

Pedagogical quality of VET teachers and management in Denmark **– legislative framework and implementation in VET colleges**

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This article is written from the viewpoint of a provider of VET teacher education, VET research, and consultancy service with regard to innovation and development projects in VET schools. The article describes the actions taken from The Danish Ministry of Education with regard to improving the pedagogical quality of VET teachers and VET managers, - as well as the approach of NCE to implement these and in this way to improve the learning school environment of the VET schools.

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Introduction

The importance of a lift of the pedagogical competences is in focus in the VET-schools in Denmark because of a politically expressed wish to raise the quality and reputation of VET education and attract more resourceful students. Much has happened with regard to this in Denmark during the last five years, as it can be read in this article.

Denmark has had a dual VET system for many years. The Danish VET system is part of the overall youth education system and aims at developing the general, personal, and vocational skills of young people. The system is based on three main principles:

- the dual training principle, i.e. periods in school alternating with periods of training in an enterprise. This principle ensures that the apprentice acquire theoretical, practical, general and personal skills which are in demand by the labour market;
- the principle of social partner involvement, whereby the social partners take part directly in the overall decision making and daily running of the VET system;
- the principle of lifelong learning, i.e. the system is highly flexible, offering learners the possibility of taking part of a qualification now and returning to the VET system at a later point in time to add to their VET qualifications in order to access further and higher education. Furthermore, VET and continuing VET (CVET) are integrated in order to ensure coherence between different qualifications and competence levels.

The VET programs in Denmark are described on level 3-5 of the EQF Framework¹. The VET programs are carried out at technical colleges, social and healthcare colleges, business colleges, agricultural colleges, and at adult VET Centers. The system is well functioning with general acceptance and economical involvement from the labour market. During the crisis in Europe, for instance, Denmark has managed to have very low rate of youth unemployment (13%, - while for instance Finland had 22%). Nevertheless Denmark faces some general problems regarding VET. Among others a general low reputation among young people and their parents and a continuous lower amount of young people entering VET education (and a continuously higher average age when entering VET. 2014 the average age was 24 years). Furthermore there is a high dropout rate – as well in the school part as in the practice part of the VET program.

Denmark has tried to solve these problems with a reform in VET². The reform is being implemented from August 2015. The main aspects in the reform concerns improving pathways from VET to continuous education, attracting high performing students, transparency and flexibility with regard to entrance into VET education, and – last but not least - a quality improvement of the teachers' teaching skills and a focus on development of pedagogical leadership and implementation of a pedagogical strategy at each VET school.

The Danish VET schools are independent institutions governed by an overall management board, consisting of representatives from the social partners, with a managing Director as the daily leader and with a rather high amount of middle managers (20-40 at an average VET school). There is tradition for a large amount of liberty with regard to the overall management as well as with regard to the teachers' planning of school based learning activities at the individual school.

Legislative initiatives with focus on improving the pedagogical standards of teachers and leaders in VET

During the last five years there have been three legislative initiatives concerning the improvement of vocational pedagogical skills of VET-teachers and managers in order to accommodate the above mentioned challenges.

1. 2010: VET Pedagogical Diploma – All newly employed VET teachers (after 2010) must have vocational teaching qualification at EQF level 6.
2. 2013: All VET-managers must have pedagogical leadership qualifications equivalent to 10 ECTS at EQF-level 6, and every VET institution must develop a common didactic and pedagogical strategy – to raise the pedagogical coherence on institutional level.
3. 2015: All teachers employed before 2010 must have compulsory continuing professional development in VET pedagogy equivalent to 10 ECTS at EQF-level 6.

1. VET teachers' pedagogical competences

In 2010 the demands of the VET teachers' pedagogical competences were considerably raised. Then and now the VET teacher must have qualifications at initial vocational education and training level, supplemented with relevant further education in the vocational field. Additional to these demands the VET teachers must also have 5 years' relevant and recent work experience.

Until 2010 this was enough to employ a VET teacher. When he or she was employed at the VET school he or she had to pass a pedagogical course, in Danish called *Pædagogikum*³, consisting of as well theoretical elements as elements of practical teaching performance (30 ECTS).

After 2010 the demands of pedagogical competences of the VET teachers have risen. The VET teacher – at the latest three years after employment at the VET school – must gain general knowledge at secondary school level in two or three general subjects (for instance Danish, Mathematics, Natural Science, Foreign Languages).

At the latest one year after employment the VET teacher must start up vocational pedagogical diploma education, and at the latest four years after employment he or she must have passed the final test of the pedagogical diploma education.

This law is now implemented. New VET teachers take part in a diploma program, called *VET Pedagogical Diploma*.

2. VET managers' pedagogical competence development

The next step in the competence development of the Danish VET schools focuses on the management. In the legislation from 2013 an extra paragraph was added to the Main Ministerial Order describing the competences of VET teachers and VET leaders. Now it says, that⁴:

“The VET school must make a plan for competence development of the pedagogical management and be able to document that each pedagogical leader has pedagogical leader competences in an amount corresponding to 10 ECTS points at EQF level 6 within a diploma program on pedagogical management.”

For many VET managers it has been new to be a leader of the *pedagogical activities of the VET school*. Traditionally the management has been focused on leading daily operations regarding economy, staff, and building administration, and not being involved in the way the teachers teach. Now there is growing recognition that the *education and the students' learning processes* – the actual core activity of a VET school – cannot be left to the teachers alone. It is necessary that the manager interferes in the school based preparation and for instance supports a learning school environment, an organization of the teachers in teacher teams, and an appreciative feedback culture between teachers and students.

The Ministry of Education has described what they mean by pedagogical leadership⁵. The pedagogical management secures:

- That the relevant members of staff continuously take part in the didactical and pedagogical development of the VET school
- That this development is carried out systematically with involvement of the newest research results regarding VET pedagogy and didactics
- That there are established room and time for the relevant members of staff to reflect on the school's pedagogical and didactical practice and given possibilities of developing this practice
- That the engagement and priority of the management is seen and felt clearly of as well members of staff as the students, for instance by leaders taking part in education or in the daily learning processes of the VET school
- That the school is a learning organization where the staff members' daily job performance is a possibility of learning and developing competences, and where other competence development activities, such as courses, job swap's, etc., are transferred into the daily practice of the whole school

A compulsory common didactical and pedagogical foundation at each VET college

The Main Ministerial Order of 2013 also stated a number of other quality initiatives regarding VET schools; among others, that every VET school must establish and implement a *common didactical and pedagogical strategy (CDPS)* in order to create a coherent foundation for the teaching and learning with a special focus on creating a better connection between the school part and the practical part of the VET program, - and on differentiation in education and teaching (in order to give support to the weaker students and challenge the stronger students). The CDPS is a result of a deliberate interpretation of the pedagogical and didactical challenges especially connected with the individual school. The CDPS will be different whether the school is placed in a big city or in the country; whether it is a school mainly focused on technical, commercial, social health care, or agricultural programs. The CDPS must be infused in the school based planning and in this way be a guideline for the planning, the carrying out, and the evaluation of as well VET programs as the individual teaching session. In this way the Danish Government wants to guide the pedagogical quality development of the individual school.

According to the legislation the CDPS must describe:

1. The structure of the education and learning processes and the connection between school and training in enterprises

2. The pedagogical, didactical, and methodical foundation for carrying out teaching at the VET school, including a strategy for choosing teaching and learning methods and how to improve differentiation of teaching and learning according to the students' prerequisites, potentials, and overall aims.
3. The contents of the subjects and learning activities planned by the VET school.

Seen from the political perspective the CDPS must be closely connected with the other quality work of the VET school. The words "didactic" and "pedagogical" have of course a meaning in the pedagogical context of teaching and learning. But when "strategy" is added to the terminology it is an organizational underlining of the governmental emphasis on the fact that school management is more than economy and administration.

3. VET teachers' Continuing Professional Development (CPD)

In the revision of the law from 2015 it was added that the VET school must make a plan for competence development of the whole teaching staff⁶

"The VET school must make a plan for competence development of the whole teaching staff. The school management must - in agreement with the teachers - plan continuous professional development for as well the whole teaching staff as for the individual teacher in order to secure renewal and adaption of the teachers' competences, including supplementary experience from the world of work, among other things performed as short time traineeships in enterprises and guidance on pedagogical practice"

The Ministry of Education has allocated a considerable amount of money to each college for the teachers' continued professional development.

An obligatory school based plan for CPD

As a compulsory part of this plan all teachers employed before 2010 must have continuous professional development. Within the period 2015 – 2020 all VET teachers must have improved their vocational pedagogical competences⁷.

When it comes to the content of the pedagogical competence development The Danish Ministry of Education has made an analysis of the teachers' competency needs. The Ministry has expressed clear expectation with regard to level and content of the teachers' CPD:

- All VET teachers must have VET pedagogical competences at diploma level (EQF level 6), at least lasting 10 ECTS points
- The CPD must be recognized in the formal education system; that is, the CPD must be tested at a university college or at a university
- The CPD must concern pedagogical competences within the following 7 content areas:
 1. Knowledge on and focus at the students learning processes and progression
 2. Classroom management with focus on the students' learning processes
 3. Planning and carrying out differentiated teaching with a starting point in the students' needs and potentials
 4. Supporting the students in creating coherence in the learning processes in the VET college as well as in the enterprise
 5. Student activating methods
 6. Practice related teaching
 7. Pedagogical use of ICT

The Ministry of Education expects that approx. 65% of all VET teachers will need this type of CPD (approx. 5000 teachers).

The VET school management may choose between the themes and offer selected content areas for the staff (the VET teachers). The themes must be chosen according to the pedagogical strategy of the VET school.

Implementation of legislative initiatives at the Danish VET schools

Being a provider of VET pedagogical education, VET research, and consultancy service with regard to innovation and development projects at VET schools NCE is focusing on the implementation of the legislative initiatives at the VET schools. In this chapter some examples will be presented.

All initiatives are addressing the same challenge: To develop the teachers' teaching skills and to implement the improved teaching practice in the normal VET school culture and in this way make it more attractive for a larger amount of young people to choose a vocational education.

Therefore it is essential to draw an inspiration from research on successful teaching in adult and continuing education⁸. How can we ensure that what is learned is subsequently applied? Which factors enhance transfer? Following conditions are crucial (shortened):

- It is essential for transfer that the adult learner experiences a need to learn what is taught and recognizes the usefulness in relation to the work situation
- Transfer is enhanced if the learner has a clear objective regarding the application of what is taught
- And if the learner experiences or develops self-efficacy
- The learning outcome has to be ambitious yet realistic and the learner must experience progression in the learning process
- The education must be organized in a way that ensures incorporation of elements from the workplace
- The more examples and the more varied application of the examples onto different situations the more transfer

These bullets are always in the mind of NCE, no matter if it is VET Pedagogical Diploma, school based CPD or consultancy service in connection with innovation and development projects. NCE always considers how to create links between the *work place* (at the VET school), *the learner* (the VET teachers, the VET leaders), and the *learning outcomes of the program/module*.

Providing an effective VET pedagogical Diploma to VET teachers

The VET pedagogical diploma (EQF level 6) is an in-service education (contrary to a pre-service primary teacher education). The VET pedagogical diploma (DEP) is for all VET teachers, no matter their vocational education or their university degree. The overall aim of the DEP program is for the student to gain theoretical and practical basis of teaching in vocational programmes; of taking part in innovation and development work; and to develop him/herself professionally and personally.

Approximately 1500 VET teachers have finished or are at the present studying the diploma program. The vocational pedagogical diploma program (DEP) is offered at 6 university colleges in Denmark. The largest and oldest is NCE at Metropolitan University College (MUC).

The VET schools may choose which university college they prefer as provider of the DEP diploma program. As the university college gets money per student this stimulates enhanced pedagogical considerations on how to make the best VET teacher education, - and the best VET teachers.

The program is performed in NCE with the focus on creating engaged and reflective VET teachers. The teaching is planned and carried out in a holistic interdisciplinary way, supporting the students in developing themselves as reflective practitioners.

The study consists of different study activities: a) the students take part in lessons and exercises, b) the student are organised in small study groups (discussing the literature and examples from practice; interviewing students and experienced colleagues), c) independent studies (reading relevant literature, according to learning outcome and the individual problem based assignment) and d) making assignments (all assignments consists of a written part and an oral part. The students may choose to write assignments in small groups – up to three. The written part may consist of a video and a small synopsis or may be a traditional report. All assignments are problembased and form the basis of the oral examination).

The DEP diploma is 60 ECTS, corresponding to one year's full time study⁹. In NCE the DEP is offered full time, part time, and as blended learning.

Evaluation of DEP

Recently The Danish Evaluation Institute (EVA) has made an evaluation of the VET Diploma¹⁰. Overall the evaluation results were positive. 81% of the VET teachers found that they could use the knowledge from the diploma education in their job as teachers. The VET teachers said they had improved their skills in motivating the students (71%), in making differentiation in their teaching (68%) and in using experiential learning methods (68%). The teachers said that they have got enhanced knowledge in pedagogy and didactics; knowledge they use in planning, carrying out and evaluating their teaching. Furthermore they have got more attention on the students' prerequisites and learning processes and have got more confidence in themselves as teachers.

1. Implementation of Pedagogical CPD for school leaders and teachers

In connection with the massive emphasis on CPD NCE has drawn on research results on implementation. In order to secure the best results it is important to make considerations on things to be done *before, during, and after* the CPD is carried out:

Before: The school makes a strategical analysis of the needs for competence development in relation to the Common Didactical Pedagogical Strategy. NCE suggests a meeting between the VET school management, representative from the teaching staff to agree on the focus and the school base planning.

During: The CPD is closely connected with the daily practice of the teachers. NCE carry out the CPD at the VET school. The daily practice of the teachers is used as a common laboratory.

After: Initiatives are taken to promote a subsequent use of the skills taught at the CPD. The schools have different approaches (for instance top-down or bottom-up), but always a CPD course is followed up by a meeting with the VET school management on how to implement the results of the CPD.

An evaluation on the implementation of DEP on the Danish VET schools¹¹ illustrates how the VET schools consider the new demands of higher pedagogical quality, and how they interpret the implementation of this:

1. *An individual challenge:* At some VET schools the fact that the VET teacher must take part in education is seen as an individual challenge for the teacher and a problem for the work place. Example of a comment from a middle manager: *"It is a problem to make a study plan for the students when XX is taking part in a course. But luckily he will soon be back again and will be able to take his lessons"*
2. *An individual challenge – but with support from the work place:* At many VET schools the school management understands that it is a considerable challenge for the individual teacher to take part in CPD and also take part in normal job tasks at the VET school. Therefore the school offers help, consisting of introduction courses and sparring/mentoring from colleagues. Example of a comment from a middle manager: *"It I a long time ago since YY went to school. He is a good teacher and it is important that he develops new competences. Therefore we offer different sorts of support to him"*
3. *An organizational as well as an individual challenge:* Every time a teacher has made an assignment he or she is asked to present it either at big school meetings or in the teacher team in order to inspire the colleagues. An example of a comment from a middle manager: *"ZZ made an excellent report on how to work with brick layer students with dyslexia. It is very important that he shares his consideration with the rest of us. – And then we show him that we appreciate his efforts "*
4. *Strategical lift of both competence and organizational development:* When the teachers have taken part in pedagogical education the management of the school asks the teachers to present their assignments. If the assignments contain relevant analysis and a suggestion for solving a practical pedagogical challenge at the VET school (which they often do) the school management picks out one or two of the assignments, sets up a working group in order to make a plan for implementation of the teacher's suggestion at the school. Example of a comment from a middle manager: *"AA and BB*

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have made an excellent analysis on how to improve cooperation between school and enterprise. We will make use of their considerations and ask them to be members of a working group in order to implement their suggestion to the whole VET school”

Most of the Danish VET schools would be characterized as belonging to point one and two. But approximately one fourth of the schools belong to point three and four. This is to say that a massive emphasis on competence development also influences school development and implementation of a qualitative improved approach to pedagogy and didactics.

2. Innovation and development projects at Danish VET schools

The Danish Ministry of Education has taken initiative to a number of innovation and development projects (I&D projects) in order to improve the pedagogical quality of the VET schools. NCE often serves as consultants at the VET schools in connection with these I&D projects, having different roles, such as project leaders, experts, facilitators.

Pedagogical management and implementation of a common didactic and pedagogical strategy

In 2013-2014 two main projects were carried out with participation of a great number of VET-teachers and managers and with a consultancy and a research team from NCE, as an “umbrella” gathering common experience from the schools and analyzing results. The two projects were concerning “Pedagogical Management¹²” with 12 participating VET-schools and “Implementation of a Common Didactical and Pedagogical Strategy¹³” with 21 participating VET-schools.

The main experience from the project on pedagogical leadership showed that – though the schools were very different – there were certain similar themes:

- Considerations on the differences between “normal” leadership and pedagogical leadership with focus on the education and the students
- How to develop different pathways especially for gifted students
- Changed relations between leader and teachers, - a need for new management tools
- Development of a CDPS

The experience from the I&D project on implementation of CDPS showed that the VET schools used different approaches with regard to implementation. Some schools used a top-down approach, other schools used a bottom-up approach. Some schools used well-known theories as a starting point. Other schools developed their own approach. There were pro’s and con’s with regard to all aspects. The main purpose, though, were that the schools made experiments and gained experience for others to learn from.

Teachers in short time traineeships in enterprises

In 2014-2015 the Danish Ministry of Education initiated an “umbrella” project with the title “Teachers in short time traineeships in enterprises”. 25 VET schools were making pilot projects in order to strengthen the links between school teaching and practical learning in enterprises by giving VET teachers the possibilities of having periods of in-company-training in order to develop relevant vocational teaching skills. NCE was facilitating this process and was analyzing the results from the experiences of the schools. NCE’s analysis has been concentrated on answering following questions:

- Which central elements (activities, considerations, organizations etc.) are included in the systematic models used by the VET schools?
- Consider the importance of these elements when it comes to the competence development of the VET teachers
- How do the teachers and the VET school management estimate the competence development taken place by short time traineeships?

6. Conclusion

Denmark is undergoing a general upskilling of the teaching staff. The Danish Ministry of Education has created the pedagogical quality framework, and the providers – of which NCE is one – have done their best to help the VET schools in implementing the quality improvement in practice.

The importance of a good teacher has come in focus, not at least because of the influence of evidence based research made by John Hattie¹⁴ claiming the teacher to be the most important single factor when it comes to the student's learning process. But the teacher is not an island. The Danish efforts when it comes to quality improvement of the Danish VET schools show that it is important to have focus on the teacher team and the pedagogical management as well, and subsequently the whole VET school culture.

Thus, the quality development of the VET teachers' teaching skills – together with a pedagogical upskilling of the management and the compulsory pedagogical strategy - and the implementation of these skills in VET schools are essential to the quality improvement of Danish VET.

¹ https://ec.europa.eu/ploteus/search/site?f%5B0%5D=im_field_entity_type%3A97

² <http://uvm.dk/I-fokus/~media/UVM/Filer/I%20fokus/Tema/Faglaert%20til%20fremtiden/131002%20faglaert%20til%20fremtiden.ashx>

³ Pædagogikum was equivalent to EQF level 5

⁴ The Main Ministerial Order on VET, § 12, point

⁵ <https://www.retsinformation.dk/forms/R0710.aspx?id=164802#Kap3>

⁶ The Main Ministerial Order on VET, § 12, point 6 and 7:

<https://www.retsinformation.dk/forms/R0710.aspx?id=164802#Kap3>

⁷ The Main Ministerial Order on VET, § 12, point 8:

<https://www.retsinformation.dk/forms/R0710.aspx?id=164802#Kap3>

⁸ Wahlgren, Bjarne, Transfer between education and the world of work, (Transfer mellem uddannelse og arbejde), Nationalt Center for Kompetenceudvikling, 2009

⁹ The DEP diploma consists of 6 modules, including four obligatory and two elective modules. The obligatory modules are: Module 1: Teaching and learning (obligatory) 10 ECTS, Module 2: Planning – didactic (obligatory) 10 ECTS, Module 3: Pedagogical science theory (obligatory) 5 ECTS. Two of the following four elective modules: Module: The VET participants (elective) 10 ECTS, Module: Development of the VET system (elective) 10 ECTS, Module: Digital technologies in VET programmes (elective) 10 ECTS, Module: Practice related teaching in VET education (elective) 10 ECTS. And a final thesis (obligatory) 15 ECTS

¹⁰ Danmarks Evalueringsinstitut, New demands of the pedagogical competences of VET Teachers, (Nye krav til erhvervsskolelærernes pædagogiske kompetencer), 2015 Danmarks Evalueringsinstitut

¹¹ Gottlieb, Lund Rasmussen et al, Evaluation of the Implementation of the new pedagogical VET teacher education at the VET schools in Denmark, 2013, (not published)

¹² <http://www.phmetropol.dk/Forskning/Skole+og+padagogik/Erhvervspadagogik+NCE/Aktuelle+projekter/2014/07/Paedagogisk+Ledelse>

¹³ <http://www.phmetropol.dk/Forskning/Skole+og+padagogik/Erhvervspadagogik+NCE/Aktuelle+projekter/2014/07/Generaliserbar+viden+didaktisk>

¹⁴ <http://www.educationallleaders.govt.nz/Pedagogy-and-assessment/Building-effective-learning-environments/Teacher-s-Make-a-Difference-What-is-the-Research-Evidence>