A New Approach to Vocational Teacher Training -A Norwegian Innovative Experience

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Abstract

The aim of this paper is to present a historical and conceptual analysis of observations of a recent innovative approach to training of vocational education teachers in Norway. Since the 17th century, there has been a close link between industrialisation and vocational training in Norway. Consequently, there has been a similar relationship between vocational training (VT) and the training of vocational education teachers (VETs). The close relationship became more apparent during the collapse of Norway´s oil industry in 2015. An increasing number of technically skilled people with higher education lost their jobs. To avert the negative impact of the breakdown, the government requested University of Agder to develop a course designed to retrain unemployed technically skilled workers with higher education to become teachers at vocational schools. In this paper we present and discuss several aspects of the untraditional approach to vocational teacher training. A particular emphasis is given to the educational thoughts that gave birth to a new way of thinking about constructing and developing a transformative vocational teacher training program for untraditional target group. A brief historical account for development of VTCC in Norway is also presented to provide the readers some important information about the Norwegian context.

Keywords: Vocational teacher training; transformative program; practical knowledge; experienced teacher candidates

1.1 Introduction

At the beginning of 2015,Norway as an oil-producing country experienced a dramatic change in oil industry due to dramatic drop in oil prices -from $114 a barrel for Brent Blend (North Sea oil) to below $40. This had immediate effects on west coast and southern part of Norway where the labour market was dependent strongly on the offshore-related vendor industry. Large and small industrial companies had to carry out stronger downsizing programs immediately. This in turn led to a high unemployment rate among highly educated engineers and other technical professionals in the region.

During the expansion period of the Norwegian oil industry, the vocational schools struggled and mostly failed at recruiting enough qualified VETs. Young graduates with degree in science and technical subjects chosen a carrier in the well-paid oil industry instead of taking vocational teacher credential course to become VET. This paper was positioned as a historical and conceptual analysis drawing on our observations of the emergence of an innovative approach to VET.

1.2 Transformation from technical professions to teachers to prevent brain drain

Crises in the oil market and the strong downsizing of the oil industry gave Norwegian educational authorities a golden opportunity to remedy the vocational teacher shortage in technical subjects in the Norwegian vocational high schools. In this situation, the Norwegian government wanted to show proactively by facilitating an educational program giving unemployed engineers from the oil industry an opportunity to qualify as VETs for vocational high schools. In addition, this initiative would counteract the risk of a regional brain drain.

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Different stakeholders considered it necessary to establish a cyclical counteraction to remedy the relatively dramatic situation in the southern and western parts of Norway.

2. University of Agdergets a special mission

In Fall 2015,the Norwegian Ministry of Education asked the University of Agder to consider the possibility of creating an extraordinary credential program for vocational teacher training specially designed to 'convert' unemployed highly qualified technicians (mostly engineers) into VETs. The university accepted this challenge and started the work with the planning and tailoring a new *vocational teacher credential course* (VTCC).The University of Agder already had a part-time VTCC, but this part-time VTCC targeted students who already were temporarily engaged as teachers at different vocational high schools in the region and who were obliged to complete a VTCC to be eligible for a permanent position in the school system. The new group of unemployed high-qualified technicians, however, did not work in schools. Therefore, it was decided that the new extraordinary VTCC should be tailored as a full-time VTCC.

While the traditional part-time VTCC used to start in August and end up in June, the new full-time VTCC started in April 2016 and ended in April 2017. These particular starting and completion points combined with a new untraditional candidates, gave an opportunity to reconstruct and redesign the part-time study program into a new pilot full-time study program with in the framework of the regulations of the university.

2.1 'Technologists' to be 'community workers': Towards a new organisation for the transformation process

This full-time pilot program for VTCC opened up the opportunity to develop a specially designed program that could be customised exactly for this untraditional group of students and the transformation process they should undergo during an academic year. This group of students had in deed decided to put themselves into a transformative process in which they would be 'converted' from 'technologists'(mostly employed by commercial entities) to be 'community workers'(i.e., starting a new career as vocational high school teachers dedicated to a correspondingly significant social and educational responsibility).

Fifteen students—all experienced technicians with higher education degree—accepted the offer and enrolled in the new full-time VTCC. The youngest participant was about 30 years old and eldest just over 55.

The group represented a wide range of technical professions and a considerable amount of experience from different technical positions and functions in the oil sector. Most of them had backgrounds as engineers (e.g., civil engineers) in either mechanical sciences, electric, electronic or construction. They formerly were engaged in activities such as the construction of equipment for the offshore sector, operation and maintenance of supply vessels, well-drilling and offshore drilling techniques, and risk and security management. We can say that this group was not consisted of novice learners but experienced learners who decided to attend a credential course and go through a process of experienced learning ((Merriënboer & Kirschner, 2007).

In the untraditional VTCC we had to deal with fifteen students (2 females and 13 males) as experienced learners, unlike novice learners, who decided to go through a professional learning at the VTCC while they were in possession of a range of sophisticated knowledge, skills and substantial prior experiences from the Norwegian advanced oil industry. Their backgrounds had a major impacton the construction of the content and the pedagogy of this new full-time pilot VTCC. It was natural for us at the University of Agder, to argue that 'special group of students' or in other words 'experienced learners' required innovative pedagogy and responsive curricula at this transformative pilot VTCC. More precisely we tried to design curricula that was experientially responsive and relevant to the particularity of the culture, context and the learners (Ladson-Billings, 1995).

2.2. The transformation process and the experienced learners' capital

In a transformational process, it is important to have a clear understanding of the ultimate aim for the transformation. The challenge is both simple and experienced. The simple part of the challenge was to find within a formal framework: the Norwegian Act of Education and the associated formal frameworks decided by the university. The more experienced part of the challenge however was to determine how the curriculum of this unconventional VTCC should be constructed and how to facilitate and support the ongoing transformational process successfully. We were dealing with a group of experienced learners i.e. highly educated adults equipped with a large amount of technical experience who also have accumulated significant amounts of experience and insight in the field of pedagogy *before* they start the study.

During teaching, it is usual to attempt to use, albeit in varying degrees, the students' previous experiences to create relevance between the academic content of the course and the real life or practice outside the classroom. In our case, we tried to add value to the students' experiences by making use of their previous experiences as a significant part of the content in outlining the subject of pedagogy. The underlying purpose was to create the educational conditions for them to develop an insightful theorizing of teacher practice (Cochran-Smith & Lytle, 2009). Their previous 'informal' experiences within the field of pedagogy covered a huge number of situations(e.g., in-service training of colleagues, presentation of projects, managing and counselling projects, collaboration and teamwork, cross-cultural communication with colleagues, participation and management of project groups, support for and participation inexperienced common problem-solving).We decided in the beginning of the VTCC to consider their experience from their previous jobs to be important *educational capital*. This capital could form a basis for the ongoing transformation process. In many ways, these different forms of capital constituted parallels to Pierre Bourdieu's term 'cultural capital'(Bourdieu, 1990). There is also a parallel to Andy Hargreaves' concept of' professional capital' (Hargreaves, 1996). We considered their educational background and experiences from the oil-industry as *useful experience capital*, *useful educational capital,* and *useful academic capital*. All three forms of capital should be managed, vitalised, exchanged, and should be used as 'valid currency' in all parts of this untraditional innovative VTCC. There for it was given a special attention to facilitate a large degree of student participation and spend time on reflections connected to the students' narratives and utilize them actively (Ivor F. Goodson, 2005) in all stages of the VTCC. The aim was to educate the experienced learners to be qualified vocational high school teachers while also bearing in mind that we had to manoeuvre within the legislation and formal requirements for credential programs.

As in all fields of education, however, the field of VTT is closely connected to both history and culture. This new untraditional VTCC, as a pilot project, was adding itself to a long tradition of Norwegian VTT that started with the first official study program for VTCCin 1975.

3. Norwegian vocational teacher training: characterised by dualism

The first official study program for VTCC in 1975 was the first of its kind in Norway and represented at that time a new approach towards VTT. In earlier decades, VTThad been organised as short courses. The study program of 1975wasdefined as "practical-pedagogical education"(Inglar, 2009). Several studies of the study program of 1975and the subsequently revised programs for VTCC in 1982, 1989, 1993, 1994, and 1999 (the current study program) revealed that all were predominantly concentrated on different conceptions of 'competence' of vocational teachers (Hiim, 2001; Mjelde, 2002; Inglar, 2009). In our view, these study plans were characterised by dualism between strong arguments as Table1 summarises:

Table 1, Two Different Approaches in Norwegian Vocational Teacher Training

Either		Or
Greater emphasis on 'knowledge disclosure'		Greater emphasis on 'knowledge development'
Greater emphasis on dissemination of educational theory		Greater emphasis on practical-educational experience development
Greater emphasis on knowledge accumulation		Greater guard on knowledge building
More space for 'subjects' education'		More space for 'occupational education'
Greater emphasis on 'logic of understanding'		Greater emphasis on 'logic of action'
Greater focus on 'general education'		Greater focus on 'vocational pedagogy'
Greater prioritisation of 'deductive orientation'		Greater prioritisation of inductive orientation
Greater emphasis on curriculum		Greater emphasis on professionalism
Greater emphasis on general pedagogical competence		Greater emphasis on profession-oriented pedagogical action expertise
Greater emphasis on 'knowing that'-type of knowledge		Greater emphasis on 'to know how'-type of knowledge
Greater emphasis on learning through listening and reading		Greater emphasis on learning through experience
Greater emphasis on preparation for 'general teacher role'		Greater emphasis on preparation for 'vocational teacher role'
Greater emphasis on the contribution of the pedagogy that is 'teaching role'in educational sciences		Greater emphasis on the contribution of the pedagogy that is 'professional teacher role'in vocational subjects
Greater emphasis on learning through being told how it might be done		Greater emphasis on learning by completing it (learning after having done)

Besides this dualism, the field of vocational teacher training in Norway can also be characterised as an 'all-encompassing' or 'encyclopaedic' approach to curricula(Anderson & Anderson, 1981; Özerk, 2006).Traditionally the curriculum for VTCCmainly focuses on 'the content to be covered' at the course, and the content is generally defined in a specific syllabus. On the other hand, the student experiences are rarely or—more commonly—not considered to be a relevant contribution to the overall content of the traditional VTCC.

We at the University of Agder realized that this curriculum tradition was not the appropriate to tackle the new challenge: the development of the new VTCC for unemployed but highly educated and experiences technicians who were interested to be vocational high school teachers. The challenge was threefold: First ,we had to operate within the existing formal and partly flexible legislative framework. Second, we had to some extent to utilise some part of the existing encyclopaedic curriculum-oriented study program for traditional VTCC. Third, we had to design curricula that were responsive to this group of experienced learners. Regarding these challenges, we took advantage of freedom embedded in the study plan of 1999, and the flexibility in the legislative framework for traditional VTCC.

4. Choosing the term 'relevance' as a pivotal criterion

The new VTC C represents an innovative practice aiming to expand the 'academic capital' of the students while preparing them for a new career as competent vocational high school teachers. While planning the upcoming transformation process, we had to make a purposeful decision about what part of the existing encyclopaedic curriculum-oriented study program of 1999should be given priority in the new VTCC. We argued that since a central part o fthe teachers' professional skills is to select and design a relevant curriculum for their students, it seemed obvious that we had to take advice from our 15 experienced learners regarding construction of the study plan/curriculum of this new VTCC. We chose to highlight the importance of *relevance*, in selecting both the subject matter as well as the methodological approaches as crucial elements in the transformation process within this untraditional VTCC. This focus on relevance as a criterion for selection process established a roadmap for dealing with the challenging balance between the ideology of the predetermined formal curriculum and the pragmatic demands of vocational education and professional practice. Relevance as a pivotal criterion means that when the students experience the content of the VTCC as relevant, it would increase their motivation for the course and their self-efficacy. The concept of self-efficacy refers to one's belief in his/her ability to succeed in specific situations or accomplish a task (Bandura, 1977). A teacher candidate's sense of self-efficacy can play a major role in how he/she approaches goals, tasks, and challenges in VTCC and his/her future professional practice.By doing so, we aimed to create a community of learners in which the fifteen members of this community could take a part in the construction of the content of 'the operationalized curriculum' and be trained as reflective practitioners.

4.1 Different types of knowledge regarding relevance

In our innovative approach to the curricula of the VTCC for the mentioned group of experienced learners, we considered selecting relevant content as important and a central factor closely related to the distinction between *procedural knowledge* and *declarative knowledge* (Neves & Anderson, 1981)(Anderson, 1983). *Declarative knowledge* has to do with 'What we actually know about a given topic' while *procedural knowledge* is connected to 'knowing how to do something'.

This division has its origin in the traditions of cognitive theory and social learning theory, which assume a number of implications regarding both methodological questions and questions about learning. Both Bruner's(Bruner, 1966)and Vygotsky´s ((Vygotskij, 1986)theories of how knowledge is being constructed and connected to specific situations, as well as pragmatic arguments for problem-oriented learning underline the importance of taking the participants' points of view into account when planning and implementing educational activities(Berthelsen, 1987).

Another way of talking about the distinction between these perspectives of knowledge is to emphasise the difference between 'knowing that' and 'knowing how to do'. Both of these types of knowledge constitute our educational repertoire in our memory and provide the basis for our ability to understand and use language. As Vygotsky puts it, this knowledge which is woven in language, establishes a 'psychological tool' for our understanding and thinking(Vygotsky, 1986; Dysthe & Igland, 2003). Procedural knowledge helps us to master experienced skills (e.g.,dealing with more hypothetical and theoretical ways of thinking about 'if-so' relationships). Technical problem-solving i.e. problem-solving in math and physics, and finding practical solutions for a given problem are examples of procedural knowledge (Anderson, 1983).

Declarative knowledge, on the other hand, mainly includes such elements as definitions of words, facts, and rules. When it is learned, this kind of knowledge is represented in the long-term memory as meaningful concepts, connecting and coordinating concepts and systems of concepts. Declarative knowledge can be transformed into procedural knowledge through *practice*. Procedural knowledge might be learned gradually, and it relies on substantial opportunities *to practice*. Procedural knowledge is thus more difficult to learn than declarative knowledge, especially if the student is not provided broad opportunities to work practically on specific challenges in a community of learners.

4.2 Practical knowledge and academic knowledge

Furthermore, one might consider the *relevance* of procedural knowledge and declarative knowledge in relation to daily life, including ordinary vocational practice. This analysis opens up a new dichotomy between what we will describe as (a) practical knowledge and (b) academic knowledge. The term *practical knowledge* refers mainly to procedural knowledge, but not all procedural knowledge can be considered as practical knowledge. Part of procedural knowledge is academic knowledge (i.e., declarative knowledge). Procedural knowledge regarding' how to do a thing' might be considered a practical skill and is determined by the *relevance* to one's daily life, the daily vocational exercise, and the challenge faced indifferent situations at any time.

Practical knowledge is, 'practice knowledge as procedural information that is useful in one's everyday life' (Sternberg & Caruso, 1985, p. 134). Put another way, 'practical knowledge is knowledge of and for use' (p. 134).In our conceptual approach, this brings us to the following statement: *Practical knowledge* is knowledge that (a) is procedural, and (b) is relevant and useful to one's daily life or daily professional practice. Table 2 illustrates a matrix for knowledge categories as a basis for further discussion:

Table 2, Different Forms of Knowledge

Different forms of knowledge		
	Procedural	Declarative
Relevant and useful	Field 1: Practical knowledge	Field 2: Academic knowledge
Irrelevant and useless	Field 4: Academic knowledge	Field 3: Academic knowledge

Note. Adapted from Sternberg & Caruso, 1985 (p. 139).

As shown in Table 2, academic knowledge appears in three different forms:

- Academic knowledge constituted by procedural knowledge without any relevance for one's daily life (Field 4),
- Academic knowledge that is irrelevant declarative knowledge (Field 3), and
- Academic knowledge consisting of relevant and useful knowledge while it is at the same time declarative (Field 2).
  Finally, we find practical knowledge of a procedural type that is both relevant and useful to students' lives and professional practicesin Field1.

By presenting the rich range of such knowledge and perspectives in the training of 15 experienced learners as vocational high school teachers, combined with the unvarying content of the curriculum, the course embedded untraditional and innovative content.

4.3 The cultural capital and relevance to their future profession

In addition to the deliberations related to different kinds of knowledge, we felt that it was important to design curricula for this new VTCC considering the students' cultural capital and also with a view towards the *relevant skills* needed for their future profession. As a result, considerable amount of academic knowledge was given a major position because, although it was declarative, it was *relevant and useful knowledge* that the student group already mastered (Field 2) due to their prior educational background and professional experiences from the oil sector. This approach was appreciated by the students. This *relevance-and-useful* perspective was used as a guideline for curriculum design within the existing formal regulations. Furthermore, in close collaboration with the students, this untraditional and innovative VTCC put great effort into improving and strengthening their practical knowledge (Field 1). This was done by devoting considerable time to presentation, discussion and practicing relevant, practical, and useful pedagogical, methodological ideas and approaches to teaching and learning at school.

4.4 Capturing the student-perspectives on what is relevant and useful

In the following sections, we will introduce the kinds of procedural knowledge that the 15 students as reflective experienced learners, considered especially relevant and useful related to their future professional practices that demand actions from them as deliberative intellectuals.

The student-perspectives and views were captured through concrete questions on each theme/topic addressed in the class. The students were asked to express their own opinion about the degree of relevance about each theme/topic based on a five-point Likert scale from five (very much relevant) to one (extremely little relevant). In the following presentations 'High degree of relevance' stands for 5 and 4 in the Likert scale and 'Low degree of relevance' for 1 and 2 in the Likert scale. None of the topics was given 3 by any of the 15 students. The use of Likert scale was meant to create a point of departure for students' reflections, arguments, views and their subjective narratives. It would be meaningless to quantify and present the students' perspectives statistically. The students' marking on a Likert scale was followed by discussions in the class. The conceptualization of the students' perspectives, arguments and narratives that will be presented in the following sections, were done based on those discussions and they were presented to and approved by the students as the main essence of their collective perspectives and experiences. We captured, conceptualized and categorised the student-perspectives in following three main content elements of the innovative VTCC:

a) General education related curriculum-elements that covered in this untraditional VTCC.
b) Teaching-learning/pedagogy related curriculum elements that were addressed in the course
c) Methodological themes, topics and content related curriculum elements that were taken up in the course.

4.4.1 General education related the themes/topics that covered in this untraditional VTCC

Figure 1shows what students considered as high degree of relevant curriculum elements of VTCC and, thus very relevant practical professional knowledge for them in the VTCC. Most surprisingly, perhaps, is that the students considered behavioral theory and motivation theory as highly relevant procedural practical knowledge. Another surprising statement is the students' characterization of educational sociology, organizational theory, and educational philosophy as much less relevant content.
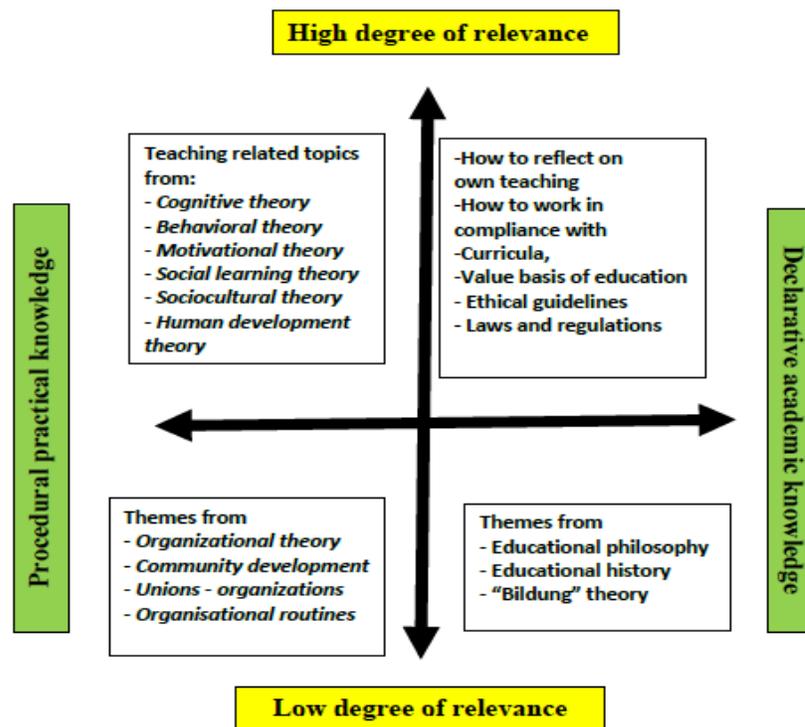

High degree of relevance

Teaching related topics from:
- *Cognitive theory*
- *Behavioral theory*
- *Motivational theory*
- *Social learning theory*
- *Sociocultural theory*
- *Human development theory*

-How to reflect on own teaching
-How to work in compliance with
-Curricula,
-Value basis of education
- Ethical guidelines
- Laws and regulations

Procedural practical knowledge

Declarative academic knowledge

Themes from
- *Organizational theory*
- *Community development*
- *Unions - organizations*
- *Organisational routines*

Themes from
- *Educational philosophy*
- *Educational history*
- *"Bildung" theory*

Low degree of relevance

*Figure 1.*The students' experiences of the different curriculum elements of VTCC

It appeared that the topics that were considered 'high degree of relevance', were engaging and activating the students. As consequence of the 'relevance' criterion, the student-perspectives were given even higher priority through spending more time on those themes and teaching-learning related issues.

4.4.2 Teaching-learning/pedagogy related curriculum elements that were addressed in the course

The other content-related area that we explored was the student-preferences regarding the different aspects of the *vocational teacher* related topics and *teaching-learning/pedagogy related topics/themes*. Figure 2 presents the results.
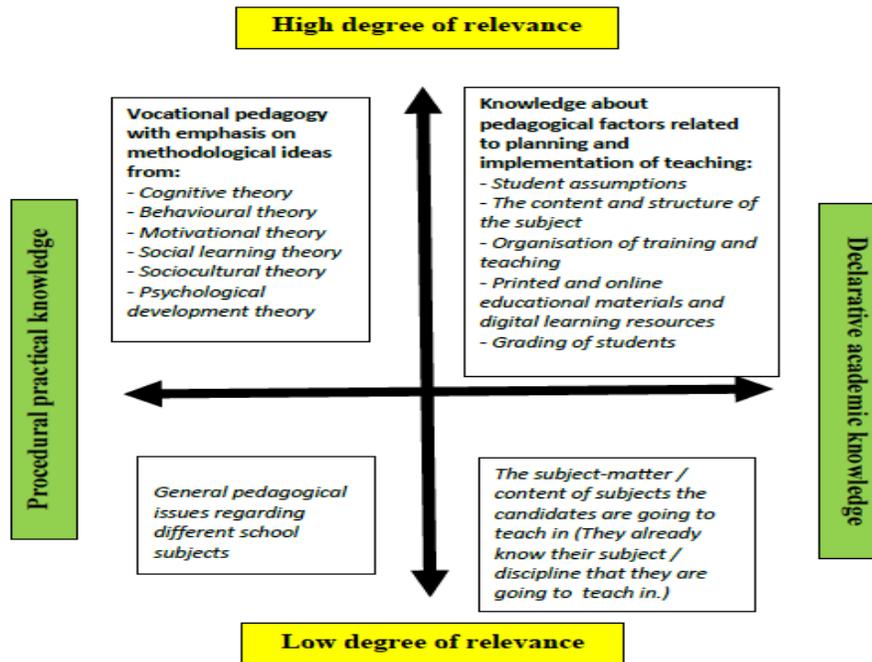

Figure 2. Addressing teaching-learning and pedagogical topics and the students 'preferences

Figure 2 shows that although a considerable amount of knowledge was declarative academic knowledge, they were considered by the students as relevant. On the other hand, some knowledge of the procedural academic type was considered less relevant, and thus these topics were given less attention. As one can see in the figure (Figure 2), the students did consider their own subject area (e.g. mechanics, electric, construction) as of low degree of relevance in their VTCC. It appears as an unexpected result, but they had a sound explanation for that: They had a full command of their subject area that they were going to teach in. They had at least three years of higher educational background in that subject area and did not want to give any priority to or spend time on studying subject matters during this VTCC.

4.4.3 Methodological themes, topics and content related curriculum elements that were taken up in the course.

The third group of curriculum elements that the students expressed their opinions were about methodological themes/topics, different content elements and what-, how-, and why-aspects of pedagogy. Figure 3 presents the student-preferences. Based on the students' discussions and arguments, we found it as reasonable to differentiate 'how I can do it' – type of topics from 'how others do it'-type of topics.
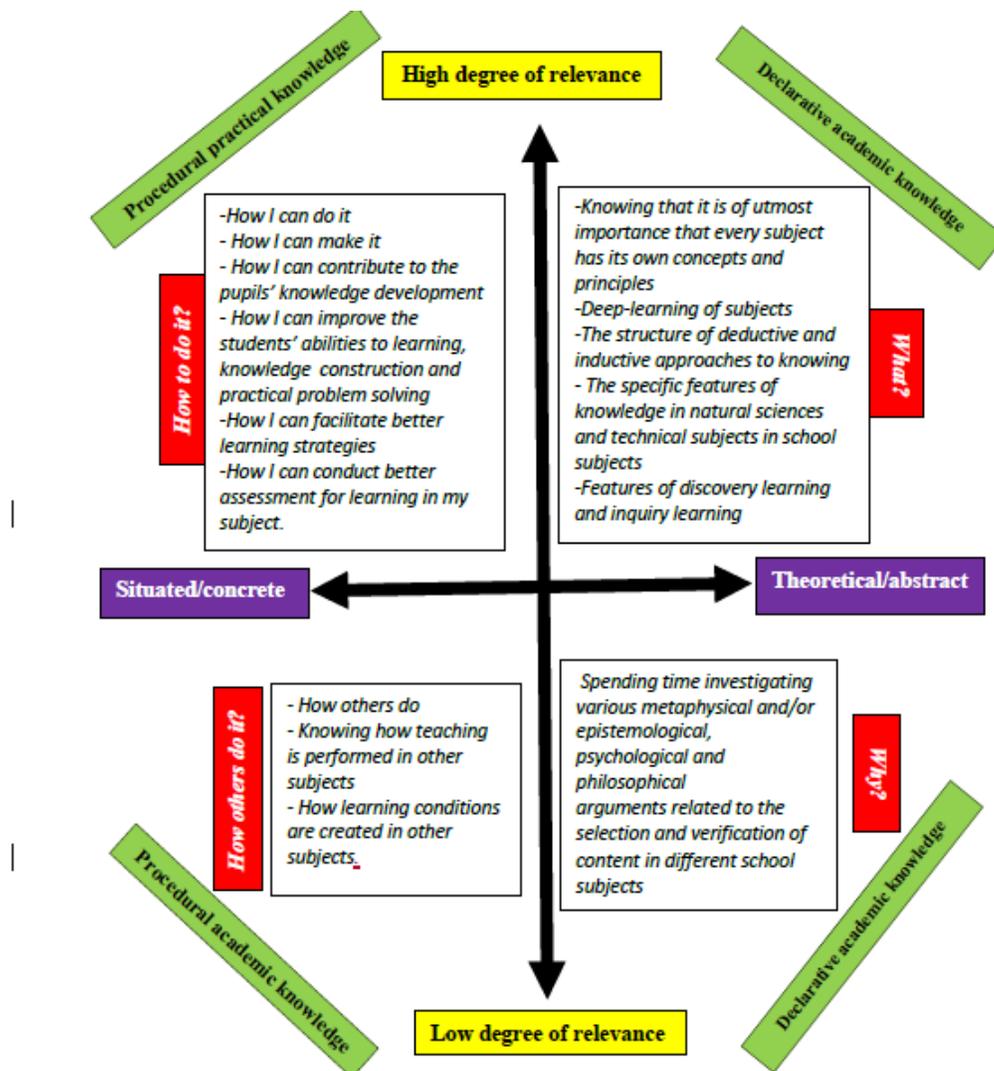
Figure 3.Students' preferences regarding various aspects of the content of VTCC.

As it can be seen in the figure (Figure 3), the procedural practical knowledge and the declarative academic knowledge are closely connected predominantly to understanding the features of knowledge, learning and knowing in technical subjects and teaching methodology (i.e., issues concerning 'how-to-do' aspect of teaching).

At the same time different perspectives on knowledge and approaches to knowing, in other words 'knowing that' type of knowledge, which belongs to the "what" aspect of the content, is also considered as relevant, although they are declarative knowledge. The students were not interested in 'how to teach in other subjects than their own' or in 'why and how different stakeholders portray educational topics in the public sphere'.

5. Discussion and conclusion

As an innovative pilot project, this untraditional VTCC was initiated as consequence of negative trends in the oil industry. It was developed within the formal and at the same time flexible framework of a VTCC in Norway, but the curriculum and the implementation of this untraditional pilot project's VTCC were shaped in a close collaboration between the responsible faculty members and the untraditional students as we defined them as experienced learners. Figure 4 illustrates, with John Goodlad's term (Goodlad, 1979), the 'experienced curriculum', that is, the learning experiences of the participants:
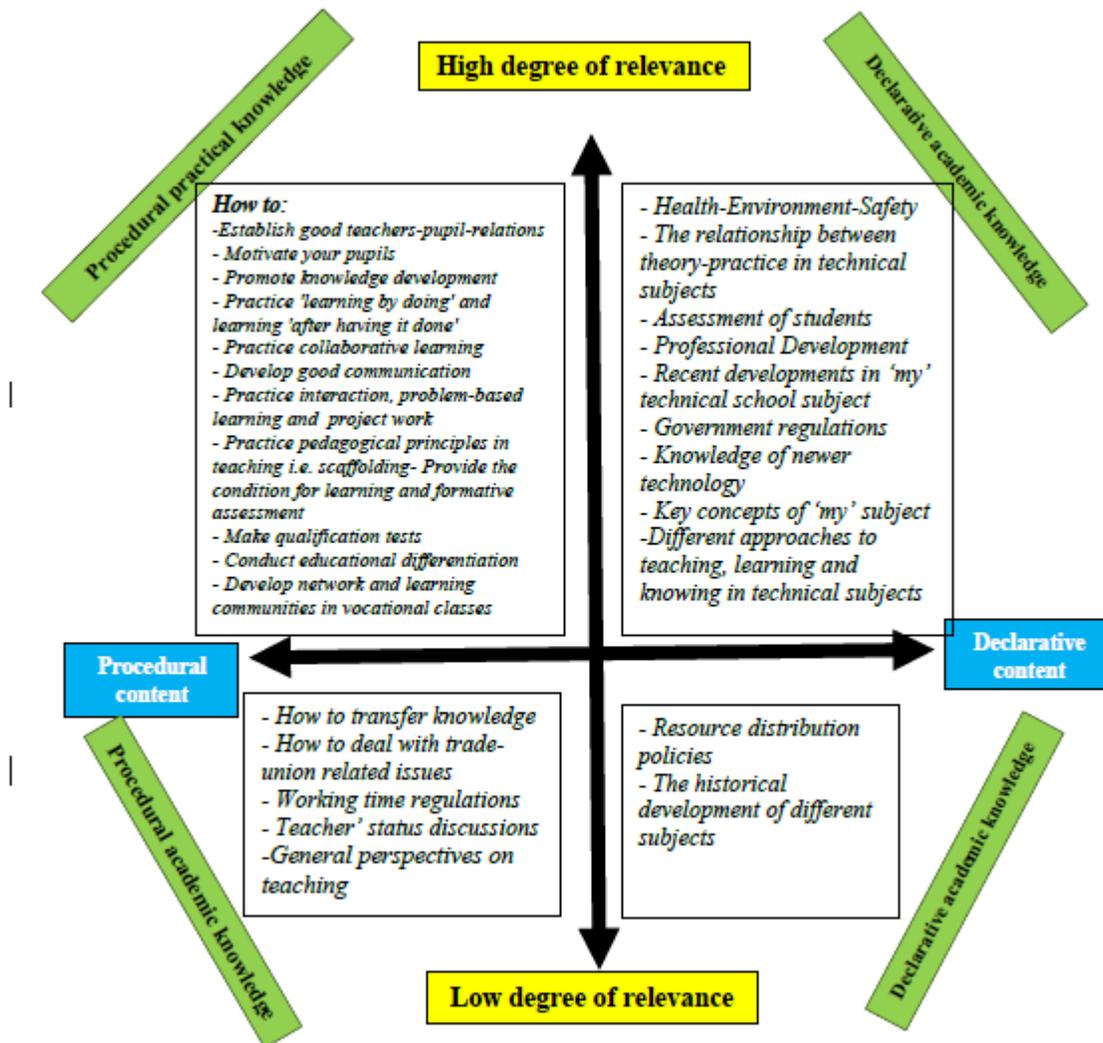
Figure 4. The student's view regarding particularly the 'teaching methodology'- related experienced curriculum of the untraditional VTCC

Based on the results, in terms of student perspectives, views and profiles presented above, we can say that the students were first and foremost interested in the educational characteristics and pedagogical aspects of their technical subject areas and different approaches in teaching in these areas. In other words, the main interest of the students was '*How I can teach in my school subject (discipline) as a reflective teacher in order to create conditions for learning and development of 'my' student'*.

The students expressed their perspectives, views, arguments, experiences and preferences. Our summaries in the three figures above illustrate that the students gave high priority to practical pedagogical factors, predominantly to 'methodology' in their own subject area that they were going to teach in. We defined them as engaged, reflective experienced learners. They were experts in their disciplines in terms of the content of their technical subjects. In addition, they had experiences with practicing their expertise in the oil sector. Therefor they were first and foremost interested in putting greater emphasis on the development of teaching-profession through improving their methodological knowledge and skills that could help them to be well-prepared vocational high school teachers in diverse schools. The combination of their 'command of subject matter knowledge' and 'competence of how to teach in that subject' can be defined as 'pedagogical content knowledge(L. S. Shulman, 1986)(L. Shulman, 1987). According to Shulman (1987) teaching is a learned profession and at the heart of this profession lies pedagogical content knowledge (PCN).

This knowledge is consisted of specific knowledge of the teacher who, in pedagogical deliberative action, integrates subject and relevant teaching methodology to make the content 'comprehensible' and 'learnable' to the students. The following figure (Figure 4) summarizes the student's view regarding particularly the 'teaching methodology'- related experienced curriculum of the innovative VTCC.

Based on our conceptual analysis and capturing student-perspectives, we would argue that the students were dedicated to transforming themselves from being technical specialists into teachers—from being predominantly *technical worker s*in to predominantly *community workers* or *mind workers* (Kerchner, Koppich, & Weeres, 1997). This student-oriented approach had some clear advantages. First, the students' expectation of a practical, relevant, and useful course was fulfilled when they discovered that their own experiences, perspectives and 'articulated needs' or 'preferences (see earlier figures and discussions) were considered to be both useful and relevant and, in some way, they were made a central part of the curriculum in the untraditional pilot VTCC. These features of made this VTCC an innovative VTCC and gave the students opportunity to have an explorative attitude towards pedagogy as scientific discipline. It enhanced their self-efficacy. They opened to the more peripheral and different parts of pedagogical theory that they, at the start of the course, were not so sure were relevant. Finally, the emphasis on the relevance of experience and the focus on the students 'perspectives and preferences established a basic feeling of trust and confidence that allowed all students to constitute a community of learners in which they could expose themselves in one way or another and contribute to the learning community in the class as active and reflective participants. During the course, a community of pedagogically dedicated students emerged. They were eager to transform themselves into professional teachers, both as mind workers as well as community workers based on their innovative VTCC. Based on the captured student perspectives and preferences, it is reasonable to claim that the experienced learners as vocational teacher candidates experienced this innovative and untraditional VTCC also as an academic year for personal professional development.

A limitation of this study is that it lacks a comparative perspective. Future research can expand our knowledge about how to improve VTCC in a rapidly changing world by comparing part-time traditional VTCC with full-time untraditional VTCC with regard to the participants' backgrounds, curriculum content, pedagogical implementation, student preferences and their experiences from the initial years in the teaching profession.

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