



Making sense of research-based learning in teacher education

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HIGHLIGHTS

- The role of research in teacher education is contested.
- Teacher educators have different understandings of what a research-based learning course is intended to achieve.
- Their teaching strategies uncritically draw upon their own research learning experiences.
- Success depends on critical evaluation of assumptions about the role of research in education, how to develop it, and why.

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ABSTRACT

Research-based learning challenges teacher educators to rethink pedagogical strategies, particularly so in a context where views about the role of research in pre-service teachers' professional development are contested. The views of academics implementing a research-based learning course in teacher education are examined through qualitative semi-structured interviews in order to understand how learning autonomy is fostered. Variation was found in what teacher educators thought the course was intended to achieve and in their teaching strategies. The basis for pedagogical decision-making appeared to be their own research learning experiences. Implications for teacher education and for implementing research-based learning more generally are discussed.

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1. Introduction

Research-based learning is becoming important for professional education in many areas. It is now widely recognised that to increase engagement of undergraduate students in research is to work towards a higher education where future professionals are encouraged to go beyond learning disembodied knowledge at university and are prepared to cope with the ambiguous and uncertain demands of their future (Barnett, 2000). Integrating research-based learning into teacher education courses at the undergraduate and master levels can be seen as part of an international effort to educate teachers for a fast-changing reality in schools, with continuous needs for development in the classroom (OECD, 2005).

We are interested in what happens when teacher educators

implement a research-based-learning course with freedom to decide how to do so. Research-based learning can challenge teachers to rethink pedagogies they have usually used. Alternatively, they may endeavour to use existing pedagogies in the new setting. However, the nature of educational research and its role within teacher education are the subjects of considerable debate within the profession and its practice (see e.g., Munthe & Rogne, 2014; Puustinen, Sääntti, Koski, & Tammi, 2018). For some academics, such debates may call into question the purposes and goals of research-based learning courses.

The starting point for our study was a concern to understand how teacher educators foster student autonomy and independence through research-based learning. Through an interpretive study we interviewed teacher educators in a large research-intensive university in Germany about their goals for the research-based learning course, the strategies they used to achieve these goals, and the role of their own subjective theories and experiences on their decision-making.

Underpinning our study is the Research-Based Learning Decision-Making Wheel Model (Brew, 2013) which recognises the

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importance of research-based learning in developing student autonomy and provides a rational framework for the design of research-based learning curricula and pedagogy. In this paper, we examine what teacher educators say they want their pre-service teachers to achieve and ask why they make the particular choices to teach in the ways they do. By viewing our findings through the lens of the Wheel Model a deeper understanding of decision-making in research-based learning both in teacher education and more generally is developed.

Following a discussion of the relevant literature, we explain the context for our research and the method of investigation. We then examine our findings in relation to ideas about what the teacher educators considered the research-based learning course was intended to achieve. We ask why they responded to the challenge of implementing the course in the ways that they did and what the effects of their conceptions were on the teaching strategies they used. We argue that a critical component of teacher educators' pedagogical decision-making in a research-based learning context are their own research learning experiences. In the discussion we assess the contribution of the study to understanding the implementation of research-based learning in teacher education and more generally, and explore the implications for the Wheel Model arguing that critical examination by teacher educators of their past research learning experiences is a pre-requisite for rational decision-making.

2. Background

Initiatives to engage undergraduates in various forms of research have grown over the past twenty years or so as a response to international calls to more fully integrate research and teaching within universities (see, e.g., *Boyer Commission, 1998; Fung, 2017; Hattie & Marsh, 1996*). In this section we explore research-based learning as a component of teacher education and examine the concept of learning autonomy within models of research-based learning. This leads to a consideration of previous studies of academics' conceptions of what they are doing in encouraging student research. This background literature paves the way for the consideration of the context of the study.

2.1. Research-based learning in teacher education

There have been increasing calls for teachers to engage in practitioner or action research as part of their ongoing professional development (see e.g., *European Commission, 2014; OECD, 2005; Smith & Sela, 2005*). Learning outcomes are, for example, attributed to the development of professional competences, the growth towards evidence-based practice and 21st century skills (e.g., *Afdal & Spernes, 2018; Fichten, 2010; Niemi & Nevgi, 2014*). While some countries (e.g., Finland) have a long tradition of teacher education based on practitioner research (see e.g., *Hökkä & Eteläpelto, 2014*), in others it is a relatively new phenomenon (*OECD, 2005*).

Recent research shows that while in some programs, student teachers are well capable of investigating professional problems using research methods and academic literature and value the integration of research into their education (*Niemi & Nevgi, 2014*), others struggle with working in peer research projects (*Dobber, Akkerman, Verloop, & Vermunt, 2012*) or teacher-led research in which there is little student engagement (*Munthe & Rogne, 2014*). Supporting these findings, *Puustinen et al. (2018)* found that pre-service teachers appreciate research-based teacher education differently. They argue that there is an unclear idea of teachers as researchers, and that prospective teachers struggle to connect the theory-oriented education in their studies with teaching practice in

schools.

A key finding of a number of studies has been that in order to use the potentials of research-based learning, education students need to be actively involved in the research process and be socialized into research practice (*Afdal & Spernes, 2018; Niemi & Nevgi, 2014*). They need time to elaborate before making strategic research decisions as part of a collaborative peer group (*Dobber et al., 2012*). Pre-service teachers can succeed working on equal terms with an in-service teacher (*Willegems, Consuegra, Struyven, & Engels, 2017*) or may work by themselves within their educational program (*Niemi & Nevgi, 2014*). In educational practice, what needs to be supported, because it is not yet a given, is the transfer of improved reflection and inquiry skills gained through doing research into daily teaching practice (*Willegems et al., 2017*) as well as the integration of the research components with other elements of the teacher candidates' studies (*Niemi & Nevgi, 2014*).

Decisions to introduce research-based learning in teacher education carry with them assumptions about the role of research evidence and research activity in the everyday practices of teachers. Indeed, alongside these developments, the international literature highlights disquiet about the nature of educational research evidence and presents arguments in favour of ensuring rigour in all educational research; becoming "scientific" as *Feuer, Towne, and Shavelson (2002)* express it. *Davies (1999)* makes a distinction between utilising existing evidence and establishing sound evidence which, he argues, should then be used to inform pedagogy. In this view, educational research is viewed as separate from the act of teaching. However, there are voices that demand a direct integration of research into teaching practice (*Feldman, Altrichter, & Posch, 2018*). Amongst teacher educators, these differing views can also be found, leading to, as shown above, education students being more or less unsure of the role of research in their university education (*Puustinen et al., 2018; Smith, 2005*). It is clear that a mix of such attitudes is likely to be reflected in how teacher educators translate the requirement to introduce research-based learning into their courses.

In sum, these studies show that the integration of theory and practice, research and professional training may be accomplished in some research-based teacher education programs, but in others it still needs to be developed. In general, coherent programs for research and inquiry urgently need to be created (cf. *Munthe & Rogne, 2014; Puustinen et al., 2018*).

2.2. Autonomy and decision-making in research-based learning

Autonomy has been variously described as students' ability to take charge of their own learning and the willingness to do so (see e.g., *Duarte, Leite, & Mouraz, 2016*). Developing student autonomy appears to be a product of both the learning environment and students' predispositions (*Deci & Ryan, 1987*). Developing student autonomy is integral to an emancipatory curriculum such as research-based learning can provide.

Beckman and Hensel (2009) drew attention to a number of tensions in undergraduate research implementation and it is clear from attempts to provide frameworks for action (see e.g., *Healey & Jenkins, 2009; Levy & Petruilis, 2012*) that implementing research- and inquiry-based approaches to learning requires a number of complex decisions to be made both at the curricular and the pedagogical levels (*Brew, 2013*). However, *McCarthy (2015)* suggests that a focus on autonomy is rarely found in the literature about developing research skills. Exceptions to this are *Willison & O'Regan's (2007)* Research Skills Development Framework which maps the progressive development of university students' research skills and increasing levels of autonomy across a course or program of study, and *Brew's (2013)* Research-Based Learning Decision-

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