

How would teacher education researchers view the suggestion that teachers' practical knowledge is a solution to the theory and practice gap?

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Introduction: The theory and practice gap in relation to teacher education research

A GREAT DEAL of teacher education research has focused on concerns around the idea of a divide in the theory and practice of teaching during the professional preparation of novice teachers (e.g. McIntyre, 2009; Darling-Hammond, Newton & Wei, 2010; Korthagen, 2010). A gap has been identified between those theoretically-informed approaches to the teaching taught in the university and the practices student teachers encounter when working in a school context. Traditionally, school practice has been seen as an expectation “to provide a place for student teachers to practice [*sic*] teaching [and] to try out the practices provided by the university” (Zeichner, 2010, p. 90). Often referred to as field experiences or school practicum, calls have grown in the research literature for greater integration of the different aspects of teacher education courses by tackling the divide between course content taught in the higher education institution and the practical experience of working in schools (Grossman, Hammerness & McDonald, 2009; Cochran-Smith et al., 2012).

Suggestions in the teacher education learning literature indicate that more is needed in order to overcome the gap between theory and practice (Korthagen, 2010). The gap has been associated with what has been termed ‘the transition shock’ (Veenman, 1984) which occurs when student teachers leave the university setting to work in schools and adjust to school practices with little regard to previously discussed theoretical insights on teaching and learning. This concept has been seen in terms of socialisation (Robinson, 1998), but also in terms of relating general theory to specific contexts which may appear less relevant to actual practice which is “generally ambiguous and value-laden” (Schön, 1983). It has also been found that student teachers' preconceptions on teaching and

learning are difficult to change after years of personal experience of being a pupil themselves (Lortie, 1975).

Scepticism over an academic approach to the professional preparation of teachers has existed for some time with “unresolved epistemological differences” (Furlong, 2013, p. 31) noted as a consequence of the Robbins report (1963) in the United Kingdom recommending that teacher education be based in the academy: the relationship between theories derived from the academic disciplines of history, philosophy, psychology and sociology, not sitting easily alongside practical knowledge. Current research (Douglas, 2014) also notes a divide in the approaches that different contributors to teacher education take with regard to learning to teach in courses where students based in a university work part of their programme in schools. This division has been noted for some years:

The fact that some mentors perceive the placement file to be the prerogative of Higher Education Institution might lead to trainees feeling that ‘writing it down’ is a theoretical prerequisite of the college whilst what they do with the teacher is practice and therefore more relevant; in this way an unfortunate distinction between theory and practice becomes embedded in the minds of mentor and trainee. (Hopper, 2001, p. 219)

It is not clear how learning that occurs in a university setting can be transferred in order to enhance teaching in the school setting. How patterns of behaviour build up in one setting and are then deployed in a new setting as the individual moves between them is a problem identified by Edwards (2005) in a discussion on learning that focuses on the individual adapting to different social situations or workplace activities. Many practices in teacher education are based on a cognitive model of transfer in which decontextualised knowledge and skills are

learned in the university, ready to be utilised in school (Jackson & Burch, 2015). So in these terms the theory-practice gap has remained a problematic obstacle in teacher preparation and a focus of teacher education research.

The relationship between teachers' practical knowledge and theory

Research in teacher education as in educational research itself is characterised by its diversity. Models of teacher education partnerships vary across education systems. It would seem that many (though, not all) of those working in higher education have had a leaning towards a more academic model of professional knowledge and education, while successive governments, teachers and students have aspired to a much more pragmatic approach, sceptical of the value of theory and research (Furlong, 2013). Proposals in larger teacher education systems as in the United States of America (USA) may exhibit modernist tendencies as identified in the notion of 'performativity' (Ball, 1991) and accountability noted in England. Cochran-Smith (2009, p. 14) identifies evaluations of teacher education programmes in the USA that have been based on pupil outcomes. This has been done by comparing pupils' test scores when taught by experienced teachers with those from pupils taught by new teachers from identified teacher education programmes. The specific role of practical knowledge in teachers' learning is not considered, yet it is the teachers who are seen as 'the determining factor in boosting pupils' achievement'. This ignores the importance of the teachers' professional growth.

The number of journals with a focus on teacher education illustrates the size of the field, its foci and the differing interests and approaches to teacher education research. In discussing the challenge that such diversity of research presents, Furlong (2013, p. 104) considers that "many forms of educational research can be persuasive":

However, if undertaken well, within its own terms, educational research can work rhetorically amongst academic, policy and practitioner communities. (Furlong, 2013, p. 104)

With this aim in mind research studies in teacher education have been undertaken with, as Whitty (2006) has suggested, a perspective on education(*al*) research (working with practitioners and specifically focused on the improvement of policy and practice) rather than within the broader term of education research (which encompasses all kinds of research in

education). In the USA a current focus of teacher education research is on instructional routines and practices and advocates the use of shared artefacts (annotated lesson plans and assessments for example) which are continually updated as teachers and researchers work together to test, refine and teach them through a process of classroom inquiry. The aim is to better preserve knowledge about good teaching practices which had previously been held by individual teachers (Zeichner, 2012). This form of teacher education research is also seen to help teachers develop the inquiry habits and skills that will enable them to more actively contribute over time to building and improving the knowledge base of their profession (Cochran-Smith & Lytle, 2009).

In England too the teacher education model prioritises student teachers learning through experience. It values the expertise in schools and relies on the craft knowledge of teachers (Hagger & McIntyre, 2006). Being in school for two-thirds of a one-year teacher education programme reflects the importance of 'working on the job' in order to develop practice. The expertise found in the school context is advocated as being crucial to effective student teacher learning (Hagger & McIntyre, 2006; Edwards, Gilroy & Hartley, 2002). Benefits from learning in schools come from using the expertise of teachers and engaging with them in 'practical theorising' (Hagger & McIntyre, 2006), which is about developing a critical evaluation of ideas as they arise in the work situation. The role of the university here is to help teachers develop practical theories. This highlights the importance of appreciating the social contexts of school and recognising how this can both afford and constrain learning opportunities. In smaller courses it is possible to collaborate in partnerships on a more personal level with extensive coordination between the higher education institution and schools in order to work closely on matters of teacher education, but also on research initiatives that may strengthen a research partnership (Douglas, 2015; MacDougall, Ptika, Reid & Weir, 2013; Husbands, 1995).

The nature of this form of teacher education research addresses what it is to be knowledgeable in the field of teacher education and questions how opportunities for teacher learning are best developed. A current view that has dominated policy documents nationally and internationally has been concerned with practical knowledge recognised as an important element in professional education and teacher education in particular. This is especially evident in

England where university-based knowledge is no longer considered by the government to be a crucial element of professional education. For many new teachers entering the profession in England their professional preparation is now entirely practical (Furlong, 2013). Hence, a focus on practical knowledge and how this integrates with disciplinary-based knowledge and theory most often promoted in higher education is growing in the field of teacher education research.

Teachers' practical knowledge as a solution to closing the gap

The challenge in teacher education is to combine theory and practice into a coherent whole regardless of whether knowledge is acquired from the university or the school (Jackson & Burch, 2015, p. 6). There is a need for learning environments where the development of student teachers' knowledge can be supported by working with experienced teachers (Douglas, 2014, p. 22). Sfard (1998) proposed two metaphors for learning—"acquisition" and "participation"—and these reflect transmissive and social constructionist theories of learning. Learning opportunities from student teachers working in schools are most likely to fit more readily into the participation learning metaphor. Student teacher learning at university, although unlikely just to be based on an acquisition learning metaphor, will possibly cover some aspects of teaching that may fit more readily into a notion of acquisition (e.g. lectures and seminars on the national curriculum and on forms of assessment). A focus on the acquisition of knowledge need not necessarily imply that once knowledge is stored it is automatically retrieved and then applied when in the work situation. The relationship between knowledge and its use is more complex than this, and cannot be described by just using acquisition and participation metaphors.

Seeing student teachers who are learning how to engage in the social practices of a school in which they are placed recognises the situated nature of learning. How this is related to the learning of general principles from, for example, staff room and mentoring conversations, can be related to Vygotsky's (1978) spontaneous and scientific concepts as applied by Smagorinsky:

Spontaneous concepts are learned through cultural practice and because they are tied to learning in specific contexts, allow for limited generalisation in new situations; scientific

concepts are learned through formal instruction and, because they are grounded in general principles, can more readily be applied to new situations. (Smagorinsky, Cook & Johnson, 2003)

The challenge for schools which offer opportunities for engagement in their social practices is to enable student teachers and teachers to see relationships between spontaneous and scientific concepts and to take from them mature concepts that will enable them to interpret and work in other settings.

The relationship between practical knowledge gained from practical experiences and theory is explored in the notion of 'realistic teacher education', a three-level model of teacher learning (Korthagen & Lagerwerf, 1996) which takes the causes of the theory-practice divide into account. The model acknowledges the often-tacit behaviour characteristic of teaching which combines both emotional and cognitive aspects of dealing with situations. The model considers how practical experiences may develop into more conceptual knowledge about teaching at an abstract and theoretical level.

Such models address a view from some researchers of the "troubling binary" (Haggis, 2009) which is the outcome of the concept of a theory-practice gap. The gap metaphor is often used to explain the value placed on different kinds of knowledge by academics and school teachers working within the field. A key problem with the 'gap' metaphor is that it assumes that there are two distinct bodies of knowledge, one is 'theory' and one is 'practice' (Boyd, 2015). From a sociocultural perspective an alternative metaphor is that teachers' professional learning is an 'interplay' between vertical public knowledge (that which is published and includes learning theory and research evidence) and horizontal practical wisdom (professional knowing focused on ways of working in particular educational workplace settings such as schools) (Boyd & Bloxham, 2014). Much of the teacher development literature favours an acquisition metaphor of learning (particularly with regards to government policy approaches). Workplace learning literature concentrates on a participation metaphor. Hodkinson and Hodkinson (2005) have forwarded arguments for a combination of the two perspectives in research on teacher learning in schools.

An acquisition metaphor assumes that appropriate content is already known and that it is readily available. It does not take into account the varying processes by which, for example, teachers and

student teachers learn (the unexpected and fortuitous learning opportunities that occur in day-to-day work through participation and the encountering of new situations where prior learning content is not available). Another metaphor of learning has been identified: the “knowledge-creation metaphor” (Paavola, Lipponen & Hakkarainen, 2004, p. 573). This metaphor includes a new perspective which “focuses on analysing the processes whereby new knowledge is collaboratively created, whether in schools or at work”. Such a process is involved in sociocultural interventionist research models such as developmental work research (DWR) (Engeström, 2007) which enables a researcher to work directly with participants in order to start testing hypotheses about the conditions for learning and to see how expansive and new learning may be encouraged in practice (Douglas, 2012).

With concern for a different kind of knowledge, sociocultural theories are well positioned to span the practice and theory divide. Being close to practice and explicitly employing theory, they bring practice and theory together. Undertaking DWR which uses a theoretical lens (cultural historical activity theory) through which to view data creates a distance from everyday practices and offers a social space for practitioners and researchers to collaborate. Other researchers refer to hybrid spaces (Jackson & Burch, 2015), third spaces (Martin, Snow & Franklin Torrez, 2011) and boundary zones (MacDougall et al., 2013); concepts that provide opportunities to develop knowledge which is seen as more than theoretical or practical. In this sense using theoretical ideas adds meaning to the research setting by giving it relevance beyond its specific context. The theory provides a form of analysis and in DWR is specifically used within the collaborative process between researchers and practitioners. This therefore creates an opportunity to simultaneously develop practice and theory at the same time.

Concluding comments

When teacher education research is premised on collaborative fieldwork with strong links between researchers and practitioners and with a purpose to develop practice and theoretical understanding of teacher education, then the notion of a divide between theory and practice is less problematic. The university’s role has been advocated as assisting this kind of research to help teachers develop practical theories (Williams & Soares, 2000, p. 232) and to

help critique theories of practice by exposing them to the critical scrutiny of others and to interrogate them “in terms of the values and assumptions on which they are based” (Furlong, 2013, p. 185). Calls for a more democratic approach to teacher education research (Somekh & Zeichner, 2009) advocate a respect for and interaction with practitioners using both academic and community-based practical knowledge, developing new knowledge which, because of its democratic nature, has the potential to create stronger links with policy.

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