

Distinctive socialisation and didactic features of practice-orientated vocational education and training (VET) – from a Danish perspective

Learning at work and at school – a VET student¹ perspective on the strengths and weaknesses of “dual” training

By Pia Cort

The Danish School of Education, Aarhus University

In comparative analyses of vocational education and training systems, Denmark is often clustered as part of the Scandinavian cluster marked by non-streaming and social-democratic values of equality and inclusion. However, when it comes to vocational education and training, Scandinavian systems are actually quite diverse ranging from unified school-based education in Sweden to dual vocational education and training in Denmark having also a dual purpose of meeting *both* the needs of the labour market *and* preparing the students for active citizenship and lifelong learning. In terms of organization and institutional setting, Denmark would be more appropriately placed in the cluster with Germany, Austria and Switzerland as a dual-corporative system based on the active involvement of the social partners in the management of vocational education and training programmes at all levels of the system (see e.g. Greinert, 2005).

At its core, dual training is a **didactical principle** based on the interaction between school and work (in Denmark i.e. an apprenticeship based on a contract between the student and the company), and between theory and practice. Today, 2/3 of a Danish vocational education and training programme takes place in a company and 1/3 at a vocational college, i.e., most of the time is spent within a company. As a didactical principle, it is gaining ground, e.g., in the other Scandinavian countries where the trend is towards the introduction of more practice-orientation in the form of work placements, apprenticeships, and school-work interaction. However, in Denmark, this principle was already legally institutionalised in 1956 and has been upheld since, despite political efforts in the 1970s to introduce a unified school á la the Swedish system (with the aim of achieving greater social equality in the Danish education system). However, these efforts failed and one of the reasons (apart from political struggles) was the fact that the dual principle has a number of

¹ In the paper, I shall use the English term “student” as an equivalent to the Danish term “elev”. The term “student” does not really cover the dual positioning of the Danish term which covers the fact that the students are “apprentices” within the company and “students” at school.

strengths, from a didactical, organisational and economic perspective, bottom line is: it eases the transition from school to work and provides young people with a broad skills base.

From a pedagogical-didactical perspective, the dual system unites two different learning environments, school and work, and this is the **strength** of the system as the alternance between school and work provides the basis for linking theory and practice. However, it is also the challenge of the system, as will be shown in this presentation where I shall focus on student perceptions of learning at work and at school. A major challenge is to make these two learning environments interact in a way which is relevant to the student, otherwise the different rationalities found within the company and at school may pull in different directions, increasing the danger of drop-out.

In Denmark, there has been quite a focus on students in vocational education and training: how to attract them, how to retain them and how to train them. This is due to a number of facts: a decrease in the number of students choosing vocational education and training, an increase in the drop-out rate, and the introduction of more individualized and modularized vocational education and training programmes (Reform 2000). There has been and still is a strong political wish for making the programmes more attractive to young people. As a consequence, quite a few research and development projects have been initiated focusing on young people at the transition from compulsory school to youth education, and within vocational education and training.

In this presentation, I shall draw on this Danish research from end 1990s until today (e.g. Juul, 2005; Koudahl, 2006; Larsen, 2006; Nielsen & Kvale, 1999; Wilbrandt, 2002; Aarkrog, 2003) where focus, to a high degree, has been on students in vocational education and training: what are their expectations to and motivation for choosing a vocational education and training programme; what are their perceptions of and experiences with vocational education and training and the interaction between school and work, and what is the learning outcome? Hereby, I shall take point of departure in the students and their perceptions of dual training; and from a student perspective cover a basic didactical model resting upon a triangulation of the relationship between student, teacher and trade/subject matter.

Students in vocational education and training

“Young people here are far from unbound zapping, but want a working life where they can find their identity in their work (“being someone, doing something”), which implies that you are active, you are of value to others, you can see results, be creative, solve problems and tasks, develop self-confidence, and be part of a(n imagined) community” (Larsen, 2006, p. 107)

As already mentioned one of the Danish policy objectives has been to make the vocational education and training programmes more attractive to young people. As in the rest of Europe, the trend is towards young people opting for general education at upper secondary level in order to continue studies at university. Much Danish research has focused on “young people” and their “generational traits”. A branch of the research has been based on Thomas Ziehe and his theory on young people being liberated from tradition (Ziehe, 1989). The picture painted has been one of a generation of “zappers” searching for individual meaning and identity in a shimmering world. However, when it comes to young people in vocational education and training, recent research actually point to a more nuanced picture: they are quite often more determined and clarified in the choice of an occupation (Koudahl, 2006), they are attracted to vocational education and training because it offers something different from compulsory schooling i.e. practice and real work, and very often they are recruited among unskilled or skilled worker families (Juul, 2005; Koudahl, 2006) – continuing traditions instead of interrupting these!

In Denmark, the characterization of young people as restless zappers has underpinned national reform introducing modularisation and increased individualisation. However, evaluations of the reform have shown that this is not what students in vocational education and training want or need. Indeed, the increased individualisation and modularisation have led to an increase in the drop-out rate, especially among weaker students. As the quotation points to, young people in vocational education and training want to find meaning and (self-)respect through working life.

Motivation

“The media are not occupied with work, and especially not old-fashioned physical work, but young people who choose to enter a vocational education and training

programme, they are. To them, identity is not only about prestige, but also about “being able to” and “mastering” (Larsen, 2006, p. 103)

“That is why you become a car mechanic – it is not to sit and read books all the time, it is to get out there and work with cars and *do* stuff” car mechanic student. (Larsen, 2006)

The choice of a vocational education and training programme is for many of the Danish students determined by its relation to practice and *real* work; the students want to carry out practical work and are more occupied with “being able to” than “knowing” (see e.g. Aarkrog, 2003). It is a general finding in the Danish research that many young people in the choice of a vocational education and training programme emphasize that they are tired of compulsory schooling and have positive experiences from a work placement (Andersen, 1997). They are oriented towards practical work and they relate their choice to work rather than to education (Larsen, 2006) and to the possibility of learning a craft/trade. It is of course important to note that there may be many different reasons for young people choosing vocational education and training over other youth education programmes if you go into individual cases and life stories. However, even in her study of the narratives and life stories of male adolescents in landscape gardening and car mechanics, Jette Larsen points to the fact that their motivation was also often embedded in a wish or a dream for something different than compulsory schooling.² These expectations have consequences for the school-based part of the dual training programmes, if the vocational colleges are not able to offer them practice-orientated or –related teaching, the danger of de-motivation and even drop-out is overhanging.

The research also points to the fact that the students in their argumentation are drawing on the distinction between hand and mind when choosing a vocational education and training programme. As a student from the programme of car mechanic says;

“But as they say, this is a vocational education and training programme, we are to use our hands, not our heads” car mechanic student. (Larsen, 2006)

² It should be noted that the students are not unaware of other educational pathways and the possibility for further education is something which they consider (Juil, 2005).

A general assumption is that vocational education and training concerns the development of practical skills and knowledge whereas general education concerns the development of abstract, theoretical knowledge. In my opinion, part of the problem of vocational education and training's lack of esteem stems from this perception of vocational education and training and it is not only outdated, it has indeed never been the case that a journeyman/skilled worker did not have to use his "head" (know theory). Addressing this way of thinking among young people (and people in general) might be a way to change the parity of esteem of vocational education and training.

But to sum up, from a student perspective, the **strengths** are that vocational education and training offers an alternative to the world of school, they are attracted by practice and the prospect of "doing something" and of entering the world of work.

Two learning environments

Compared to students in general upper secondary education, students in vocational education and training have to relate to two different learning environments: school and work. In a number of studies, students' perceptions of these two learning environments have been analysed as have students' abilities to transfer knowledge from school to work and how to improve these abilities (Aarkrog, 2003, 2007).

One of the major didactical challenges in the dual training system is to bridge these different learning environments, where quite different rationalities and cultures are at stake. The two learning environments draw on different traditions, the work-based training is anchored in the "Meisterlehre" and the school-based training in an academic tradition. Students' perception of vocational education and training is based on a work rationality rather than the educational rationality which is evident in the Danish vocational education and training regulations (Koudahl, 2006). The students have chosen to enter an occupation/trade, not to enter an education programme.

To the students, the coherence between work-based and school-based training seems to be a function of whether or not they experience that what takes place at school is relevant for practice. To the students, work-based training is what matters. This is what they are motivated by and this is

what they identify with (Tanggaard, 2004). The practical training is by the students perceived as relevant and concrete, and their trainer as competent (Nielsen & Kvale, 1999).

Work-based training

”In the company, you are treated as an adult”. Car mechanic student.

”We learn a lot at school, which we cannot use in reality. All the stuff we learn at school has to do with the regulations, and of course the teachers’ experiences, however the most important stuff, we learn from the journeymen in the company”. Car mechanic student. (Larsen, 2006)

“It’s more real, this is, I think; I’m part of it, this is everyday life for a car mechanic”. Car mechanic student.

“When I started as an apprentice, I was not as self-confident as I am now. Now I know that I am able to master some things. You find something, which ... and then suddenly you know that, hey, this is something that I can do. And there is nobody to tell me that I cannot”. Metal worker student. (Juil & Cort, 2000)

To the students, work-based training is authentic, it is for real. What you do have consequences, not only to yourself but to others. The students in vocational education and training prefer work over school. At work they are treated as adults and they develop not only skills but an identity through their work. The student is part of the company and carries out “real” tasks – not simulation or case studies. They get to know the demands on a person within their trade: what kind of qualifications should he have? What are the working conditions? What is the work culture? Etc. The students understand and accept the norms and values of the companies better than the norms and values of school. They accept the underlying production logic of the tasks they are to carry out. In the company, work is planned out of consideration for efficiency and effectiveness.

In Denmark, the theories of Jean Lave and Etienne Wenger (1991) have contributed to an understanding of work-based training through a number of studies (see e.g. Nielsen & Kvale, 1999;

Wilbrandt, 2002). Focus has been on studying the positioning of the students within the company as a “community of practice” and how learning takes place within this community. Instead of viewing learning as an individual process, learning is viewed as a social process where the student moves from a peripheral position to a central position, from novice to expert within his field.

From this perspective, one of the **strengths** of the work-based training is the gradual integration of the apprentice into a working community where the training moves from simple tasks to more complicated tasks as the apprentice learns to master his trade. The students learn from different colleagues and hereby gains access to collective knowledge and skills. Jean Lave has pointed to the fact that the community of practice constitutes a comprehensive learning resource and being a student provides access to this resource. In this way, the students gain insight into not only the knowledge, but also the norms and values embedded in the community of practice, which the company constitutes. In this perspective, the working community plays an important role in the learning processes of the student and it is essential that the student is accepted and gradually integrated into the community. In contrast to school, the work-based training provides a learning environment in which working and learning processes are closely integrated, providing an immediate relevance to the student. The research points to the fact that in vocational education and training, learning by doing and through practice is better achieved through work-based training than school-based education. Work-based training integrates learning and work; and it takes place in a professional working community which includes more dimensions than school-based training.

However, in order not to paint too rosy a picture of work-based training, the Danish research also point to a number of challenges for the companies from a didactical/pedagogical perspective. Although, the students accept to adapt to the working environment in a company, they do still expect a suitable balance between more demanding and developing tasks and routine tasks. The trainers in companies do not always accept that the students may reject doing routine work. They have to realize that more apprentices see the completion of a vocational education and training programme as a learning process and a learning process from which they have to make the most. Today, the students are making more demands on the work-based training, to the systematic planning of their training and to the learning environment. A study carried out for the Danish Association of Crafts showed that sometimes the expectations of the students and the companies clash and that it is important to align expectations through information to parties (Sjøberg *et al.*,

1999). So although, the students overall value their work-based training, they have started drawing on the rationality of the school when assessing the quality of the training.

Identity

“Before starting on this programme, I had not the same self-confidence ... as further into the programme. Let me give you an example, we were working at some factory, and somebody calls, “Electrician!” My God, it is me he is calling for. I was surprised... electrician ... well, I have become something... Yeah, maybe I have also gained more self-confidence... because I have chosen this myself and found out, well, this is something I can do, and I’m actually good at it! And I’m going to complete this education programme”. Electrician student. (Wilbrandt, 2002)

“You jump into your work trousers, and then, then you’re a landscape gardener, or you feel like one, and then you start working... and then you know, that you really are one”, landscape gardener student. (Larsen, 2006)

Entering a company as a student is a crucial moment in individual life stories. From being a pupil and a child, he shifts roles and has to take responsibility for own actions. The student is treated as an adult employee and one who is part of the team, although at the beginning in a peripheral position. The work-based training provides good opportunities for the development of a strong professional identity and a confidence in own competences. The students identify with the role of employee and colleague while they to some extent distance themselves to the role of being a student. This process of identity formation can be quite anxiety provoking, and some Danish researchers point to the role of the school in making young people reflect on this process and supporting them in the transitional phase – from student to skilled worker/journeyman, from adolescent to adult – as part of a strategy for preventing drop-out.

To sum up, the **strengths** of work-based training is that the student achieves routine and skills within the trade while at the same time learning the norms, traditions and values of the trade, forming an identity as a skilled worker, moving from a peripheral position to a central position in a working community.

School-based education and training

“Yeah, but it [school] is just like a huge concrete block, because you come here, well, most of them who come here, they haven’t really showed interest in school, and “great, now we are off to learn some craft”, and then suddenly natural science is shoved in your face, and physics, chemistry and math at extended level. And now me, I have never had it, so it was like being hit by a grenade, although I came through, even though I had to add 15 extra weeks, but that’s ok, I guess?!” Car mechanic student. (Larsen, 2006)

In Denmark, young people in general start a vocational education and training programme through an introductory basic course, which is flexible in duration. After the basic course, they have to find an apprenticeship in order to continue in the main course. The main course takes place in accordance with the dual training principle; however the school-based training is organized in longer school periods lasting on average five weeks.

The research shows that students in general are very critical to the basic course which for many of them seems as an unnecessary prolongation of compulsory schooling and not what they had expected or wanted. However, this critical attitude decreases the longer the students are in the programme and for many of them, the complementarity between work and school becomes clearer during the main course. The main course is more focused and relevant to practice and the formation of relevant vocational skills whereas the basic course is an introduction to more trades.

Theory and practice

“At school, you learn how you ought to do it. Then you know. Whereas at work, you take it easier cause there ain’t time enough. But it is good to know how it ought to have been done,” florist student. (Juul & Cort, 2000)

“There is stuff which has really made me sweat while working in my company and then it has been explained to me when I got back to school. I have also experienced

that I during work-based training have carried out tasks quite mechanically, and when I got back to school and was taught about these tasks, then I got an understanding of the underlying principles. Besides, the fact that it is more satisfying, it also means that you remember stuff better,” accounting student. (Juul & Cort, 2000)

”It’s ok! At school we have to learn about the different basic sauces. In practice we only use a few of them; but it’s good to know how to prepare them”, chef student. (Cort, 2003)

From the early 1990s until today, a key research area in Denmark has been how to make school-based and work-based training interact. The Ministry of Education has financed many development projects within the field in order to strengthen co-operation between vocational colleges and companies, and to develop methods for improving interaction between theory and practice learnt at school and the learning processes going on at work. The research has to a large extent focused on the students’ perceptions of school-work interaction and how they make sense of their own commuting between these two learning environments.

In the basic course, the studies point to the fact that students in the evaluation of the theoretical parts of the vocational education and training programme take point of departure in the work tasks that they *expect* to be part of their future occupation. The students, in general, become more motivated for learning the theoretical principles if they are connected to a known (or imagined future) practice (Aarkrog, 2007). Practice-orientation is perceived as relevant by both strong and weak students (strong and weak in terms of proficiency level) who measure teaching by a utilitarian measuring rod: if it is perceived as useful, even more theoretical subjects are accepted.³ Jette Larsen points to this fact in her study of landscape gardeners, where the students have no problems in accepting biology as a necessary, although theoretical subject. In the words of one of the students:

³ One factor which seems to play an important role in the motivation of the students for teaching and training is its “utility”. These students are very utilitarian in their perception of learning: is it of use to practice? If not, it is not considered relevant and motivation is accordingly low.

“Biology can be a bit too academic. But it is important to learn biology, it deals with how the plants grow, how the soil should be cultivated, where to plant, when to plant, growth, light...”. Landscape gardener student. (Larsen, 2006)

If the relevance is difficult to see, the students have difficulties motivating themselves for theoretical teaching, so the challenge for the teachers is to create coherence between what the students are taught at school and what they learn in the company.

Practice-orientated school-based training

Students' orientation towards practice and the practical relevance of what they learn has led to the introduction of more practice-orientated school-based training. In many vocational colleges, they have introduced methods such as project work, case work, simulation enterprises/environments in order to make the school-based part more relevant and motivating to the students. These methods have proved to be a success when they relate to the reality that the students know from work. However, as to appropriateness of these teaching methods there are differences between strong and weak students. The weak students need the teacher to be in command whereas the stronger students have less problems working in groups or by themselves.

In general, the students prefer to work with practical problems in the workshop over learning theory in a classroom. They are in this way motivated to learn when working close to their own practice. The majority (2/3) of the students in a survey conducted by Ida Juul said that they thought that what they learnt at school should be applicable within the company where they work (Juul, 2005)

The school as a room for experimentation, reflection and exchange

“You learn some stuff and are able to try it out here at school. Often you haven't got time for this in the store. I practice to take a cylinder hub apart. [...] That's the **strength** of the school periods, you can say what you're not good at, and then practice and practice so that you learn.” Student, bicycle mechanic (Cort, 2003)

Although, the school-based part of vocational education and training is more critically assessed than the work-based part, it plays a major role in imparting the students relevant skills and knowledge. The knowledge and skills that the students acquire at school provide them with a broader basis for understanding the work-based training and for underpinning their practical knowledge with theoretical knowledge. In the main course of the Danish vocational education and training programmes, the school periods become an important refuge where the students can reflect on the work-based training. Therefore, the school-based training also constitutes an important element in the formation of a vocational qualification, of vocational identity and pride.

In the evaluation of the commercial reform, the studies pointed to the fact that the students were quite capable of reflecting on the relationship between school and work-based training (Juul & Cort, 2000). They pointed to theory as a basis for correcting mistakes, and as a source of innovation as it contributes to new methods and solutions. In this sense, the school-based education and training is an important part of the continuous innovation of practices in companies. It provides the opportunity to “think” beyond traditions and traditional ways of carrying out work tasks.

The students also point to temporal differences between school and work, the school-based education and training has the **strength** that it is not submitted to the same time pressure as work. This implies that there is more time for explanation and reflection.

So although, the students demand that the school-based education and training is relevant for their practice in the company, they are also able to see the **strengths** of school.

Exchanging experiences across students and companies

“They make a mistake at the vocational college. They form classes which only consist of Imerco, Inspiration or Bahne [i.e. segregate students from different retail chains]. And that is a mistake! The two first weeks where we were mixed, we had a lot of fun discussions. It was not that we got into a fight, but we had some good discussions in class because we came from different chains and “here we do like this and this” and could compare practices...” Student, retail assistant. (Juul & Cort, 2000)

As a refuge, the school also offers the student a place to meet and exchange experiences from the work-based training. In many of the studies, the students point to the student community as a possibility for exchanging work-related experiences, both on methods and routines and on working conditions. It is important to the students to be part of a professional community which goes beyond the company, a community where they can discuss and reflect on their own experiences. This is a **strength** of the school-based part of the dual training.

To sum up, the students are in general more critical towards school and especially the more theoretical subjects taught at school. Their motivation lies within the trade and with work. However, the students become more motivated during the programme especially for teaching which is directly related to their work or which is practice-orientated and takes place within the school workshop. Nonetheless, the students understand the value of the school periods as it provides them with a learning environment where there is time and possibility for failure, testing and experimentation. They also value the student community and the possibility for exchanging experiences across this community.

School-work interaction

Although, several of the cited studies conclude that the students in vocational education and training prefer work-based training to school-based education and training, it cannot be concluded that they disregard the importance of school. On the contrary, most students experience that the two learning environments contribute differently to their learning processes. In the company, the students are part of a working community and learn the trade through practice. In the company, there is not much room for failure or wasting too much time on the detail. Work-based learning is part of real production processes and contributes directly to the functioning of a company. At school, the students acquire the theoretical basis for their trade. There is time and room for failure and experiments (Juul & Cort, 2000).

From a didactical perspective, the ideal interaction between school and work could be described as follows:

The students are trained in the company where they have the opportunity to try out different tasks and participate in different work processes which are taking place according to a planned rotation

coordinated with the school periods. The students have some knowledge of what they are going to learn in the next school period and when they return to the company they can try out their new knowledge and skills they have acquired, and hereby they become better skilled and can take greater responsibility for own work tasks. (Gottlieb & Götzsche, 2001)

The interaction between the two learning environments is rarely as optimal as this, however, even in less optimal situations, work and school are complementary – although it to the students, may not always appear to be the case. This interaction ensures that the students acquire knowledge and skills which are neither limited to a specific company nor too theoretical and detached from practice. Together they provide the students with general, personal and vocational skills easing the transition to the labour market and providing a solid basis for lifelong learning.

In relation to the weak students in vocational education and training, i.e., the students who have problems mobilising interest in teaching and who have problems acquiring knowledge and skills of a more general and abstract character, the dual system has many **strengths**: through work-based learning i.e. learning-by-doing and learning through imitation, the weak learners establish a practice and a knowledge of practice to which they can relate the more theoretical and abstract teaching. In her studies, Aarkrog shows that the weak students can learn theory by practical work and practice-based teaching (Aarkrog, 2007).

Teacher/trainer roles and qualifications

“The journeymen, who are really good at their job, those who really know some tricks so you’re blown off your feet and say, “Wauw, he is good”, those are the guys you listen to another time, no doubt about it”. Precision mechanic student. (Wilbrandt, 2002)

For teachers at vocational colleges, the demands from the students are first and foremost an updated knowledge of the trade and sector within which they are teaching. From the Danish studies, it is clear that the students admire teachers who are able to relate to practice and in this way create coherence between the school- and work-based parts of training. The teachers who are able to point to the discrepancies between theory and practice are regarded as good teachers. The same goes for

the in-company trainers, where the young people prefer professionals with a good command of their trade and an ability to instruct. The teacher/trainer is of great importance as a figure of identification, as somebody who helps and mentors, both individually and as a community.

Conclusion

The Danish research points to the fact that students in vocational education and training identify with the chosen occupation/vocation and are highly motivated by/for learning at work, and less motivated for a programme which is perceived as a continuation of compulsory schooling and its distinctive teaching forms. Work-based training offers other – more practical – learning and evaluation forms which the student prefer over school-based education and training. Furthermore, work-based training does not only provide them with relevant vocational skills but is part of a broader personal and vocational process of socialization. As to the learning environment at the vocational college, many of the students are more critical towards school and are to some extent demotivated by too abstract, theoretical teaching. Nonetheless, many of them acknowledge the value of what they learn at school – especially if it is directly applicable or relevant for their work within the company. As learning environments, work and school are complementary and have different strengths and weaknesses, however together they provide the students with general, personal and vocational skills easing the transition not only into the labour market, but into adulthood.

To the students, practice, practical work and learning in a real working community are the main motivational factors for entering a vocational education and training programme. They are eager to quit compulsory schooling and try something different. Dual training offers them the possibility to spend most of the time in a company and to learn-by-doing. The addition of school-based periods where the more theoretical and abstract principles and subject matter relevant to the trade are taught ensures that the qualifications that the young people acquire go beyond the company and that they have a space for reflecting on practice and exchanging experience on different practices.

As I said at the beginning of this presentation, different rationalities are at stake in the learning environments of work and school. It is important to acknowledge that there is no always correspondence or balance between the production rationality of work and the educational rationality of school, but that the interest of the student is better balanced in a dual system where

both rationalities may act as a kind of “checks and balances” ensuring on the one hand a thorough introduction into the trade and the labour market and on the other hand a systematic approach to teaching ensuring progression in learning and a more theoretical supplement to what takes place in the company. Compared to other vocational education and training models, the dual training principle has many advantages. In the market-based system where training is predominantly on-the-job, the qualifications may be (too) narrow and in the school-based system, the qualifications may be too theoretical and too detached from the labour market (Greinert, 2005). In the dual system, it is possible to establish connections between theory and practice and between head and hand. To a young person, the dual training offers the possibility of a safe transition from school to work. To return to the words of Jette Larsen,

“Young people here are far from unbound zapping, but want a working life where they can find their identity in their work (“being someone, doing something”), which implies that you are active, where you are of value to others, you can see results, be creative, solve problems and tasks, develop self-confidence, and be part of a(n imagined) community” (Larsen, 2006, p. 107)

If dual training is able to fulfil these demands from young people, it is indeed strong – from a pedagogical-didactical perspective.

References

- Andersen, D. (1997). *Uddannelsesvalg efter 9. klasse*. København: Socialforskningsinstituttet.
- Cort, P. (2003). *Portrait of the Danish VET system*. København: Danmarks Erhvervspædagogiske Læreruddannelse.
- Gottlieb, S., & Götzsche, H. (2001). *Elever i erhvervsuddannelse - mellem skole og virksomhed* (Vol. 21). København: Undervisningsministeriet.
- Greinert, W.-D. (2005). *Mass vocational education and training in Europe. Classical models of the 19th century and training in England, France and Germany during the first half of the 20th.* (Vol. 118). Luxembourg: Office for Official Publications of the European Communities.
- Juul, I. (2005). *På sporet af erhvervspædagogikken*. The Danish University of Education, Copenhagen.
- Juul, I., & Cort, P. (2000). *Virksomhedernes og elevernes oplevelse af den merkantile reform*. København: Danmarks Erhvervspædagogiske Læreruddannelse.
- Koudahl, P. (2006). *Den gode erhvervsuddannelse?* Roskilde Universitet, Roskilde.
- Larsen, J. (2006). *Unges oplevelse af vekselluddannelse*: Erhvervsskolernes Forlag.

- Lave, J., & Wenger, E. (1991). *Situated learning - legitimate peripheral participation*. New York: Cambridge University Press.
- Nielsen, K., & Kvale, S. (1999). *Erhvervsuddannelse. Hvordan lærer man i praktik?* København: Undervisningsministeriet.
- Sjøberg, A., Ewald, K., Fjelstrup, T., Morgenstjerne, M., & Schick, B. (1999). *På godt og ondt. Et portræt af elever og deres forhold til mestre og erhvervsskoler*. København: Undervisningsministeriet.
- Tanggaard, L. (2004). *Læring og identitet i krydsfeltet mellem skole og praktik - med udgangspunkt i moderne dansk vekseluddannelse*. Aalborg Universitet, Aalborg.
- Wilbrandt, J. (2002). *Vekseluddannelse i håndværksuddannelser. Lærlinges oplæring, faglighed og identitet* (Vol. 14): Undervisningsministeriet.
- Ziehe, T. (1989). *Ambivalenser og mangfoldighed: en artikelsamling om ungdom, skole, æstetik og kultur*. København: Politisk Revy.
- Aarkrog, V. (2003). *Mellem skole og praktik*. The Danish University of Education, København.
- Aarkrog, V. (2007). *"Hvis det skal give mening."* (Vol. 4). København: Undervisningsministeriet.