

TECHNOLOGY ENHANCED TEACHER PROFESSIONAL DEVELOPMENT — FOUR CASES IN SWEDEN FOR TEACHERS' PROFESSIONAL DEVELOPMENT AND THE USE OF ICT

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Abstract

In this paper, the theoretical framework and design of the Swedish part of an international comparative study of Technology Enhanced Teacher Professional Development (TETPD) are presented. The aim of the paper is to provide a framework for a Swedish multiple-case study. Through the use of the framework, four different cases that are described as programs in which ICT is used in and for TPD are selected. The four cases are presented and compared on four characteristic features. The significance and prospect of the programs in terms of enhancing the use of ICT for teaching and learning are then discussed.

Introduction

Constant change in the working conditions of teachers and increased impact of information and communication technologies both lead to a need for teachers to engage in professional development activities. Teachers' professional development (TPD) is therefore a dynamic area of constant change, and teachers' knowledge and skills are in a constant need of improvement, teachers are in need of TPD. According to Diaz-Maggioli (2004) TPD is often constricted by numbers of barriers. Among others he talks about TPD as often being a question of top-down decision making, characterised by a lack of ownership of the professional development process that has an inaccessibility of professional development opportunities and providing little or no support in transferring professional development ideas to the classroom. Others have identified further barriers such as TPD arranged and carried out in single or short sessions in which the teachers are attending in person (McRae et al., 2001).

In Sweden TPD seems often to be initiated on a central, governmental level with directives concerning financing and organisation of content and implementation (see i.e. ordinance 1982:608; ordinance 2007:223). Governmentally initiated TPD have been studied and analysed both in Sweden as well as internationally. For instance, Strömberg (1994) and Englund (1992) hold that state controlled TPD is a means for the state to secure that teachers are loyal to the curriculum rather than to

the traditions of the profession. Diaz-Maggioli (2004) holds that the steering limits the ownership over the TPD and Husby (2005) argues that it could lead to teachers' learning not being as meaningful. Similar ideas could be found in Hargreaves (2006) and Goodson and Hargreaves (2003) who hold that teachers search for continuous learning should be encouraged, instead of teachers giving in to demands for change from above. Blase (2005) holds that teachers often find themselves in a political, economical and social dilemma regarding their TPD.

Theoretical Framework for TPD

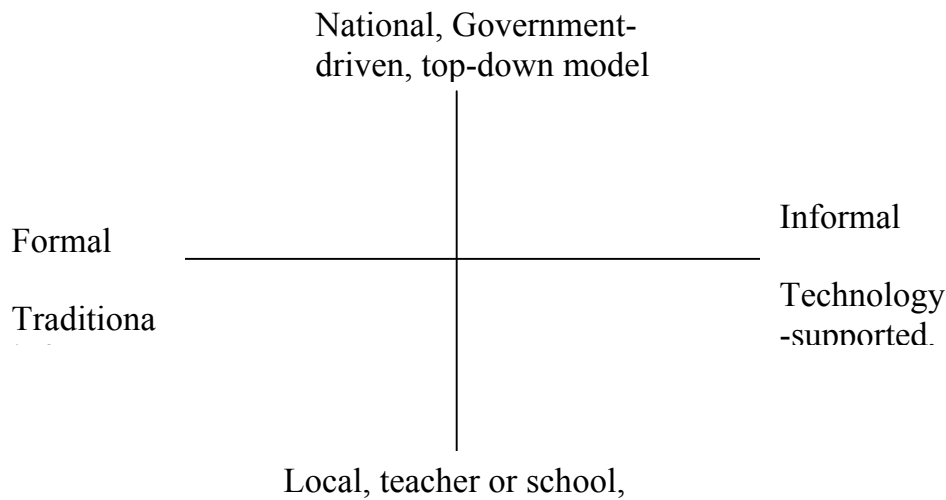
Turning the focus for a moment to the content and characteristics of Teacher Professional Development, there are several different positions to be noted. In her literature review, Villegas-Reimers (2003) gives broad background descriptions of different views on TPD. Starting in professional development, which is referred to as the development of a person in his or her professional role, Villegas-Reimers goes on to clarify TPD as the professional growth of a teacher as a result of gaining increased experience after examining his/her teaching systematically (building on Glatthorn, 1995). Professional development includes formal (such as attending workshops, mentoring, etc.) and informal (such as reading publications, watching documentaries, etc.) experiences (building on Ganser, 2000). Fraser, Kennedy, Reid and McKinney (2007) suggest a joint framework of three different models when discussing a possible framework to examine TPD. Several dimensions of TPD are included in the models. First, there are three interrelated aspects of professional learning, as they are suggested by Bell and Gilbert (1996): personal, social and occupational. Second, the analytical framework by Kennedy (2005) is used in which the purpose of TPD could be located along a continuum of being transmissive, transitional or transformative. Third, Reid's quadrant of teacher learning (McKinney et al., 2005) is presented, which is comprised of two dimensions: formal-informal and planned-incidental. Through this joint framework, complex relations affecting TPD are possible to identify.

All in all, it seems that some characteristics of TPD might be possible to include as a framework for a comparison of different models of TPD.

Selection of Cases

From these different distinctions, this paper aims at presenting four different cases of teacher professional development, all of them, in one way or another, are related to the use of technology. The cases mirror two dimensions of teacher professional development (see Figure 1).

Figure 1: Two Dimensions of TPD Used for Selecting Cases



First the distinction between top-down models and programs and bottom-up models and programs. Secondly, the issue of formal-informal models or programs. By relating the cases back to the theoretical framework recognized above, the paper will end in a discussion of the possibilities for Technology Enhanced Teacher Professional Development within each of these four different cases. The cases will be described in the following.

Case 1: ITiS (National programme for ICT in schools)

The National Programme for ICT in School, ITiS, was initiated in 1999 by the government and the programme ran from 1999 to 2002 (Jedeskog, 2005). The programme was building on prior programmes of TPD using ICT, and people involved in the programme were recruited as facilitators in the ITiS-programme from prior programmes. Actually, all Swedish schools were involved in the ITiS-programme. The programme 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 choose to participate. Training was to be arranged flexible, in form of intensive courses, study circles or seminars. 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 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 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; ICT in practice. The in-service training was aligned with the pedagogical approaches set out in the national curriculum, such as a shift from teaching to learning, giving pupils more responsibility, interdisciplinary approaches to teaching in teams and a problems-based pupils-oriented pedagogy. Every teacher team summarized their work in a final report, in order to reflect personal learning and development during the in-service training. Focus on the team and not the individual teacher. Finding good models for in-service training was time consuming. Benefits from the ITiS-model were time for reflection and cooperation with colleagues in seminars. The basic requirements were team work, problem based learning and lifelong learning.

Case 2: The National Teacher Professional Development Program “Lifting the Teachers” (Lärarlyftet)

In 2007 the government took the initiative to form The National Teacher Professional Development Program “Lifting the Teachers” (Department of Education, 2007). The programme is set to run between 2007–2010 and include teachers working in almost all aspects of the Swedish K–12 school system. Improving schools is one of the major motives for the programme. In the national evaluations conducted by the Swedish National Agency for Education, the outcome of the students’ performance in several subject areas has decreased in 2003 compared to the result from 1995 and 1992 evaluations. Research, it is claimed by the government, has shown that the competence of the teacher is one most important factor for the performance of the students. Therefore the teachers are in need of TPD. The focus of the programme should be on the teachers’ subject knowledge and their didactical competence, as well as other relevant TPD that might benefit the students’ performance. The TPD will be held by the universities appointed the task by the Swedish National Agency for Education. The TPD-courses, which are to be held, are not all given at all universities, the Agency will select those universities and colleges who have the best conditions. This means that the courses to be held must be given in an open and flexible mode, allowing participants from many different regions of the country who are in need of specific courses. Many courses will be given as distance courses using ICT as educational support. Teachers apply for the courses at the universities, but they need approval from their principals and municipalities before entering the

programme. This also means that there is a rather large individual influence from the teachers to search themselves for appropriate courses, but at the same time the municipality will have the final words before they could start their TPD.

Case 3: The online learning community Lektion.se

Lektion.se is, according to the website (www.lektion.se), a web-based teaching material produced for teachers by teachers. It is a database of lessons and materials free for use where teachers are voluntarily sharing among themselves. Lektion.se is the largest online community for teachers, teacher trainees and other stakeholders in Sweden, sharing an interest in the practice of schools. Its history dates back to 2003 and originally this community was built in order to make possible for teachers to publish, search and download lesson plans. Activities that are provided free of charge, are member driven, and are flexible in time and space. There are different resources provided for the members. Lektion.se contains an online forum where teachers communicate with other teachers active on the site in a community, as well as providing publishing houses and other producers of educational materials as a way to reach a large group of teachers. The community also includes a database of work opportunities. The forum contains almost 20 smaller sub-forums where discussions have been available for the members for several years. The discussions in the forums are built up by threads, and every one has the possibilities to get a notice each time a new message is written in the forums one chooses to follow. Additionally, there is the possibility to create ones own page and to construct private networks or groups. Lektion.se is with its idea and target group a unique OLC in Sweden. Many groups of stakeholders of the Swedish schools are active in different discussions. Among others, one can find teachers working in pre-school, compulsory school, upper secondary school and different kinds of adult education. In addition, school leaders and school politicians are participating in the discussions.

Case 4: PIM (Practical ICT and Media Skills, a service from The Swedish National Agency for Education)

The Swedish National Agency for Education provides an Internet-based tool for the Swedish schools in order to give them increased access to new tools in schools such as digital cameras, projectors and other teaching resources on the Internet. The PIM brochure (www.skolverket.se) states that PIM offers the opportunity to enhance and broaden skills in the field of ICT use, both on ones own and together with others. PIM consists of ten guides in which teachers with experience of working in schools describe how IT and media can be used. The guides cover different topics, from mailings for a meeting with parents, search techniques and source criticism on the Internet, to compiling images and music to create slideshows. The guides provide step-by-step support, showing how to work with computers. For all sections there are exercises, which can be done alone or

together with colleagues. As an Internet resource, studying the content in PIM can be done whenever it is suitable. PIM also contains a study map, which shows different routes that can be taken through the courses, depending on what level of competence that is strived for. If a municipality wishes to implement more wide ranging skills for its staff, PIM can be used to give teachers the opportunity for examination in practical IT and media skills. Examinations take place under the auspices of the municipality, and are attainable at five different levels: individual level, working group level, teaching in the modern classroom, resources for individual schools, and resources in the municipality. These examinations are based on both practical skills and theoretical knowledge. The Swedish National Agency for Education creates the examination environment for the municipality on the Internet and trains the future examinees.

Comparing the Four Cases on Some Characteristics

In an attempt to provide a further understanding of these four cases, this paper is attending to relate the cases to the some characteristics of TPD. Important issues to highlight are the primary stakeholders of the TPD, the features of the TPD in terms of compulsory or voluntarily chosen models, the primary technologies used and the possible effect and evaluation of the TPD. In Table 1 those aspects are summarized for each case.

As can be seen from Table 1, the cases mirror different aspects of TPD, different stakeholders as well as top-down or bottom-up models. The cases also reflect different ways of working with the content of the TPD, and the cases can be seen as using different technologies for managing the TPD. The possible effect and evaluation content of each case could differ, and the main effects are still needed to be investigated in cases 2–4.

Table 1: Comparison of the Four Cases

	Case 1	Case 2	Case 3	Case 4
	ITiS	Lifting the teachers	Lektion.se	PIM
Stakeholders	Government but Voluntarily participation of municipalities	Government, but voluntarily participation of teachers	Personal	Local, Voluntarily participation from municipalities and teachers
Features and Characteristics	Top-down model, but support for local adjustments	Top-down model	Bottom-up approach	Top-down model, with support for bottom-up use
Primary technologies	Face-to-face training	Face to face training combined with distance education technologies	Online community	Online tool
Effect and evaluation	National, municipality and teachers	National, teachers.	Not yet investigated	Local municipality and teachers

Concluding Remarks

So, what could be the implications of these four cases and their potential for programmes or models of TPD aiming at enhance the practice of teaching and learning? Could there be cases where the use of ICT might affect teaching and learning positively?

The case of ITiS seems to be such a model, where a government initiative provides a framework for the integration of ICT in teaching and learning leading to professional development at teacher level. The long-term effects of ITiS are yet to be investigated. The case of lektion.se has also several features that have a potential to be a powerful model of TETPD. What is yet to be investigated in the case of lektion.se is the effects that the teachers' participation based on their school practice, i.e. their own teaching and learning. The case of PIM also seems to have a potential to be a model which could provide technology enhanced TPD for teachers. The case, which seems to be most traditional and furthest from a TPD that might use technology to enhance the teaching and learning, is the latest initiative lifting the teachers. In this case, there are several features of the model that reminds of the identified barriers of effective TPD.

TPD that is anchored in participation, collaborative activities and dialogue intertwine possibilities for a professional development that offers a way to bridge theory and practice and to enhance teaching and learning. Productive arenas for this purpose need to be identified, as well as arenas for integrating the possibilities that the technology of today affords. In this paper, several cases of such TPD has been discussed, enterprises in which technology as innovation will have a crucial place both as leverage and catalyst of change, and as a pedagogical tool in itself. In such enterprises, technology enhanced teacher professional development may be realised.

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