in spectacular fashion, even where they first appear unrelated to the research field.

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