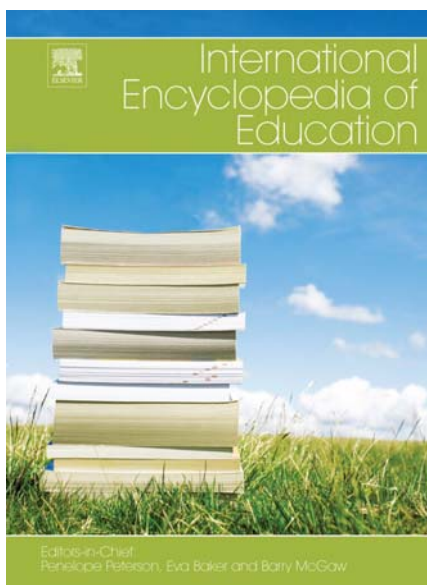


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## The Relationship Between Theory and Practice in Teacher Education

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### A Perennial Problem of Teacher Education

In 1904, John Dewey noted a gap between theory and practice in teacher education (Dewey, 1904), and he discussed possible approaches to bridging this gap (see also Shulman, 1998). Nevertheless, during the whole of the twentieth century, it has remained the central problem of teacher education worldwide (Lanier and Little, 1986). In various analyses of this problem, the focus has often been on the question of how practice can be better linked to theory. Only relatively recently, has attention focused on the possibility that theory can be better linked to practice.

Below, the theory–practice relationship will be analyzed, as well as the nature of knowledge relevant to practice. We will also discuss different approaches to improve the link between practice and theory, which leads to the conclusion that no single trick will solve the perennial issue.

### The Sacred Story about Theory and Practice

During the late nineteenth and early twentieth century as psychological and pedagogical knowledge developed, academics wanted to offer this knowledge to teachers in order to change education and adapt it to scientific insights. This is how the idea of the professionalization of teachers began. Indeed, as Hoyle and John (1995) point out, the availability of a recognized body of knowledge is one of the most important criteria for categorizing an occupational group as professional (see also McCullough, 1987). It seemed only logical to teach important theories to preservice and in-service teachers, who could then apply this knowledge base in their teaching. Clandinin (1995) calls this “the sacred theory–practice story”, and Carlson (1999) speaks about the “theory-to–practice approach”. Wideen, *et al.* (1998) put it like this:

... the implicit theory underlying traditional teacher education was based on a training model in which the university provides the theory, methods and skills; the schools provide the setting in which that knowledge is practiced; and the beginning teacher provides the individual effort to apply such knowledge. In this model, propositional

knowledge has formed the basis of university input. (Wideen, *et al.*, 1998: 167)

In many places, this has led to a system in which experts in certain domains teach this knowledge to prospective teachers. As Barone *et al.* (1996) argue, the result is often that a teacher program consists of a collection of isolated courses in which theory is presented with hardly any connection to practice. Ben-Peretz says:

The hidden curriculum of teacher education tends to communicate a fragmented view of knowledge, both in coursework and in field experiences. Moreover, knowledge is “given” and unproblematic. (Ben-Peretz, 1995)

Schön (1983, p. 21) speaks about the technical-rationality model, which is based on the notion that “professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique.” In fact, three basic assumptions are hidden in this view (cf. Hoyle, 1980):

1. theories help teachers perform better in their profession;
2. these theories must be based on scientific research; and
3. teacher educators should make a choice concerning the theories to be included in teacher education programs.

The technical-rationality model has been dominant for many decades (Sprinthall, *et al.*, 1996; Imig and Switzer, 1996, p. 223), although many studies have shown its failure in strongly influencing the practices of the graduates of teacher education programs, which is discussed in the next section.

### Meager Impact of Teacher Education

Many researchers have shown that the traditional technical-rationality model does not function well. Zeichner and Tabachnick (1981), for example, discussed that many notions and educational conceptions, developed during preservice teacher education, were washed out during field experiences. Comparable findings were reported by Cole and Knowles (1993) and Veenman (1984). Veenman also points toward the severe problems teachers experience once they have left preservice teacher education, a phenomenon named the transition shock. It is interesting to note that this transition shock is described in studies from many different countries.

For example, at Konstanz University in Germany, large-scale research has been carried out into this phenomenon (Müller-Fohrbrodt, *et al.*, 1978; Dann, *et al.*, 1981; Hinsch, 1979). It showed that teachers pass through a quite distinct attitude shift during their first year of teaching, in general creating an adjustment to practices current in the schools, and not to recent scientific insights into learning and teaching. Building on the work of the Konstanz research group, Brouwer and Korthagen (2005) did an extensive quantitative and qualitative study in the Netherlands among 357 student teachers, 128 cooperating teachers, and 31 teacher educators, which again showed the dominant influence of the school on teacher development (see also an early study by Lortie, 1975).

In their well-known overview of the literature on teacher socialization, Zeichner and Gore (1990) put forward that researchers differ in the degree to which they consider teacher socialization to be a passive or an active process. However, all studies on teacher development emphasize that it is very difficult for an individual to really influence established patterns in schools. Educational change appears to be a beautiful ideal of teacher educators, but generally indeed not much more than an ideal. Bullough (1989) emphasizes that in this respect there is a severe problem in teacher education. As Zeichner and Gore (1990, p. 343) put it:

Studies that have focused on the institutional and cultural levels of analysis have clearly shown, for example, that various ideological and material conditions within teacher education institutions, schools, and societies serve to establish limits on the range of options available to both teacher education students and teacher educators.

As a result, the impact of teacher education on the practice of their students is very limited, as Wideen, *et al.* (1998) conclude in a thorough and extensive review of the international research into the outcomes of teacher education, a conclusion that was also drawn by the AERA Research Panel on Teacher Education in a meta-analysis of North-American research (Cochran-Smith and Zeichner, 2005). Several studies show that beginning teachers struggle for control, and experience feelings of frustration, anger, and bewilderment. The process they go through is more one of survival than of learning from experiences. Novice teachers do not feel sufficiently prepared by their teacher educators, and come to view colleagues in the schools as realistic role models, as the people who do know how one should go about teaching.

Apart from the fact that the traditional technical-rationality approach to teacher education creates little transfer from theory to practice, this approach creates another fundamental problem. Elliot (1991, p. 45) states that teachers who realize that they are not able to use the theory presented to them by experts, often feel threatened by theory. These feelings of threat are further enhanced

by the generalized form in which experts tend to formulate their knowledge and by the ideal views of society or individuals behind their claims. Often the result is a dislike of theoretical deepening in teachers (Cole, 1997).

### Causes for the Gap between Theory and Practice

As Robinson (1998, p. 17) reminds us, “narrowing the research-practice gap is not just a matter of disseminating research more effectively or of using more powerful influence strategies.” The causes for the gap lie deeper and a variety of these causes have been put forward in the literature. First, we have already seen that from a sociological perspective one can frame the problem as one of socialization toward patterns existing in the schools.

A second cause often mentioned in the literature is the complexity of teaching (e.g., Hoban, 2002, p. 35–40). Hoban (2005, p. 9) states: “(. . .) what a teacher does in a classroom is influenced by the interaction of many elements such as the curriculum, the context, and how students respond to instruction at one particular time.” Hoban continues by saying that this view of the nature of teaching necessitates holistic judgment (cf. Day, 1999) about what, when, and how to teach in relation to a particular class, and this is something for which it is hard to prepare teachers. Moreover, practice is generally ambiguous and value-laden (Schön, 1983). Robinson (1998), states that in specific educational situations, even experts have different opinions of what is the best way to use theory. Different theories may each have their value in explaining a certain aspect of the situation, and lead to different perspectives.

A third cause for the theory–practice divide often mentioned has to do with the learning process within teacher education itself, even before the stage in which theory can be applied to practice. According to many researchers, teachers’ prior knowledge plays a powerful role in their learning (Wubbels, 1992). Their preconceptions show a remarkable resistance to change (Joram and Gabriele, 1998). This can in part be explained by their firm roots in the many years of experiences that student teachers themselves have had as students within the educational system (Lortie, 1975). Preconceptions also shape the way new knowledge is being understood. Stofflett and Stoddart (1994), for example, argue that teachers’ conceptions of how subject matter should be taught are strongly influenced by how they themselves learned the subject content. These authors showed that student teachers who themselves experienced learning in an active way, are more inclined to plan lessons that facilitate students’ active knowledge construction. Huibregtse *et al.* (1994), showed that, even with experienced teachers, there is a strong relation between their preferred way of teaching

and the way they themselves are used to learning: they have a limited view of the learning styles of their students, and tend to project their own way of learning onto the learning of their students.

A fourth cause has been named as the feed-forward problem: “resistance from the student teacher at the time of exposure to given learnings and, later, protestations that the same learning had not been provided in stronger doses” (Katz *et al.*, 1981, p. 21; see also Bullough *et al.*, 1991, p. 79). This problem can also be stated as follows: in order to learn anything during teacher education, student teachers must have personal concerns about teaching or they must have encountered concrete problems. Otherwise, the usefulness of the theory is not clear to them, and they are not motivated to study it. Later, when they do come across problems, there is often no opportunity to acquire the relevant theoretical insights.

Other authors add that teacher development cannot be fully understood if it is considered merely from a cognitive perspective. Teaching is a profession in which feelings and emotions play an essential role (Nias, 1996; Hargreaves, 1998a), but “the more unpredictable passionate aspects of learning, teaching and leading (...) are usually left out of the change picture” (Hargreaves, 1998b, p. 558). The problem of promoting fundamental professional change is first of all a problem of dealing with the natural emotional reactions of human beings to the threat of losing certainty, predictability, or stability. This affective dimension is neglected very often in the technical-rationality approach, which is another cause for the transfer problem.

The human aspect can be elaborated even further. Many authors emphasize that learning to teach cannot be separated from the person of the learner (see for an overview Korthagen, 2004). Bullough (1997, p. 21) states that “teacher identity—what beginning teachers believe about teaching and learning and self-as-a-teacher—is of vital concern to teacher education; it is the basis for meaning making and decision making.” He adds that the most important learning outcomes will thus be personal, idiosyncratic, and probably immeasurable. This concurs with Day (1999, p. 94) who talks about the “unpredictable, personalized nature of teaching.”

Finally, there is a cause for the transfer problem that has drawn so much scholarly attention that the entire next section is devoted to it.

## Practical versus Formal Knowledge

Clark and Lampert (1986, p. 28) argue that once inside school, teachers “are expected to accomplish complex and even conflicting goals. Under these circumstances, a priori knowledge identified by researchers about the relationship between particular decisions or actions and their

outcomes, is of limited worth.” Teachers often have little time to think and thus need prompt and concrete answers to situations (Eraut, 1995). Action-guiding knowledge is rather different from the more abstract, systematized, and general expert knowledge teacher educators often present to student teachers (Tom, 1997). Various terms are used to name this difference, but generally used are the concepts of practical knowledge and formal knowledge. According to Fenstermacher (1994), the former type of knowledge develops in teachers by participating in and reflecting on their own actions and experiences; it is situated knowledge (Brown, *et al.*, 1989). This practical knowledge enables teachers to deal effectively with practical problems. The validity of this knowledge is confined to the type of contexts or situations within which the events occur, and teachers often have difficulty in putting it into words. This lack of explicitness may also limit student teachers’ learning from the practical knowledge of their mentor teachers if no additional measures are taken (Zanting, *et al.*, 2001).

Formal knowledge, or propositional knowledge, is the knowledge produced by conventional research in order to answer a question such as: What is known about effective education? It meets criteria for reliability, validity, and has the potential for generalization. Fenstermacher refers to Aristotle, who already made a similar distinction between two types of knowledge, which he called *phronesis* and *episteme*.

Kessels and Korthagen (1996) emphasize that formal knowledge or *episteme* (which they also refer to as theory with a capital T) should certainly not be absent from teacher education programs, as, now and then, student teachers should be helped to see the larger picture of educational knowledge. On the other hand, they add that:

More often, however, they need knowledge that is situation-specific and related to the context in which they meet a problem or develop a need or concern, knowledge that brings their already existing, subjective perception of personally relevant classroom situations one step further. This type of knowledge is called *phronesis*. We could also call it ‘theory with a small t’.

The character of *phronesis* is more perceptual than conceptual: it focuses the attention of the actor in the situation on certain situational characteristics important to the question as to how to act in that situation. To put it concisely, *episteme* aims most of all at knowing more about many situations, while the emphasis of *phronesis* is on perceiving more in a particular situation and finding a helpful course of action on the basis of strengthened awareness. The best translation of *phronesis* may be practical wisdom.

An important cause for the limited impact of many teacher education programs may be that they focus too much on formal knowledge (*episteme*) and do not support

their students sufficiently in developing their perceptual awareness or *pbromesis* (Loughran, 2006, p. 8–9). This could mean that teacher educators themselves create the gap between theory and practice. Of course, the conditions under which teacher education takes place are generally not very supportive of a change in old habits: large enrolments and limited time for teacher educators to visit student teachers during their teaching practice are some of the most significant inhibiting factors (Barone *et al.*, 1996, p. 1117).

### Directions for Bridging the Gap between Theory and Practice

During the recent decades, several strategies have been introduced into teacher education with the aim of bridging the gap between theory and practice. It is difficult to present a complete overview of all of them, but in this section some productive strategies will be described.

First, several attempts have been made to improve the theory-into-practice approach through pedagogical strategies, such as the promotion of reflection (e.g., Clift *et al.*, 1990; Schön, 1987), or through tools like (video) cases, portfolios, etc. Each of these has its merits in helping teachers develop useful action-guiding theory with a small *t*, or in supporting them to make connections between existing theory and their own implicit thinking about education. However, a fundamental solution to the theory–practice divide may require more radical changes in program structure, in which “greater continuity exists between teacher preparation and the schools where beginning teachers begin their teaching careers” (Wideen *et al.*, 1998, p. 159). Before discussing this promising development, a warning has to be given regarding an extreme elaboration of this idea. In many programs, the traditional approach of theory first, practice later has been replaced by the adage practice first, theory later (Sandlin, *et al.*, 1992). Alternative certification programs have been created in which novice teachers sometimes receive very little theoretical background, and teacher education becomes more of a process of guided induction into the tricks of the trade. In many places in the world, this trend is also influenced by the need to solve the problem of teacher shortages. Although this development may satisfy teachers, politicians, and parents, there is a great risk involved. The balance seems to shift completely from an emphasis on theory to reliance on practical experience. Such an approach to teacher education does, however, not guarantee success. Long ago, Dewey (1938, p. 25) already stated that “the belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.” (cf. Loughran, 2006, p. 22) As already discussed above, teaching experience can be a process of socialization rather than an

opportunity for professional development (cf. Wideen, *et al.*, 1998). Hence, there is a risk that in a practice-first approach, the basic question, namely how to integrate theory and practice, is still not solved.

Nevertheless, promising developments are visible under the umbrella of professional development schools (PDSs) (Bullough and Kauchak, 1997; Darling-Hammond, 1994). The idea is to develop collaborative partnerships between institute-based teacher educators and school-based teachers, sharing the responsibility for the preparation of prospective teachers. In this context, there is a focus on developing new teaching methods, and an emphasis on an ongoing professional development for all involved in such projects (Abdal-Haqq, 1997).

Both in the PDS movement and in the more general trend to move teacher education to the schools, there are two significant aspects: on the one hand, these developments mirror a wish to ground teacher education more strongly within practical contexts, but on the other hand, teacher education faculty involved tries to avoid the risk of early socialization toward traditional educational patterns. That is why these attempts at strengthening the practical relevance of teacher education are characterized by an emphasis on critical reflection on current practices, and attempts to adapt formal knowledge to practice. This requires strong and long-term partnerships between university faculty and teachers in the schools, which in certain places have been very effective (see e.g., the Oxford Internship Model described by McIntyre and Hagger, 1992).

Referring to publications by authors supporting collaboration structures between schools and universities, Furlong *et al.* (1996) conclude that the PDS approach may finally allow for a real integration of theory and practice. However, case studies also illustrate many problems associated with the PDS approach (see Darling-Hammond, 1994). Castle (1997, p. 221) concludes that “many of the problems stem from the reality that change of this nature involves individuals and relationships.” An important problem is that when a leading person moves to another job, the whole collaboration structure may collapse.

Other strategies of which their advocates claim that they really bridge the gap between theory and practice are those putting teacher research in the forefront of professional development. (Cochran-Smith and Lytle, 1993; Stenhouse, 1975). Ponte (2005) observes that the idea that teachers themselves can do research, goes back as far as the beginning of the twentieth century, and has led to a variety of slightly different approaches to teacher research. Lewin (1946), for example, introduced the term action research and emphasized its role in promoting social change. Other common terms are reflective inquiry, practitioner research, and self-study research (see for an overview McKernan, 1996). One of the challenges of teacher research is that “it is in danger of becoming

anything and everything” (Cochran-Smith and Lytle, 1999, p. 21). This has led to attempts to develop explicit methodologies for this kind of research (e.g., Bullough and Pinnegar, 2001), and pleas to put more effort into connecting the outcomes of individual studies to the broader research community (Zeichner, 2007).

Another fruitful strategy for linking theory and practice focuses on the concerns students develop in practice, and tries to build teacher education on these concerns and student teachers’ preconceptions that these concerns bring to light. Korthagen *et al.* (2001) describe how this can be done in a so-called realistic approach, and present evidence that this does indeed bridge the theory–practice gap. Others focus on the importance of making student teachers’ preconceptions explicit through their narratives about practice (e.g., Kelchtermans, 1993). However, enacting such approaches requires a strong investment in staff development, as they build on specific pedagogical interventions.

More recently, social constructivist views and the notion of communities of practice (Wenger, 1999) have led to approaches that no longer focus on the individual practitioner, but consider professional development as being strongly intertwined with professional cultures. Although the strength of such social constructivist approaches is that they start from the reality of professional development, which is always embedded in a certain social context, one does have to find ways to circumvent narrow-mindedness and undesirable socialization. In other words, the fundamental tension between what happens in a community of practice and the wish to deepen practice with existing theory is still there to be taken care of. According to Husu (2002) a key element is not to strive for unanimous agreement, but to focus on discourse and the testing of plural meanings.

Darling-Hammond (1999, 2006) identified a number of additional components of teacher education curricula that appear to be beneficial, such as a shared, clear vision of good teaching apparent in all coursework and clinical experiences; well-defined standards of practice; a rigorous core curriculum taught in the context of practice; and intensively supervised, extended clinical experiences (at least 30 weeks), carefully chosen to support what students have learned in their courses. The importance of this latter component is emphasized in a vast amount of literature claiming that the most important factor in promoting the relationship between theory and practice is individual coaching or supervision (e.g., Korthagen *et al.*, 2001; Showers and Joyce, 1996). The idea is that a strong supervisor may be able to effectively connect the student’s personal experiences in educational settings and his/her present concerns to theory – both theory with a small t and theory with a big T. However, Franke and Dahlgren (1996) show that not all supervisors do so.

## Toward an Integrated View

As Lanier and Little (1986) argue, all teacher education programs have to confront the problem of the gap between theory and practice. It is now more than a century since Dewey expressed his concern about this gap. Has the solution been found? Each of the approaches discussed in the previous section has its own merits and seems to solve part of the problem. Similar to teaching, learning to teach is also too multifaceted to be dealt with in a simple way. As Wideen *et al.* (1998) suggest, what is needed is an integrated view, in which all the aspects influencing teacher development are taken into account, and which combines several of the approaches mentioned above (compare Hoban, 2005).

## The Research Needed

Finally, an additional issue has to be mentioned explaining why it has remained so difficult to bridge the theory–practice gap. For many decades, there has also been a gap between the research carried out on teacher education and the work of teacher educators in teacher education programs. Research on teacher education did reveal the meager impact of programs, but what actually goes on inside teacher education all over the world has remained obscure (Zeichner, 1999). As a result, research has generally been of little practical help to those teacher educators wishing to promote the integration of theory and practice, as Cochran-Smith and Zeichner (2005) observe. Only relatively of late has research into teacher education been carried out from an insider perspective (cf. Anderson and Herr, 1999). Especially, the growth of so-called self-study research by teacher educators (see e.g., Loughran *et al.*, 2004) has helped us learn more about the details of approaches that teacher educators use – which of these are effective and which are not. The educational community can benefit from studies describing what is really happening in preservice and in-service programs in different countries, especially from studies linking program goals with careful analyses of the behavior of teacher educators or cooperative teachers, and the effects on student teachers’ learning processes. In such studies, it is important to pay special attention to the contextual influences of practicum schools. Day (1999) is an excellent example of this kind of perspective in in-service contexts. Such studies may clarify that it is possible to link theory and practice in teacher education in such a way that positive effects on graduates can be demonstrated, as Brouwer and Korthagen (2005) have shown. Through such research, chances may increase that teacher education can make a difference, and therefore that in the long run its success may counterbalance the criticism from politicians, school principals, parents, and even the teachers themselves.

See also: Action Research as a Tool for Teachers' Professional Development; Experienced Teachers' Craft Knowledge; Taking Prospective Teachers' Beliefs into Account in Teacher Education; Teacher Education and Models of Teacher Reflection; Teacher Learning as Workplace Learning.

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