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From methods and concepts to triple learning processes in school, teacher education and research

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ABSTRACT

This article examines and discusses how successful teachers develop professionally and relate this process to theory and practice. It elucidates some further aspects of an earlier longitudinal, praxis-oriented study in excellence that was carried out over a period of seven years in a nine-year Swedish compulsory school (Tjernberg, 2013). That case study was based on classroom observations and follow-up discussions to create consciousness of learning processes among the teachers and the researcher. According to the teachers in this study, the focus of pedagogical research is seldom on pedagogical practices, which means that they are not felt to be important. In contrast, the research is seen to be important if it has an inside perspective, using mutual and continuous communication between the pupils, themselves, and the researcher. One main finding is that a researcher can contribute to theorising and putting into words the teachers' pedagogical practices. At the same time, the researcher is able to deepen her or his research into issues that arise from the teachers' practices and knowledge. These two conditions are in turn necessary for the individual pupil to develop her or his proximal learning, which leads to further research questions. In this article, the term 'triple learning process' is used to describe this interaction.

KEYWORDS: *professional development, theory and practice, praxis-oriented, interaction, learning process*

INTRODUCTION

Rather than recommending specific teaching methods, pedagogical research increasingly emphasises the importance of focusing on learning processes, that is, teaching in relation to the individual, the subject and the context. Thanks to research, we know much more today about how children learn, but despite extensive university investment in the further training of teachers, the latest PIRLS¹ (Mullis, Martin, Foy & Ducker, 2012) and PISA² (Skolverket, 2013) investigations have revealed disastrous Swedish pupil results in reading comprehension, mathematics and natural sciences. Sweden has had the worst development in results compared with all the OECD countries, at a time when it has a multimedia society in which the ability to acquire new knowledge and critically examine information is a decisive factor for people's possibilities to get an education and a job and to participate in democratic, decision-making processes.

A great deal of criticism has been directed at teacher training and further training. It is claimed that universities are not meeting the demands of the working world (Risko et al., 2008; Barber & Mourshed, 2007). Korthagen (2007) shows that this gap has widened over the past few decades. According to his findings, there is also a gap between studies that involve teachers in research and those that research teachers' practices. Korthagen emphasises the importance of the former type – the more uncommon inside-perspective type, that carries out research in which theory and practice, academia and fieldwork interact.

International research shows that there is increasing interest in engaging teachers in constructing their own professional skills when universities and schools co-operate to develop inclusive activities (Tjernberg & Heimdahl Mattson 2014; Long, 2011; Korthagen, 2007; Pressley, 2006). Pressley (2006) also draws attention to the need for more studies of successful teaching practitioners. Such classroom studies, 'studies in excellence', according to the author, are under-represented in pedagogical research.

¹ Progress in International Reading Literacy Study (PIRLS).

² Programme for International Student Assessment (PISA).

Since the teacher is the most important factor in the pupils' proximal knowledge development (Dillon, O'Brien, Sato & Kelly, 2011; Hattie, 2009; Crawford & Torgesen, 2006), great demands are placed on teacher education. The question then is what form this training should take to be able to meet these demands. In order to answer this question, Risko et al. (2008) compiled the results from eighty-two American studies that examined the education of future teachers. The aims of these studies were to find out how well prepared the student teachers were for the tasks that awaited them. On the basis of the results, Risko et al. were able to ascertain that student teachers found it difficult to put into practice what they had learned during the methods courses at university unless they received support in their profession. Similarly, Barber and Mourshed (2007) also point out the importance of teacher education moving over into *continuous* further training.

Both Swedish and international research (Tjernberg, 2013; Moats, 2010; Hattie, 2009; Pressley, 2006; Langer, 2004) focus on the fact that the skilful teacher is one who reflects continuously on her or his teaching and is always prepared to alter it in communication with pupils and in relation to the subject and the context. This teacher has confidence in her or his pupils; all of them can and want to learn, and if that is not the case, then there is a reason that has to be investigated. The skilful teacher works hard to help the pupils succeed on the basis of their situation, since it is by succeeding that one learns and this encourages pupils to try to do a bit better than they think they can. The skilful teacher has a high level of acceptance for pupil variation and difference. The skilful teacher incorporates a number of different teaching methods in the repertoire in order to be able to act inclusively and counteract exclusion. International studies also indicate that all pupils win in knowledge from heterogeneous grouping, and that the ones who win most of all are those with the worst starting points (Waitoller & Artiles, 2013; Bruce, 2007; Snow & Juel, 2007; Torgesen, 2007).

Liberg (2009) warns against instrumentalising methods and techniques. In order to avoid this, it is necessary for teachers to have a referential basis of theoretical knowledge that they can reflect upon in their practical work.

Reflection on pedagogical actions, that is, interaction between theory and practice (Korthagen, 2007), reduces the risk of this instrumentalisation, according to Liberg.

An expert group, the National Reading Panel (NRP), commissioned by the National Institute of Health and Human Development (NICHD), carried out a comprehensive, quantitative meta-analysis of scientific studies in order to identify basic areas in successful reading instruction (Snow & Juel, 2007, p. 512). The intervention programme No Child Left Behind (NCLB), was introduced into American schools in 2004, based on the evidence-based pedagogy that the NRP identified (Snow, Burns & Griffin, 1998). The great change, however, did not take place: 'The quality of implementation of the programs turned out to be much more important in explaining outcomes than the nature of the program' (Snow & Juel, 2007, p. 514). Rack (2004) claims that it is necessary in this context to break the focus on what makes certain interventions effective. Instead, we should ask ourselves what type of intervention is effective for what type of pupil, at what stage of the pupil's development and in what context – an essential condition for an inclusive, non-segregating activity.

AIMS AND METHODS

The purpose of this article is to examine and discuss how successful teachers develop professionally and to relate this process to questions concerning interaction between practice and theory. The paper elucidates further aspects of an earlier praxis-oriented, longitudinal case study (Tjernberg, 2013), inspired by studies in the excellence tradition (Pressley, 2006; Langer, 2000) in which the attention was directed at successful school practices. In this article, however, the focus is on teachers' professional development.

Praxis-oriented research is a scientific tradition that aims both to utilise scientific knowledge and to investigate practical work for change. The studies previously carried out and referred to in this paper deal with academic knowledge as well as the practical knowledge aimed at developing inclusive

school practice. Our leading lights, apart from Aristotle (384–322 B.C.), are John Dewey (1859–1952), Kurt Lewin (1890–1947) and Paulo Freire (1921–1997). What unites them is an interest in knowledge concerning the actions by which people influence each other and society (Mattsson, Eilertsen & Rorrison, 2008). A fundamental idea of praxis-oriented research is that people are continuously changing the world and that people themselves change with it – a dialectical process (Mattsson, 2008).

Maintaining a certain distance to the field is necessary if the empirical material is to be linked to theory. Particularly in the analytical phase of research projects, a researcher is dependent on the scientific community's norms, seminars and principles. Research-based knowledge therefore has a special role to play. It is context-related without losing interest in general knowledge and theory. New knowledge can be generated in the field between academic theories and accepted opinions (experience-based knowledge). Freire (1970/1976) claims that the concept of practice represents actions that indicate reflected knowledge.

The praxis-oriented approach was based on classroom observations and follow-up discussions designed to create consciousness (Freire, 1970/1976) about learning processes among the teachers and the researcher. Since the study is praxis-oriented, it involves, among other things, special criteria concerning claims of truth. This field is in a state of change, and claim to truth is not general (Mattson, 2013). The knowledge that is sought after is knowledge that is of importance for the context we are in. This study's praxis-oriented research work is *abductive* and the research process is characterised by oscillation between its empirical and theoretical bases. Svensson (2002) explains the term 'abductive' as meaning that an event that has been observed is placed in a theoretical context. This means it can be described in a new way, allowing a deeper understanding of the event (2002, p. 179). Thus the phenomena that have appeared in our data material have been theorised, have been made understandable and have become objects for reflection.

According to Mattsson (2013), researchers and practitioners operate in different content fields. In *fundamental* research there are two fields, according to Mattsson, that are separate, and research results are transferred from researchers to practitioners. The *praxis-oriented* strategy is illustrated instead by two fields that are not totally separate. Praxis-developing research emphasises the importance of being able to go into each other's context. Researchers and practitioners have a common interest in knowledge and experience that can help to provide solutions to educational problems; a mutual exchange can take place in the encounter between them (Kvale, 2007). Gustavsen (2001) calls the overlapping field 'a mediating discourse'. Researchers and practitioners have a common interest in knowledge and experience that are valuable for the development and change of reality, which in our case are inclusive of teaching practices.

The longitudinal case study to which we refer, but which we analyse from a new perspective in this article, was carried out over a seven-year period in a nine-year compulsory school located in a residential district in a rural area in Sweden. From a sociological perspective, this school did not seem to be different from other schools in the area, but it has succeeded in getting high merit points, and it uses reading and writing instruction that has resulted in its receiving national attention.

Six teachers and two special teachers in Grades 1 to 5 were involved in the study. A transfer of focus took place over the course of time, from the pupils' individual learning, to reading and writing instruction in practice. During the last period of data collection, our interest was directed mainly at the development of the teachers' professional skills.

Continuously consciousness-raising discussions (Freire, 1970/1976; Kvale, 2007) that emphasised the mutuality were used as a research method throughout the study and were pursued in depth in order to discover the basis of the teachers' pedagogical design.

During the last period of data collection, classroom observations were carried out, but now with the aim of providing material for the discussions about the teachers' own learning processes, which is the aim of this article.

The events noted in the field diary were processed in direct connection to the observations and commentaries relating to the study's theoretical background were added to the text.

Thus the classroom observations have given the researcher and the teachers a mutual basis of experience for their discussions on pedagogical activities and events; these discussions were designed to create both teacher and researcher consciousness and to integrate current pedagogical research with the teachers' practical experiences, in other words to release tacit knowledge by connecting practice and theory (O'Donovan, Price, & Rust, 2004). For the researcher, it was important to be open to the teachers' perspectives and experiences in order to find new scientific issues.

The common interest of becoming aware of a teacher's professional development has been in the nature of a reciprocal knowledge-seeking dialogue (Kvale, 2007). It is by acting and reflecting on actions that new knowledge emerges (Freire, 1970/1976). The researcher-teacher discussions were recorded and transcribed verbatim.

The qualitative analysis was a form of thematising based on Ryan and Bernard's (2003) assessment system and was completed at distance. According to the authors, these analyses involve applying various techniques to the data material. One way of identifying the themes was to look for repetitions and to note where they occur in the printouts. Recurrent references to specific events, guiding principles and concepts were registered. Another strategy was to look for similarities and differences. Teachers' utterances were matched and compared. Did they have features in common or did they differ? This method meant that patterns emerged and themes were identified.

RESULTS

The teachers' quotes was formulated [? MEANING UNCLEAR] during the consciousness-raising discussions that were continuously carried out between them and the researcher.

A dominant problem in pedagogical research, according to the teachers in the study, is that the focus is not on pedagogical practices: the research questions have not been selected from the schools' point of view and the teachers' interests and needs:

School has been researched by others than teachers; they have been psychologists and sociologists ... and what they have researched has been from their perspective and from their goals and not from what the school wants. That's why I think there are many teachers who feel that this is none of my business, it's not about what I do.

Another important factor is that I, as a teacher, need to know that the research is something I can use – that gives me something in my work.

Continual contact with a researcher over time is considered to have contributed to development in the work team. In the teachers' opinions, this research is important, making its mark on the school's activities when it takes place in communication with themselves about a topic that they feel to be important:

In most cases, research is carried out only on the universities' terms and does not answer the questions that the local school, for example, raises, but only those that the researchers want to study. The kind of research that is being carried out at this school means that researcher and schoolwork meet on equal terms, and both parties benefit accordingly.

The teachers believe that it can be difficult for them to absorb the research results by themselves. They consider that they need someone with deeper pedagogical knowledge and scientific training to help them interpret the results, so that they can apply them to teaching activities:

Part of the problem is that the report itself does not come to us, and another problem is that we don't have time to read it because there's so much going on to make the daily work function. There's so much a teacher has to do.

The results show that a researcher can put words to what the individual teacher does in the classroom and direct attention to important didactic questions. According to the teachers, the presence of a person like this in the school has meant that they have begun to think more consciously, not only about *what* they are doing but also about the didactic questions *how* and *why*:

This results in a real boost to reflectivity. The discussions that we have – thinking about what we did and why we did it, how well it went and what we know – that's useful!

Since you began your research, there has been quite a different sort of discussion in the school. Another kind of consciousness that seems to me to be increasing ... and that applies both to the young teachers who have new ideas and to us who have been working a long time here.

The importance of having both theoretical and practical knowledge in one's profession is emphasised in the results:

The teacher must know about developments and learning as well as being able to interpret and apply this knowledge actively. This should happen here and now.

Further training based on an inside perspective, thereby being in agreement with the individual school's situation, is what is advocated:

I don't think the idea of having mentors working centrally in the municipality will work in the way people expect. They don't have the same direct contacts with the teachers as we do ... in this school [with a researcher]. Another reason is that schools are so different, they have different *school cultures*. Competence development has to be adapted to the actual conditions and the school's culture as it is.

Challenges are vital, not only for the pupils but for the teachers as well. It is the result of these challenges that creates motivation and the desire to learn more:

I don't think I would still have been here for so many years at one and the same workplace if it hadn't been that fun things happen at the school.

Occasional in-training days are not considered to have any real effect. What is needed is a systematic plan: 'There has to be something overall to invest time and effort in.'

Context-related in-training requires certain conditions, for example an experienced teacher with a research background who initiates and leads the discussions, but also meeting places and special time allocated: 'It mustn't feel like yet another heavy task on top of everything else we already have to do.'

There ought to be positions that are a bit outside and above what we actually need, so that we have time to read and take in research and talk to our colleagues, and so that we can plan accordingly. You can't change overnight the ways you work.

The need for both academic and context-related in-training is evident in the empirical material:

One important thing is that I have studied since taking my teacher's certificate. I have studied didactics at the university and that program includes analysing one's own and other people's teaching, a way of systematising one's thoughts, you could say ... That's one thing, the other is the organisation we have had at the school in our work team – that we have taken up research questions and 'how do we do it' questions.

This teacher also mentions that it is not only in such formal contexts that this happens but also in everyday situations, in breaks and in the staff room: 'We discuss in another way, and that leads to the teachers learning something.' Proposals from upstairs that are not felt to be meaningful and that do not make teachers feel involved are not thought to have any real effect on the teaching: 'You have to feel that it leads to a change, that it makes a difference in practice in some way.'

One teacher describes how her teaching has developed, as, during the past five years, she has taken in more and more theoretical understanding for the reading and writing processes. This change has been expressed not least in the documented good study results that her pupils could show: 'Now I can really see that it works for my pupils every day – it's so obvious!'

Learning is described as something that takes place continuously – a life-long process:

It's all a part of life, giving it quality and ensuring that you develop as a person. Sometimes it feels as if school will deal with everything and then we're fully educated when we leave high school or university. But of course that's not so; instead it's important that in an organisation, all the time you work there, you have opportunities to develop in various ways.

DISCUSSION

The focus in school research has moved in the past ten years from concepts or methods that researchers develop and teachers are expected to implement, to dealing with learning processes (Dillon et al., 2011; Hattie, 2009). The direct transfer of a pedagogical concept runs the risk of ending up in instrumentalisation, as Liberg (2009) warns. During the seven years in which this project has taken place, reflective discussions between teachers and researcher have been able to link academic knowledge up with practical work, an ongoing and mutual search for knowledge (Kvale, 2007), reflected in the pupils' study results and proximal learning. This in turn leads to further research questions, and an educational and research circle is established.

The teachers in the study point out the importance of school research that draws attention to teaching practices. The investigation shows the importance of pedagogical research at universities beginning to take a serious interest in teachers' knowledge and experience, and that it identifies and examines pupil and teacher learning in the schools' practical work. In

fact, as one of the teachers pointed out, it has for a long time found most of its inspiration in subjects other than pedagogy: philosophy, psychology, sociology and economics, for example. These fields may be interesting and important from a multidisciplinary, pedagogical point of view, but they are of little help to teachers who want to develop everyday school teaching, for example, by answering the question 'What conditions are necessary for all pupils to learn to read, write and do maths at a sufficiently high level for the demands that a democratic society makes of them; or rather, what conditions are necessary for the individual pupil to develop her or his proximal learning?'

In accordance with the principles of praxis-oriented research, good effects are achieved when researchers and teachers enter into each other's contexts. Instead of unilaterally passing on theoretical knowledge from academia to teachers, which often characterise educational research (Mattsson, 2013) the teachers, according to Korthagen (2007), become active players in the creation and development of their own professional knowledge. This study provides examples of the ways in which this kind of mutual reflectiveness gives teachers the possibility to theorise and put words to their practices, an important step in professionalization (Colnerud & Granström, 2002). According to the results, the skilful teacher can now be described as one who manages to combine academically based theoretical knowledge of learning processes with practical professional experience in order to scaffold the pupil's proximal development. The researchers, for their part, are obliged to take up a position on and deepen their research in relation to the teachers' experiences and practices; in this way, the universities take over an obviously neglected but essential praxis-oriented basis in teacher education and school research.

According to Darling-Hammond (1999), teachers' positive effects on pupil results increase with every year they are in the profession. However, this positive effect seems to level out after about five years, when teachers run the risk of landing in the comfort zone. One explanation might be that they are not given, as a matter of course, the possibility to develop their

professional competence. Long (2011) maintains that developing teacher professionalism has to be continuous and related to teaching. As a result, teaching skills become fresh products.

One main conclusion we draw from the project is the importance of the teaching playing an active part in the research process. By means of a subject–subject relationship (Freire, 1970/1976), this becomes a mutual learning process.

However, a necessary condition for success is that researchers find their way out to teachers in the schools, and that greater resources are invested in praxis-oriented collaborative research in which the common goal, based on the truth claim of praxis-oriented research, is to develop learning processes in schools, teacher education and research. The truth claim of the underlying praxis-oriented study, in this article with the focus on teachers' professional development, is the consciousness of the interaction of the learning processes in schools, teacher education and research. Consequently, we suggest that the term *triple learning process* is used to describe this interaction.

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