

A DECADE LATER — TWELVE TEACHERS’ RETROSPECTIVE VIEWS ON A NATIONAL PROGRAMME FOR TEACHERS’ PROFESSIONAL DEVELOPMENT AND ICT

J Ola Lindberg
Mid Sweden University
Sweden

Abstract

Today, an increased impact of information and communication technologies (ICT) in the society at large has lead teachers to engage in professional development activities related to the use of ICT. Even though this development has been prominent for more than two decades (Jedeskog, 2005), its long-term effects seem complex to determine (Ottenbreit-Leftwich, 2010). This paper is based on interviews with twelve teachers that participated in a national program for promoting school development and use of ICT in 2000–2001. The program was aligned with the pedagogical approaches set out in the national curriculum, such as a shift from teaching to learning and giving pupils more responsibility, introducing interdisciplinary approaches to teaching in teams, and a problem-based pupils-oriented pedagogy. The analysis of the interviews show that teachers still feel a high degree of appreciation for the program, and that they share a relative agreement of the importance of the program for their teaching with ICT for the last decade.

Introduction

The last ten to twenty years has seen an increase in the interest in teachers’ professional development (e.g., Villegas Reimers, 2003; Yoon, Duncan, Lee, & Shapley, 2008). This may be due to an increased interest in comparing educational systems (Alexander, Broadfoot, & Phillips, 1999), as well as an increased global interest in the accountability of educational systems (Ozga, Dahler-Larsen, Segerholm, & Simula, 2011). The extensive literature review of Villegas Reimers (2003) makes it evident that teachers’ professional development (TPD) is a broadly used term. Helleve (2010) claims that the term is elusive. It also seems to be an area of concern for many stakeholders (Loucks-Horsley & Matsumoto, 1999). One concern uniting stakeholders is an interest in TPD that have effect. In some way or another TPD ought to make a difference, but how this difference is to be perceived seems unclear. One reason to this might be that TPD is conceptualized in different ways. It seems that it can denote a process of teacher change (Guskey, 2002; Mouza, 2004), as well as implicate teacher

learning (Borko, 2004). TPD can also concern the improvement of teachers' knowledge (Bailey, 2010); skills (Garet, Porter, Desimone, Birman, & Yoon, 2001); and practice (Sato, Chung Wei, & Darling-Hammond, 2008), and also to improve her or his students' learning (Yoon, Duncan, Lee, & Shapley, 2008), as well as a way of steering the development in schools by implementing reform (Shymansky, Yore, & Anderson, 2004). A problem that follows is how to establish the effects of TPD, how it is to be measured, when, and at what frequency. Long-term effects of professional development should not be measured too soon (Shymansky, Yore, & Anderson, 2004) and student effects cannot be expected too soon. Wayne et al. (2008) recommends multiple waves of data collection to provide information on the effects of professional development.

In this paper, focus will be on the experiences of teachers taking part in a professional development program delivered somewhat ten years ago. The paper opens for discussion the possibilities for measuring long-term effects of TPD, as well as a discussion on the problems related to such an enterprise.

Researching TPD in Different Contexts

In the joint research project "Technology Enhanced Teachers Professional Development (TETPD) in Sweden and in China" different governmental as well as private initiatives for promoting the use of ICT in schools have been focused. Studies on policies and programs for teachers' professional development in the two countries have been conducted since 2008 (Jiao & Wang, 2009; Lindberg, 2010; Lindberg & Gu, 2008; Lindberg & Gu, 2009). One of the largest and most influential programs on the use of ICT in the Swedish school was the National Program for ICT in Schools (in Swedish shortened ITiS). It was financed by the Swedish government between 1999 and 2002. This paper is part of a case study into the program of ITiS. It will be included in the final TETPD report as an example of a larger government financed program in which the use of ICT is aligned with other initiatives concerning school development. .

Before describing the case of ITiS and the experiences of the teachers participating in this study, a short account of research on the effectiveness of teachers' professional development will provide a framework for this paper.

Research on Effective Teachers' Professional Development

Although the long-term effects of teachers' professional development seem complex to determine (Ottenbreit-Leftwich, 2010) and several barriers to teachers' professional development have been identified (Diaz-Maggoli, 2004), many studies have tried to establish what makes professional development effective (Boyle, Lamprianou, & Boyle, 2005; Boyle, While, & Boyle, 2004; Garet, Porter, Desimone, Birmann, & Yoon, 2001; Penuel, Fishman, Yamaguchi, & Gallagher, 2007). Studies have also been trying to establish if there is a relationship between different characteristics of professional development and student achievement (Huffman & Thomas, 2003; Johnson, Kahle, & Fargo, 2006; Shymansky, Yore, & Anderson, 2004; Yoon, Duncan, Lee, & Shapley, 2008). As

noted in the introduction, there are many stakeholders concerned with teachers' professional development and there are different ways of conceptualising professional development (Desimone, 2009), as well as different ways of conceptualising what should be measured as its outcome (Wayne, Yoon, Zhu, Cronen, & Garet, 2008).

In their review of effects of teachers' professional development effect on student achievement, Yoon et al. (2008) depart from a view in which student achievement is mediated through teacher knowledge and teaching. Loucks-Horsley and Matsumoto (1999) illuminate four aspects of professional development: content, process, strategies and structures, and contexts. The content of professional development is differentiated as subject matter, learners and learning, and teaching methods. The process of professional development is differentiated as being either learner centered, knowledge centered, assessment centered, or community centered. The strategies used are divided into immersion, curriculum, examining practice, collaborative work, and vehicles and mechanisms. In an attempt to map the terrain concerning research on teachers' professional development, Borko (2004) differentiates in a similar way between four elements of professional development: programs, teachers, facilitators, and context. Garet, Porter, Desimone, Birman, and Yoon (2001) differentiate professional development on its structural features and on its core features. Structural features are form of activity, duration of activity, and collective participation in the activity. Core features being focus on content, components of active learning, and coherence. Penuel, Fishman, Yamaguchi, and Gallagher (2007) departed from a model in which they considered duration and time span, role of colleagues, focus on content or strategies, active learning, coherence, and local support and barriers. Considering the current status on research on professional development, Wayne, Yoon, Zhu, Cronen, and Garet (2008) claim there is a general acceptance that intensive, sustained, job-embedded professional development focused on the content is more likely to improve teacher knowledge, classroom instruction and student achievement.

Active learning, coherence and collective participation is also said to be connected to best practice in professional development. Boyle, While, and Boyle (2004) report on a difference between different categories of teachers regarding the features of professional development they engage in. English and mathematics teachers were more likely to participate in conferences/workshops or in long-term professional development than primary science teachers. Observation and sharing practice was the most common form of long-term activities. Boyle, Lamprianou, and Boyle (2005) report that the majority of teachers engaged in observation and sharing of practice change their teaching practice. Musanti and Pence (2010) show how problematic the common trait of collaboration in professional development activities could be. Collaboration is not always comfortable and complacent, and they highlight the potential for learning also from conflict and disagreement. Desimone (2009) argues for a core conceptual framework in

researching teachers' professional development, a framework consisting of content focus, active learning, coherence, duration, and collective participation.

To summarize, the following themes seem important to note: content (as in pedagogical or technical); barriers and support (as in incentives and structures); process (as in active learning); time (as in duration); and coherence (as in alignment with own goals and standards).

The National Program for ICT in Schools (ITiS) 1999–2002

The National Program for ICT in Schools (ITiS) was initiated in 1998 by the government and was conducted from 1999 to 2002 (Jedekog, 2005). The program was built on prior programs of TPD using ICT. The program affected schools in all parts of Sweden as all Swedish schools were involved. The program consisted of seven components to improve teachers' ICT literacy:

- in-service training,
- a multimedia computer for each participant,
- state grants to improve Internet accessibility for the schools,
- state grant to ensure all teachers and pupils e-mail having addresses,
- support for developing the Swedish Schoolnet and the European Schoolnet,
- special measures for pupils with special needs, and
- awards for excellent pedagogical contributions.

Teachers and school managers were offered an ICT course to acquaint them with the potential use of ICT as an educational tool. All 289 Swedish municipalities chose to participate.

Training was to be arranged flexibly, in the form of intensive courses, study circles or seminars, teachers participating organized in teaching teams and supported by mentors/facilitators recruited on their backgrounds from prior programs using ICT in schools. Training was to be held regionally, adapted to regional conditions. A management group, representing teacher training institutions, regional educational development centers, and local municipalities, coordinated a regional network. Training was offered for facilitators, principals, administrative heads, and politicians. Facilitators/mentors were to gain insights in how to chair seminars and to support teams of teachers in developing their learning. Training for principals was intended to give them insights into their role in the implementation of development work in schools. The training consisted of

both theoretical and practical parts. Practical parts were development projects carried out in teacher teams and with pupils. Theoretical parts were centered in three areas: ICT in the world, ICT and learning, and ICT in practice. The in-service training was aligned with the pedagogical approaches set out in the national curriculum, such as a shift in the pedagogical approach from teaching to learning and giving pupils more responsibility, interdisciplinary approaches to teaching in teams and a problem-based pupils-oriented pedagogy. In order to reflect personal learning and development during the in-service training, every teacher team summarized their work in a final report. Focus was on the team and not on the individual teacher.

The ITiS program was evaluated between 2000 and 2003. Tebelius, Aderklou, and Fritzdorf (2002) provide a quantitative report on the effects of ITiS. They claim that the program have stimulated reflection on learning and ways of teaching. According to the teacher teams responding in the study, ITiS have had a big impact on the work in the school — teachers generate new ideas and new pedagogical methods. In the main report from the national evaluation of the ITiS program, Chaib, Chaib, and Ludvigsson (2004) state that the six most prominent features of ITiS were: learning in a teacher-teams, learning at the workplace, problem-based learning, learning with the support of a facilitator/mentor, an incitement for participation (each teacher was provided a computer), and a synchronous learning taking place where teachers and pupils were learning alongside each other. They note that the long-term effects were difficult to see such a short time after the program.

In the evaluation the teachers reflect on what will happen after ITiS and the evaluators ask the question — what effects will ITiS have had in the long run? In the summary of the national evaluation, Chaib and Tebelius (2004) claim that the long-term effects of a program such as ITiS is difficult to determine and that the effects will show eventually. From the quantitative part of the evaluation they state the most prominent effect to be that about 40% of the teacher teams engage in new development projects after the ITiS program. The teachers are unanimous in stating that the reflective learning they have encountered in ITiS is going to affect their future work. Chaib (2005) states that the program can be considered to have been successful. Chaib points to the collaborative dimensions of the program, the fact that the work was done in teams, and that the teachers were supported by an external facilitator/mentor has provided the teachers with tools for continuing to work in teams. This dimension was further elaborated by Karlsson (2004) regarding the ITiS teacher-teams as forming a community of practice.

The ITiS program was extensive, one of the largest TPD enterprises in Sweden. The effect of the program on the work in schools is of course difficult to assess, especially after such a long period of time as ten years. What is possible is to try to capture the experiences of the teachers, their retrospective views of the program and their views on the effects they can see that their participation in ITIS

has had on their teaching. The infrastructure built by ITiS, in terms of computer access, broadband, e-mail addresses and such can be easily established. But the infrastructure in terms of organization for teaching and learning, working in teams, reflecting together, willingness to use external facilitators/mentors, learning synchronous with the pupils, problem-based learning and so on is interesting to investigate further.

Aim

The purpose of this paper is to explore how teachers in retrospect view their participation in a fairly extensive national program for TPD and ICT, and if they perceive the program to have had any long term effects in their teaching practice.

Methodological Considerations

This study is based on semi-structured interviews. A qualitative and more descriptive approach was adapted (Cohen et al., 2003) with a focus on how teachers experienced their participation in the ITiS program a decade later. Participants in the study were twelve teachers, 2 men and 10 women, who volunteered for an interview. The teachers worked in different parts of the Swedish educational system, from preschools to upper secondary schools. All teachers who participated in the ITiS program in two medium-sized municipalities were contacted through a questionnaire — in total about 800 teachers. Those teachers who were willing to participate in an interview gave their consent to be contacted through the questionnaire, and from about 20 positive answers a final of 12 interviews were possible to conduct during the spring of 2010. The teachers interviewed cannot be considered to be a sample of those contacted through the questionnaire, nor can they be considered to be a sample of teachers in general working in the Swedish schools. As a group they represent only themselves, but considering the lack of studies with an aim of providing an understanding of the long term effects of teachers' participation in teachers' professional development programs exploring their experiences seems important.

The interviews concerned four major areas: in what way was ITiS organized at the school you worked at when you participated; what was the content of ITiS when you participated; how did your participation in ITiS affect your work when you participated; and what would you say is the effect if any of ITiS on your work today. The interviews took between 15–30 minutes to conduct. The interviews were analyzed using the most prominent features of effective professional development identified in the background of this paper, e.g., *content, barriers or support, process, time*, and *coherence* as framework for the interpretation. This paper will provide a first preliminary analysis of the interviews. The analysis will be presented within these categories as well as in relation to the experienced

effects of the program. The analysis was conducted using an approach in which each interview was first interpreted in relation to each theme; thereafter the interviews in each theme were re-read and possible sub-themes were established as common traits or common experiences. For each theme some quotes from the interviews were selected to provide for an understanding of this interpretative reading was conducted. Quotes are therefore not to be seen as evidence, but rather as examples of interpretations.

Analysis

Content

One prominent theme of the interviews was content. Almost all teachers describe at length the work they set out to do within the program. Interestingly, what they describe is not so much work they did using technologies of different kinds, but work they planned and conducted with the students. In terms of content for ITiS they relate to the different projects the students were working with pedagogically. For instance in the words of one teacher: “We had a theme called being young in the world.” Another teacher phrased it: “Our work was about an elderly person who did not eat.”

In general, teachers describe work that is done in themes and not in subjects — pedagogical models for working problem-based, research-based with different subjects integrated into the work.

Several teachers also described the content related to technology and how the work helped them to use computers as tools in their work. As one teacher put it: “We started to use the computer as a tool as from ITiS.” They also gave examples of different technologies they integrated in the work, such as video cameras, digital cameras, and software they learned to manage such as first class, e-mail programs, and such.

Barriers or Support

Another prominent theme relates to the perceived barriers or support in the program. More than half of the teachers said they were supported by their mentor/facilitator in the program. The mentor/facilitator organized seminars, reading groups, lectures, meetings and discussions that the teachers still remember and value. As one teacher remembered: “We had a really good facilitator.” Another teacher said: “We had such safe instructors.” There are some teachers, though, who wonder what else the mentor/facilitator did. But still, they mention the meetings and the support it provided as important.

Yet another theme that many teachers recall that falls within the area of barriers or support was the fact that they all received a computer of their own within the program. This enabled them to work more flexibly with the students as well as work at home. The computer was an important incentive for participating. One

teacher said: "Then all of us got a computer of our own, and that made it a lot easier wherever you were." This aspect is not uncontroversial, as one teacher put it: "Many participated to get the computer, and not always for their own use but for their family." Nevertheless, the fact that the program was supported by a strong incentive for participating seems to the teachers as an important feature that they still remember.

Also related to the feature of barriers and support is the recollections many teachers have of having plenty of time allocated for planning their participation and the support in terms of substitute teachers helping out at the schools when the work in the program was conducted.

Process

Yet a theme all teachers mentioned was the organization of the work process in teacher teams. They all recall the members of their team as important, for their learning as a group as well as for the support they had in the group. The work process not only related to the work they did with the children but to work shops, lectures and such activities as well which was based on active participation in their teaching team. As one teacher put it: "We were a good group, the same teaching team." Another teacher mentions that they are still in touch and the teacher still regard them as friends: "I still have contact with my friends." Through their work, teachers formed bonds with other teachers, and seem to have kept them alive over the years. The process of active learning seems to have supported a teacher culture of learning together.

Time

The feature of time is also emerging in the interviews as a theme. Almost all teachers can state the duration of the program and give starting points and ending points for their participation. The extended timeframe of the program is appreciated. As one teacher put it: "It went on for a longer time and was adjusted to our needs." Another teacher said: "I don't remember how many meetings there were, but they were extended in time, I thought that was good." Participating in the program seems to have given the teachers enough time to actively process the content and integrate it into the practice of their own.

Time is also referred to as a problem in the program. The work took a lot of effort in planning and conducting, especially with the ambitions that was build into the program of aligning it to the teaching and learning of the pupils. In this sense, the program worked as a catalyst for changes and educational experiments already on their way and meant more daily work.

Coherence

In the program, one distinct feature seems to have been to align the work with the teachers and the existing work and standards of the schools. The teachers in general seem to agree with the ambitions of the program, and the things many of them recollect are positioned within a framework of an already existing practice.

As one teacher expressed it: “Knowing what is what is difficult, working with subjects integration and problem-based we were already into that.” Another mentions: “Before we had worked with computer driving licenses for the students.” The content of the program seems well integrated to a point where some teachers seem to have problems in distinguishing what was ordinary work and what had to do with work within the program. As one teacher says: “It all blended in with the ordinary.” Or in the voice of another teacher: “the things we were supposed to do we did with the computers, interactively.” The relation to the already existing practice was something that made the content authentic. One teacher put it: “We would have done it anyway, we were on our way into working like this.” There are no statements from any teacher claiming that the ambitions of the program was outside of teachers own, and no one refers to the program as a governmental approach to control the teachers practice and the process of school development and use of ICT.

Effects

When it comes to the effects on the teachers work, there is a more or less common understanding among the teachers that the program has affected their work. The teachers give examples of effects both on their pedagogical work and on their use of the computer and technology in class. As one teacher puts it: “The way we planned and conducted the work is something I use still today.” And another teacher says: “We kept trying with this subject integration.” Other teachers mention the continued work with computers in education. As one teacher puts it: “ITiS has been as a jumping start for the use of ICT in the school.” Another one puts it: “it goes on all the time, after that you didn’t stop.” As teachers remember, their work with computers and ICT got a head start through the program, and through the alignment with the work they did with the students most of them kept the work going.

In short, the analysis points towards a group of teachers that has rather vivid memories from their experiences, where the two most prominent features were their work in teacher teams and their work with the students. They do not highlight as much the different technologies they used and learnt about, nor do they highlight the further use of computers but the further use of pedagogical ideas and working methods.

Discussion

In this study, 12 teachers were interviewed regarding their participation in a professional development program more than ten years ago. This calls for some methodological considerations to be discussed. What can be said from the study given its methodological soundness?

First of all, there is a risk that the teachers represent a smaller group that embraces positive attitudes towards the program and towards the use of ICT. The way they

were approached, and the fact that they were volunteers, supports this risk. Secondly, they all try to remember something that happened more than ten years ago. In some cases, the teachers had documentation from the program which they had still access to. This could give both a false picture of what happened and what they actually remember, as well as provide only selected parts of their participation.

Disregarding these two aspects as something the present study have no way of controlling, there are some things still possible to say about the teachers recollections in relation to international studies on effective professional development as well as in relation to prior evaluation of the specific Swedish program in question.

First of all, the alignment with the teachers' ordinary work makes them recall more what they did with the students than what kinds of technologies they used. Their main concern seems to be on the pedagogy, not technology. Secondly, their common way of remembering their work in teacher teams seems to make this an important feature of the program. Both these issues can be related to the national evaluation (e.g., Tebelius, Aderklou, & Fritzdorf, 2002) as well as to international research (e.g., Wayne, Yoon, Zhu, Cronen, & Garet, 2008). Working closely aligned with standards and ordinary work, in an active learning mode, and participating collaboratively with colleagues are issues claimed to be positively aligned with what makes professional development effective. Teacher teams and support from mentors/facilitators are prominent features of the national evaluation.

Thirdly, the support they received from their mentor/facilitator as well as the incentive for participation in receiving a computer within the program both seem to confirm the claims for providing support and removing barriers for professional development (Fishman, Yamaguchi, & Gallagher, 2007). Fourthly, the way they see that the work in the program has had lasting effects on their work is also an important issue. The teachers mention the pedagogical work — the methods, ideas, and thoughts behind their work in the programs — as well as their continuing work with computers in education to be effects of the program. This makes the issue of separating the effects of professional development from other aspects of teachers' work an important question (Wayne, Yoon, Zhu, Cronen, & Garet, 2008). How can such effects be measured?

This study has lead to further questions concerning the effects and impact of professional development. Futures studies are necessary to further address issues of appropriate methodologies as well as measures of TPD, with or without the featured use of ICT. In many cases, self-reported accounts such as this study are the only way of describing the outcomes of TPD initiatives.

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