Field of Education and sex distinguishes polytechnic teachers' pedagogical thinking

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Abstract

This study explores an inquiry made among teachers in Oulu University of Applied Sciences (Polytechnic) (N=163). The inquiry was conducted to identify the teachers’ views on their work and the conceptions underlying their pedagogical thinking. In this article we will regard the results on the aspect: what were the background variables that separate statistically teachers’ pedagogical thinking. The background variables were sex, field of education, position, degree, teacher experience and formal qualifications. Among the background variables examined in this study, the field of education was the most distinguishing factor. We can say that the views were different in different fields. The Social Services and Health Care sector in particular distinguishes itself with its constructivist views, similarly to the other Human Sciences, the Social and Educational field and the Cultural sector. The most conservative views are held by the teachers representing Technology and the Commercial sector. According the work of polytechnic teachers should also be examined with due consideration of the differences between the various fields of education. Sex was another background variable that distinguishes strongly teachers’ pedagogical thinking.

Keywords: polytechnic teacher, pedagogical thinking, sex, field of education, higher education

Introduction

In the last two decades the higher education system has changed in many countries (Kyvik & Skodvin, 2003) including Finland. In Finland, the development of the polytechnics (Universities of Applied Sciences) is based on the so-called dual model, according to which the Finnish higher education system comprises polytechnics and universities. The polytechnics were formed from post-secondary vocational institutions, which were upgraded to a higher education level after a pilot phase. The polytechnics are characterised by their connections with working life and their operations are based on its requirements for advanced vocational skills. The objective of polytechnic studies is to provide the students with higher educational qualifications and skills that are needed in working life. Meanwhile the universities are oriented towards scientific research and most advanced education based on it. The polytechnics are also expected to play a strong role in the pursuit of research and development (R&D). Research and development has an important regional development aspect (Education and Research, 2004-2008; Kyvik, 2004). Most teachers move to the polytechnics from post-secondary vocational institutions. Such teachers have a three-year transition time to acquire the qualifications to work as polytechnic teachers. This means studies at a university to acquire an academic degree in their own field.
In this article educational background and sex are highlighted as two factors distinguishing teachers’ pedagogical thinking. Tiilikka (2004) concludes her study by stating that vocational teacherhood still is, despite the pressure for uniformity, differentiated by the field of education and partly also tied to gender. According to her, the idea of teacherhood as something connected with the field of substance knowledge that has been formed over the decades is highly permanent. An effort has been made in the unified polytechnics formed in the 1990’s to dispel the institutional culture specific to each field and teacherhood bound to a specific vocational field. (Tiilikka 2004, 253-254).

Starting-points for the polytechnic teacher's pedagogical thinking

Constructivism covers many different trends and paradigms, only some of which are actually connected with learning and education. Social constructivism focuses on the meaning of social functions in the process of knowledge construction. Radical constructivism lays stress on all knowledge being the product of the human mind, with the individual not being able to obtain objective knowledge on the external world. Constructivism of information processing concentrates the attention on how our knowledge and actions are built (Steffe & Gale, 1995). The former explains learning in terms of the individual's psychological processes, while the latter focuses on the social and cultural processes. The common thing about the various views is that learning is seen as an active process of knowledge construction and that teaching should support this process. The constructivist conception of learning lays a great deal of stress on the meaning of the learner's internal motivation. The learner's own objectives direct his or her knowledge construction process. Only the learner's own internal motivation can eventually lead into long-standing success in learning aspirations (Gruender 1996, p. 27).

So far as teacher action is concerned, constructivism means, among other things, the use of teaching/tutoring methods based on the learner's activeness, self-direction and, on the other hand, collaboration. The teacher directs and supports the learners' own knowledge formation, their skills of learning to learn and self-assessment. The teacher is also the constructor of learning environments. In an ideal case, with the increased independence of the learners, the teacher can become more and more a background support for the learners.

The study

The specific research questions are: a) How do the teachers view teaching and the underlying conceptions of knowledge, learning, teaching methods, tutoring and assessmen? b) How do the teachers view R&D and connections with working life as part of their work as polytechnic teachers? c) How do the teachers see themselves as part of the work community and what are their attitudes to self-development?. The problems were examined in relation to sex, field of education, position, degree, teacher experience and formal qualifications. The participants (n=163) in the study included 97 female (60 %) and 66 male (40 %) polytechnic teachers in Oulu, Finland. The quantitative survey study was conducted in January 2005 to identify the teachers' views on their work and the conceptions underlying their pedagogical thinking.

In the phase of analysis, the SPSS statistical software was used for computation.

Discussion of study results

The views underlying teachers’ pedagogical thinking were most clearly differentiated in the study by the field of education and gender. The field of education was related to the teacher’s conceptions of learning, ideas of supervision, views on the learner’s role and ideas of
assessment. The difference between the fields of education could also be seen in views on research and development and in the teacher’s ideas of working life, collaboration and professional development. Meanwhile gender was connected with the conceptions of learning, ideas of supervision, the learner’s role, ideas of assessment and professional development. An explanation for the significance of the field of education can be traced back to the highly trade-specific vocational education that has historically been prevalent in Finland. In Finland, working skills have traditionally been acquired at school rather than at work. Tiilikka (2004) has studied vocational teacherhood in her doctoral thesis.

The development of Finnisch society, vocational education, educational systems and reforms of vocational education and teacher education provide a framework of her study. (Tiilikka 2004, 260). She found four cornerstones of vocational teacherhood: vocational, educational, interaction and personality based. One reason why also in this study different vocational areas vary is that compared to other teachers, vocational teacherhood seemed to be different and heterogeneous in terms of career and recruitment. For example helth care - not so much the business teachers – had started teaching after long experience in working life and chosen a teachers career after a varying length of consideration. The experience in the profession had boosted their occupational identity; they felt like masters, professionals of nurses, who teach the profession to others.

Work experience was very important in all three fields of VET and to all generations of teachers except the new polytechnic teachers. The speech of new polytechnic teachers could be interpreted in the way that it is not important for a vocational teacher to have “craftsmanship” or vocational skills. The most important thing is that he or she is a good pedagogue and can provide optimal learning conditions for the students. When students are self-directed and motivated they can learn vocational skills by themselves.

This study suggests that the connection with working life is not very tight in Finnish polytechnic teaching. The various fields of education differed from each other in this respect. The connection is closer in the human sciences than in technology and traffic. This is likely to have historical causes in Finland. Vocational education has been segregated into educational institutions from quite early times. According to the study, the teachers were not very actively in contact with the students’ work placement sites.

The study showed that historical and cultural factors have strongly formed Finnish vocational teacherhood. The paradigms of teacherhood seemed to be variable between VET branches. Paradigm has changed from “craftsman-paradigm” to “educator-paradigm”

In conclusion, the historical and cultural factors should be given more consideration when reforms of WET and new roles of vocational teachers are being developed and new challenges arise. Historical and cultural patterns of wet are quite stable and changes in practice are very slow. We can often hear comments that teachers are lazy because they do not want to change teaching methods or habits. However, the results of this research show that this is not the case. The reasons are much more deeply rooted. Institutional traditions have been formed during decades in vocational schools and in the teacher training organisations.

Higher education institutions have changed markedly during the last decade (Tynjälä, Välmaa & Sarja 2003). Especially Polytechnics as quite young institutions have met many challenges to develop their organization and teaching. This certainly means that Polytechnic teachers have had challenges to develop pedagogical thinking and practices, and to develop different forms of collaboration with working life.
The results of the study help to formulate also more broadly an overall picture of polytechnic teachers' views on their work and the conceptions of learning, tutoring and knowledge underlying their pedagogical thinking. The results indicate that the polytechnic teachers are not a homogeneous group but differ from each other by their field of education, for instance. It would appear that a constructivist way of thinking is especially appropriate for fields of education that are close to the human sciences in which knowledge formation is social. Thus at least on the conceptual level new kinds of views are deeper among them than among teachers of the natural sciences, technology and business. It also takes quite some time for the new kinds of views to deepen. In the current research results it clearly meant that for those with a longer experience as teachers the views underlying their pedagogical thinking are more constructivist. The women's ideas especially in relation to their pedagogical background thinking were more constructivist than men's. This is naturally connected with the fact that most of the teachers in fields representing the human sciences are women. Women also had a more positive attitude than men towards personal development. According to the study the work of polytechnic teachers should also be examined with due consideration of the differences between the various fields of education.

References


