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Towards new Challenges in Finnish Pre-service Teacher Training

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Abstract

Teacher training in Finland is facing a situation in which it is necessary to develop new ways to organize education according to the needs of the students and society. There is an increasing demand for a more flexible teacher study program that would make it possible for students to face the future challenges in more versatile ways. This qualitative study investigates pre-service teachers' professional development during the 6 ECTS credits learning period in multiple authentic 21st Century learning environments in Primary school teacher training. This article provides an opportunity to discuss and develop primary school teacher training to help pre-service teachers to adapt themselves to future demands.

1. Introduction

Teacher training is facing a challenge to find answers to questions like: what kind of skills will teachers and other school staff require to be able to work so as to promote education and learning for the future? The study unit *Overall towards contextual and experiential learnig* challenges students to create ideal 21st Century learning environment based on Finnish National Core Curriculum Reform. This pilot course will act as a tool for renewing adult teacher training program towards more authentic and contextual ways of working in primary school contexts.

2. Research Rationale

The main research questions of the paper are as follows:

a) How can we prepare pre-service teachers to face the future with skills, knowledge and understanding needed in tomorrow's profession?
b) How can we change those believes they have about good learning?
c) How can we create deep enough fissures to break the thinking models of earlier school experiences?

The data has been collected during the six ECTS study unit in spring 2013 and 2014. The data consists of:

- Real time seminars
- Recorded professional discussions
- Practicum evaluation reports
- Learning diaries
- Peer assessment

The main study method is Qualitative Analysis of the content, which according to [6] describes to be an approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytic rules and step by step models, without rash quantification. The hermeneutic circle will interact between the research documentation, theory and the interpretation of the researcher.

The 21st Century Civil Skills Pedagogical Content Knowledge -framework, introduced in this research, will help pre-service teachers to create learning environments where the 21st century civil skills will meet the modern pedagogy and core curriculum standards. With the help of this framework together with the model of Contextual pedagogical approach to learning, one is able to build a strong pedagogical foundation to transformational 21st century learning environments.

The main ideology in Contextual pedagogical approach to learning is to make visible the everyday phenomenon and operation cultures outside the curriculum. The curriculum contents will act as tools when creating authentic 21st Century learning environments and authentic 21st Century learning tasks to support learners to strengthen their skills to see and understand the connection between theory and practice. In addition to that it is essential to reflect the connection between the theory and operation cultures to make ones learning and understanding visible in authentic situations. Norrena, Kankaanranta and Nieminen [13] argue that there has to be a

significant pedagogical change in teaching routines and pedagogical operations to move from teaching to learning and towards 21st century requirements.

How will this change become true in adult learning contexts – what are those pedagogical changes in the field of curriculum, planning and implementing as well as in the roles of teachers and students? The Century Civil Skills Pedagogical Content Knowledge (21st Century CSPCK) attempts to identify the nature of vast pedagogical knowledge required when turning learning from traditional to transformational i.e. blending the 21st century civil skills in to the authentic learning contexts and the curriculum.

The basis of the framework is the understanding that teaching itself is a highly complex activity that draws on many kinds of knowledge. This knowledge, as Ashe and Bibi (2011) highlights, is diverse and includes both content and pedagogical knowledge. In recent years the new type of knowledge has been raised to attention that of 21st century skills or 21st century civil skills as Finnish National Board of Education has named that knowledge in curriculum renewing process. The 21st Century CSPCK articulates the role of 21st century civil skills in the process of teaching and learning in a really blended manner. In 21st Century CSPCK –model the emphasis is put on competency, performance and capabilities and the key question in learning situations is rather how the information will be used than what the information is.

At the heart of the 21st Century Civil Skills Pedagogical Content Knowledge framework, is the complex interplay of three primary forms of knowledge: 21st Century Civil Skills Knowledge (21st Century CSK), Pedagogical Knowledge (PK), and Curriculum Content Knowledge (CCK). It is essential as a teacher to find the 21st Century Civil Skills Pedagogical Content Knowledge point of intersect, where the three primary forms of knowledge meets each other and use that essence as a starting point when creating innovative and enthusiastic learning as well as authentic learning situations. [5, 12] As & Piispanen [10] highlight, the planning process is to be viewed from at least three different angles. What do we mean by that is that the emphasis of learning should not lie on curriculum contents (subject contents) themselves, but these contents should act as tools for accomplishing 21st century civil skills by arranging learning situations and environments as authentic as possible to support vast and deep understanding of every day phenomena. The 21st century civil skills should also not be seen as isolated skills or learning targets, but they should be examined as visible parts of a learning context. Together all the three knowledge areas will create a successful and pedagogically meaningful learning process produced by students and supported by teachers. [7, 8]

In a Contextual-pedagogical approach towards learning, a special attention is paid to the growht of 21st Century CSPCK knowledge. The skills, context and pedagogic will have a crucial significance in all learning situations. Where traditional pedagogic and multidisciplinary approach to integration emphasizes pedagogy and curriculum as tools for creating learning situations, the transformational pedagogic connects the three knowledge areas together with interdisciplinary way of integration. The learning situations will be discovered in the heart of the expanded knowledge acquisition as you can see in Fig. 1.

Figure 1. Dimension of pedagogical approach to learning [7]

The student, the pedagogical expert (the teacher), the content expertise from real life contexts, the society and the curriculum will settle in the heart of the Contextual – pedagogical approach towards learning –model. The planning begins from the premise of individual student and his/ her skills, knowledge, interests and enthusiasm (comparison to traditional planning where the planning is made to fit to the school constructions; timing, text books, classrooms, etc.). In this model, the teacher observes surrounding world to the understanding and skills which adult students will need in authentic operation cultures. Afterwards he mirrors and connects the curriculum contents with these real life phenomena. The real life phenomena will help learners to understand and link the curriculum contents with the life outside and develop 21st century civil skills blended to authentic learning situations.

The teacher's role, as Meriläinen and Piispanen [7] states, is to be a pedagogical expert, who creates learning environments and learning

situations based on the 21st Century CSPCK framework i.e. identifies the individual needs of each student, designs creative, authentic learning tasks and supports the growth of multiple civil skills needed in real life. [7]

3. Tools and challenges for professional development

This research project examines pedagogical changes and professional development in different learning contexts with the help of the model of Contextual pedagogical approach towards learning [7, 8, 9] When working in learning environments based on Contextual pedagogical approach to learning, pre-service teachers will emphasize interdisciplinary approach to curriculum, enhance student's individuality and creativity in different learning situations and support both content knowledge as well as 21st Century civil skills knowledge to develop hand in hand.

Overall towards contextual and experiential learnig, the 6 ECTS learning unit, concentrates on framing and modeling 21st century learning from curriculum to planning, implementing and assessing in Kokkola University Consortium Adult Teacher training program as well as in Finnish Primary School Contexts. This learning unit authenticates key questions that will guide us to model the Contextual pedagogical approach to learning in practice. We consider 21st century teachers professional development from versatile point of views where the curriculum knowledge is seen as an important field of knowledge. The following questions have helped us to begin to understand the importance of curriculum knowledge in teachers´ professional development:

- How can we support the educational and pedagogical change from traditional to transformational at the level of curriculum design?
- How is the curriculum used when moving learning from traditional to transformational?
- How is learning organized in transformational school context according to curriculum –from the teacher´s point of view and from the student´s point of view?
- How will 21st century civil realize in practice when following curriculum in primary school contexts?
- How to create learning environments that will give every child a possibility to learn and show his best in every learning situation?

The six ECTS learning unit strives to develop pre-service teachers' pedagogical skills, working methods and working tools by supporting students to create versatile learning environments and to pay attention to pedagogical, curricular and multiple 21st century civil skills as starting points.

The Finnish national core [2] curriculum for basic education 2004 gives a possibility to integrate subjects as well as create cross-curricular themes. According to the curriculum (2004), the objective of integrating instruction is to guide pupil in examining phenomena from the perspectives of different fields of knowledge, thereby elaborating themes and emphasizing general educational goals. Though the curriculum clearly gives a possibility to integrate subjects, teaching and learning is still generally based on specific subject knowledge in Finnish schools. The Finnish National Board of Education runs a curriculum renewing process, where principles of planning the core curriculum according to Halinen [1] are considered for following perspectives: building on strengths, sustainable future as an objective, equality in all areas of education, meeting pupils' needs and supporting wellbeing and other prerequisites for learning, coherence and consistency of basic education, learning continuums and international aspects.

During the Overall towards contextual and experiential learnig -course students are guided through the planning process by supporting them to create enthusiastic, authentic learning environments, familiar to children, in connection to real life with learning tasks similar to life outside the school. Students themselves go through and experience the whole process in a "pupil" role where the learning expresses complete learning process in Contextual pedagogical learning and consists of all its elements as seen in Table 1.

Table 1. The key features in Contextual-pedagogical learning

Key features in theory	**Key features in practice**
REAL LIFE PHENOMENON - EMPHASIS ON SKILLS AND UNDERSTANDING	*"Your group has been chosen to an innovative project competition! It will start just NOW! Gongratulations and Good Luck!"*
AUTHENTIC LEARNING TASK - RISES FROM THE PHENOMENON	*Your task is to plan and implement a contextual and memorable production that is based on curriculum from interdisciplinary point*

	of view. *Target group primary school children.*
ENTHUSIASTIC LEARNING PROCESS	Detailed project plan to support long-lasting planning and developing self-directing skills. *"Your project will culminate on May around the city/ woods/ seaside as a PopUp! – school day together with primary school children. Be prepared and good luck!"*
AUTHENTIC TASKS, THAT REMINDS REAL LIFE WAYS TO WORK	*"Be creative –look to the curriculum through authentic, everyday phenomena –suitable for children certain age, enthusiastic and functional."* *Could your PopUp! – school be Children's´ University, A Day in a Circus, Flee Market, Fishing Trip… Or something else that happens in real life?*
INTERDISCIPLINARY USE OF CURRICULUM	*"Look through curriculum and make curriculum contents to fit to curriculum learning aims in your project. Fade out disciplines and make the blend interdisciplinary visible."*
TEACHERS ROLE - 21ST CENTURY CIVIL SKILLS PEDAGOGICAL CONTENT KNOWLEDGE EXPERT	*"Make your learning visible in your personal learning environment (use blog, web pages, presentation tools, recordings, Pitching…) Combine theory to practice –read articles, discuss and share your thoughts."*
ASSESSMENT IS A TOOL FOR LEARING, VISIBLE AND KNOWN FROM THE BEGINNING OF THE PROCESS	Competence based curriculum creates a framework to assessment –students are able to target their learning to assessment criteria from the beginning of the learning process.

"This course has been a whole, where everything we have done has complemented each other. It would have been difficult to understand the big picture, if I´d studied this all separately. I´ve get to know contextual pedagogical learning versatile both in theory and practice." (Student f 2014)

Rather than adjust one element of the learning environment at a time, this six ECTS-learning expresses holistic way to experience, learn and understand transformational pedagogic in authentic learning process [3] in a radically different environment not just for this particular setting, but for any setting. The whole study course expresses interdisciplinary curriculum implementing, open, learner-centered, project-based way to study and combine theory and practice, investigating and implementing learning of student's own choice and learning through design and construction.

The Contextual pedagogical planning process from curriculum to practical learning situations consists of eight different stages that will rise from The 21st Century Civil Skills Pedagogical Content Knowledge –framework and support students´ professional development towards excellent curriculum knowledge.

As Meriläinen and Piispanen [11] states, teacher's challenge to strengthen pupils' natural ways to learn, to address and to produce information in authentic, contextual-pedagogical learning environments is more and more important today. It is teacher's task to act as the construction worker of the bridges of the learning between a school and other learning environments. He will also support and enable different working methods and is capable to guide pupil to deepen their knowledge as well as skills. When working in contextual pedagogical learning environments, teachers will emphasize transformational pedagogic, 21st century skills and the questions of evaluation and planning. Curriculum Content knowledge in co-operation with other two knowledge areas, 21st Century Civil Skills Knowledge and Pedagogical Knowledge, will help teachers to create learning environments and learning tasks that will support all-round learning in Finnish primary schools. Table 2. expresses an example of one of the learning tasks used in the study course.

Table 2. A detailed description of a Contextual-pedagogical learning task.

Introduction: "Congratulations! Your group has been chosen for the Junior Master chef competition among many

participants!

It is your task to draw up the three-course menu according to the instructions below, to make a sample portion and demonstrate it to the honored council which will choose the winner on the basis of the evaluation criteria.
I wish you all good luck for the competition!

You will, as a small group, take a part to Junior Master Chef –competition. The task is to plan a three course menu for 20 persons. Be sure that the menu is based on the food circle and the menu consists of all primary and space colors. You will cook a sample portion for one person. Your second task is to create a calling leaflet and webpage to Gourmet Festival –blog. Your third task is to create an enthusiastic commercial video and add it to your blog. This video will be sent to competition judges.

Competition council: School cooks, two peer class students, school principal and head editor from the local press.

This above presented description of a detailed learning task highlights according to Meriläinen and Piispanen [10, 11] the main characters of Contextual pedagogical learning task. The phenomenon is authentic, rises from real life experiences, familiar to pupil from television serial and has thus connection to real life. Student´s role is authentic –Junior Master Chef –competitors and learning tasks reminds real life tasks and supports 21st Century civil Skills to develop.

Overall towards contextual and experiential learnig, six ECTS-study course, realizes in the end of teacher studies and it is the final pedagogical and didactical course during the studies. What did the students learn during the process?

"This study course made me understand deeply the contextual pedagogical learning ideology in teaching and learning." (Student a 2014)
"Versatile course, multiple learning materials and fruitful discussions with colleagues have made my eyes more open."(Student b 2014)
"These future pedagogical issues are in central part also in our master's degree study!"(Student c 2014)
"This kind of versatile, functional and enthusiastic pedagogic will be my aim also after graduation!" (Student d 2014)

As you can read from the quotes above, after this course, pre-service teachers seem to have deeper understanding of contextual –pedagogical learning in primary school context. The possibility to study, plan and carry out projects like Robin Wood –a day in the forest or a Story of Harrboda Maiden have made pre-service teachers to carry out and go for more authentic learning also after graduation. It is crucial to feel self-confident and capable to argue your transformational learning and teaching methods not only to your colleagues but also to parents. This study unit has given plenty of possibilities to mirror one´s opinions and views with other students and deepen teacher profession in this way.

"I have learned to mirror my ideas to curriculum and seek explanations to my choices."(Student e 2014)

Finnish National Core Curriculum [2] draws attention to pupil's individuality and uniqueness by highlighting that pupils´ various learning styles and backgrounds, as well as the developmental differences between boys and girls and among individuals generally, must receive consideration. This, according to Meriläinen and Piispanen [9, 11] is one of the key issues when learning and studying in contextual pedagogical learning environments.

"Functionality is good! Especially the restless boys can benefit this kind of learning. I also noticed that ICT use increased naturally. Even if the school satisfaction may not be the number one priority in our school system, the school should not necessarily have to be boring and disappointing!"

During this research project we have noticed that the way a teacher succeeds in planning his teaching is in a key position in transformational pedagogy. Teachers are often willing to renew their teaching, but the busy daily life and lack of knowledge of how to renew traditional teaching prevent teachers from making comprehensive pedagogical transformation. The ongoing pressure towards school transformation often causes teachers to renew their teaching with only small practical changes, "tips", instead of transforming the whole pedagogy. Thus, teachers get tired of the ongoing small changes and pressures. As a solution for this, during the last couple of years, we have developed the Overall towards contextual and experiential learnig, six ECTS-study courses, which have supported pre-service teachers to understand the importance of planning as a possibility to create new kind of learning environments with new kind of learning tasks that will support learning.

4. Conclusions

The life of 21st century students outside the school context looks totally different when comparing it to the habits and environments we still have in 21st century schools. Almost every student today have an instant access to information through technology and the web, manage their own acquisition of knowledge through informal learning, and have progressed beyond consumers of content to become producers and publishers. As a

result of that quick change, traditional teaching and learning methods and environments are becoming less effective at engaging students and motivating them to study and learn.

Quickly changing 21st century challenges teachers to see life outside the school and recognize not only the core subjects but also the key skills needed outside there. In Contextual –pedagogical model of learning the focus in learning is put to strengthen these skills. The curriculum contents will give the tools for teachers to create learning tasks that will support and develop 21st century skills when learning central content knowledge in authentic learning situations. It is extremely important [11] to give pre-service teachers both tools and experiences to be involved in learning situations and learning environments that expresses good learning in authentic, 21st century learning environments.

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