ORIGINAL PAPER

Vocational Students Experiences with Assessment in Workplace Learning

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Abstract Vocational education, as part of the Norwegian upper secondary education, includes both school-based learning and workplace learning. While school-based learning is characterized by formal structures and guided by aims in the curricula, workplace learning is often informal, incidental and directed by the daily work-tasks. Assessment in workplace learning is mainly formative and different stakeholders are involved in the assessment; namely students, teachers and workplace instructors. However, the guidelines for assessment are vague and call for a close cooperation between the stakeholders. This is demanding and has resulted in a variety of assessment practices. The study presented in this article is a qualitative study of students' experiences with assessment in workplace learning periods in their first year in vocational education. The aim of the study is to give voice to students` experiences with assessment and illuminate how assessment supports their learning processes. Data was collected through focus group interviews with two groups of students in the Programme for Health and Social Care. The main findings indicate different assessment cultures in school and workplaces. This is expressed through the students' perceptions of assessment, assessment criteria, tools for assessment and vocational knowledge. It is recommended that an open dialogue about the discontinuity in assessment between schools and workplaces is one of several measures necessary to bridge the gap between the stakeholders.

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Introduction

The research presented in this article is a qualitative study of students' experiences with assessment practice in workplace learning in the subject *In-depth Study Project* [1] in vocational education and training (VET) in Norwegian Upper Secondary Schools. VET consists of common core subjects as well as occupation-specific subjects, including the In-depth Study Project. ThisProject is a part of the vocational school courses, in which first year students are introduced to different vocational programmer, from which they can select their preferred occupational choice for their second year and subsequent apprenticeship. The overall aim of the Project is to give students experiential glimpses into particular occupations prior to them making the final choice about their educational path and future occupation.

An essential part of the In-depth Study Project, (referred hereafter as the Project) is placement learning at workplaces, corresponding to students' occupational interests. During these placements, students are supposed to participate in social learning contexts in workplaces and develop broad vocational knowledge and skills, as well as vocational identity. Placement in the school-based part of VET is, therefore, the main learning environment for the students' acquisition of occupational-specific skills and knowledge. The placement learning also intends to build relationships and bridge the gap between theoretical and practical approaches in VET. Placement learning is, therefore, intended to give students a taste of a range of occupations to identify to which they are suited. Since placement learning is part of school-based VET-education, the learning periods are guided by learning goals, and supervision and assessment are carried out by instructors at workplaces and VET teachers in school. The placement learning, as part of Project in the Norwegian dual VET model, has important characteristics regarding approaches to learning, which will be conceptualized as workplace learning in the following. The aim of this study is to examine students' experiences with formative assessment in workplace learning in the Project.

Vocational Education and Training in Norway

The Norwegian VET provisions includes a model that provides two years school-based learning followed by two years of apprenticeship. After two years of school-based learning students have the opportunity to continue a third year in the academic stream leading to certifications required for university and college admissions. This dual VET-model was established together with a curricula reform in 1994 and was further developed in the education reform entitled Knowledge Promotion in 2006 (Ministry of Knowledge 2006b). Through these reforms, students are guaranteed a statutory right to spend up to six years in vocational education. Together with substantial changes in the VET-structure, and enhancement of apprenticeships and cooperation with workplaces, these changes were intended to develop a more relevant provision of vocational education. The extent of workplace learning in VET differs from country to country. Sweden and Finland have a school-based VET-model (Lamb et al. 2010), although

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[1] In – depth Study Project is the official translation of Prosjekt til fordypning into English by the Norwegian Directorate for Education and Training for this school subject.

Finland has included workplace learning in school-based VET after 2000 (Virtanen et al. 2009). Denmark has a similar dual VET-model to Norway (Lamb et al. 2010).

Despite these reforms, Norway is still confronted by a high drop-out rate in upper secondary school, especially in the VET stream. About 38 per cent of the students do not complete their six years of vocational training (Directorate for Education and Training 2012). The OECD regards upper secondary education as a foundation for further education as well as labour force participation. Reducing dropping-out is a vital educational and political priority (Lamb et al. 2010; Ministry of Knowledge 2007; Organisation for Economic Co-operation and Development (OECD) 2001). Reasons for dropping-out can be divided into several factors. Social background, school achievement and satisfaction are defined as individual factors, while learning environment and educational quality are defined as institutional factors. Contextual factors are societal influences outside school, such as offers of apprenticeship for the whole range of vocational programmes (Markussen (2009); Lamb et al. 2010). Bäckman et al. (2011) have shown that the dual vocational education model with apprenticeships makes the transition between school and work easier than when such combination of experiences is not available. However, Norway still has a higher drop-out rate than the other Nordic countries, and Norwegian youth have a higher risk of exclusion from the labour market than in the neighbouring countries (Bäckman et al. 2011). These concerns warrant careful examination to identify the ways in which these outcomes are a product of societal influences and/or factors associated with the VET dual model.

The In-depth Study Project, was introduced in the reform *Knowledge Promotion*[2] in 2006 as one of several measures taken to increase the achievement rate in Upper Secondary School (Ministry of Knowledge 2006a). Workplace learning is a key element of the Project and is emphasized as the main learning context (Ministry of Knowledge 2006b; Nyen and Tønder 2012). The responsibility for assessment in the Project is divided between school-based teachers and workplace instructors. VET-teachers have the formal responsibility for the formative assessment of school-based learning and workplace learning as well as the summative assessment (grading at the end of the term), while workplace instructors are involved in formative assessment and feedback during workplace learning periods (Ministry of Knowledge 2006b). Students are expected to relate to both workplace instructors and VET-teachers while in workplaces, and the complexity of assessment in the Project is high, with different stakeholders, as well as a variety of learning goals and types of knowledge to develop. This calls for an examination of how formative assessment influences students' learning while in work placement. The main research question addressed by the current study is: How do students experience formative assessment in workplace learning in the In-depth Study Project?

Workplace Learning in VET

Workplace learning is a central feature in school-based VET (Ministry of Knowledge 2006b). However, different approaches to the complex field of workplace learning call for an elaboration of the concept as it relates to this study. A major difference between

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[2] Knowledge Promotion is the official translation into English of the curricula *Kunnskapsløftet* by the Norwegian Directorate for Education and training.

learning in school and workplace learning is that the former is directed by certain learning objectives derived from the curricula, formal structures and certification requirements, the latter is mainly directed by work-task requirements, effective and functional procedures for executing work, as well as giving opportunities for participation in complex work tasks as opportunities to learn (Billett 2002; Schaap et al. 2012). Learning ine workplaces arises from individuals engaging in the daily work-tasks, routines and problem solving (Eraut 2004). Workplace learning goals includes developing relevant skills and qualifications required for certain jobs, as well as interaction with colleagues and participation in social experiences in the workplace (Billett 2004). The ability to engage in workplace activities and access to support and guidance are, therefore, key features for learning at workplaces (Billett 2002). *Social theory of learning* (Wenger 2006) emphasizes how legitimate peripheral participation in communities of practice creates possibilities for learning in everyday activities. The dynamic and changeable conditions at workplaces therefore characterize learning as a changing participation in changing communities of practice (Lave and Wenger 2005). Workplace learning can thus be perceived as adjustment to informal situations and as making sense of individual and collective experiences in problem-solving situations (Collin 2004). Moreover, workplace learning can be perceived as contextually bound and embedded in social practices and participation in communities of practice (Lave and Wenger 2005; Billett 2004). Workplace learning includes experience-based learning, incidental and informal learning (Marsick and Watkins 1999), learning as participation in social practices (Lave and Wenger 2005), as well as formal organizational learning (Senge 2006).

When students go to workplaces as part of VET-education, the main aim is to develop the skills and acquire the qualifications needed to practice an occupation, as determined by goals in the curriculum as well as general and formal frameworks in the educational structures. The core curricula of VET presents a structure for completing workplace learning, as well as the content of the learning, in order to give a frame to the students' vocational education. The core curricula distinguish between generic skills, practical skills and key competencies, such as punctuality, communication, being responsible and participating in team-work, as main qualifications for vocational professions (Ministry of Knowledge 2006b). School and workplaces are regarded as complementary learning contexts. Although the students' learning in authentic workplaces through participating in everyday activities and social practices is regarded as valuable for students (Wenger 2006; Nielsen and Kvale 2003), their training position in VET is assumed to affect how they relate to workplaces and the knowledge and skills embedded in work-tasks (Schaap et al. 2012). Instruction and guidance are, therefore, important elements of workplace learning in VET, mainly to facilitate the students' acquisition of vocational skills through participation in work-tasks (Sfard 1998; Tillema et al. 2000).

Students' experiences with workplace learning differ according to the various kinds of assignments at workplaces. Each upper secondary school makes its own agreements with relevant workplaces in the locality (Ministry of Knowledge 2006b). The diversity of agreements relates to the number of students attending a workplace in the same period, as well as the length of the placement period. Usually, students attend a workplace one day a week during the school year, or several weeks spread throughout the school year. Students are expected to participate in everyday activities at their

workplace relevant for their vocational programme and vocational interests. However, the workplaces are responsible for providing access to work tasks within the legal framework of qualification requirements and safety regulations.

Assessment

Assessment is meant to consider quality of performance and is closely connected to the teaching context, both learning process and outcome (Black and Wiliam 1998; Boud 2000; Shute 2008; Smith 2009). Assessment of students' learning has two purposes, summative and formative. Summative assessment aims to describe the quality of performance and provides a basis for grading and certification. Formative assessment intends to support the learner in the learning process and improve learning through situated and task related feedback, as well as promoting motivation and self- regulation strategies (Sadler 1989; Black and Wiliam 2009). Whether assessment can be considered to be formative depends on whether the information gathered about individuals' learning processes are used by learners and teachers to meet learners' needs and reduce the gap between their current knowledge and the desired outcome of the learning process (Ramaprasad 1983; Black and Wiliam 1998). An underlying assumption is that monitoring students' ability to improve (Broadfoot et al. 1999) and strengthening their self-efficacy through mastery experiences (Bandura 1997; Hattie and Timperley 2007) have a positive impact on the student's learning (Hattie & Timperley 2007; Shute 2008; Black and Wiliam 2009). Formative assessment is a tool for monitoring students' progress and adjusting teachers' instructions according to students' needs to meet those learning outcomes. To engage students in their own learning, it seems important to share an understanding of learning goals and assessment criteria and promote commitment to learning goals, as well as involve students in self- assessment (Broadfoot et al. 1999; Black and Wiliam 2009; Wiliam 2011). This self-assessment is also closely linked to self- monitoring and the development of self-regulating skills, all of which are found to enhance learning (Boekaerts 2006; Nicol and Macfarlane-Dick 2007; Black and Wiliam 2009).

Feedback is a central element of formative assessment, and it is found to have a strong influence on students' learning (Hattie and Timperley 2007). Feedback here means teachers' responses to student performance, as well as to students' seeking information about their performance. The students' interpretation and use of feedback can be valuable for learning (Boud and Molloy 2013). The well-known feedback model presented by Hattie and Timperley (2007) distinguishes amongst four types of feedback: i) task, ii) learning process, iii) self- regulation and iv) the self. It is emphasized that feedback on tasks and suggestions for improvements enhances learning (Hattie and Timperley 2007; Shute 2008). The timing of feedback related to different tasks also influences learning. According to Shute (2008), immediate feedback seems to have a positive impact on procedural learning and learning difficult tasks. Delayed feedback, on the other hand, has a positive effect when students' experience competence with the tasks and transfer to similar tasks is within reach.

However, the students' comprehension of feedback from teachers, and their ability and capability to act upon it is vital for making assessment formative (Boud 2000; Black and Wiliam 2009). The learners' interpretation of feedback and how they relate to different forms of feedback is, therefore, an essential element in formative

assessment (Black and Wiliam 2009; Havnes et al. 2012; Gamlem and Smith 2013). One way to improve the correlation between teachers' feedback and students' understanding of the learning process is to conceptualize feedback as dialogue rather than as information transmission (Nicol and Macfarlane-Dick 2007). "Feedback as dialogue means that the student not only receives initial feedback information, but also has the opportunity to engage the teacher in discussion about that feedback." (Nicol and Macfarlane-Dick 2007, p. 210). Students' perceptions of their own learning are, therefore, a key to understand how they relate feedback to achievement, and students should be given opportunities to participate in dialogues about learning (Wiliam 2011). However, the notion of feedback as dialogue also brings about an understanding of teaching, instruction and feedback as moments of contingency (Black and Wiliam 2009; Ruiz-Primo 2011). The productiveness and learning outcomes from the flow of instructions and feedback from teachers depend on learners' responsiveness. Furthermore, moments of contingency provide opportunities for learning which cannot be predetermined (Pachler et al. 2009; Ruiz-Primo 2011). Moments of contingency are assessable moments which teachers identify and use to promote student learning. For instance, feedback embedded in instruction and learning dialogues can to some extent be planned and designed, although if this feedback is viewed as a socially situated activity the intersubjectivity and immediacy have to be considered as important factors (von Wrigth 2006). The meaning derived from teachers' and students' dialogues lies in the intersubjectivity, and therefore students' responses to formative assessment are dependent on their experience of meaning in the actual feedback and learning activities (von Wrigth 2006; Ruiz-Primo 2011). Feedback is an act of communication and shared understanding of the meaning. Ruiz-Primo (2011) relates moments of contingency to informal formative assessment, and emphasizes teachers' awareness and sensitivity to students' questions and verbal actions as essential to assist students' learning. S/he suggests:

When informal formative assessment takes place such "moments of contingency" arise continuously, because teachers are constantly seeking to make sense of students' responses, actions, comments, and behaviors (Ruiz-Primo 2011, p. 16).

Assessment can, in this perspective, be perceived as shared understanding and meaning-making, a form of intersubjectivity (Mead 1934; Vaage 2001; von Wrigth 2006), which is a central feature of formative assessment (Ruiz-Primo 2011). Assessment in workplace learning is to a large extent based in everyday activities and work tasks (Billett 2004; Kvale 2007). By its very nature, unplanned formative assessment arises everyday and consists moments of contingency, where students' responses to feedback from instructors as well as their engagement in learning dialogues form a basis for their development of occuptional capacities. Formative assessment and feedback in the Project are, therefore, regarded as essential for assisting and improving students' learning processes and reflections on learning while students are in the workplaces (Schön 2000; Black and Wiliam 1998; Ministry of Knowledge 2006b).

Formative assessment during the course comprises feedback from teachers and instructors at workplaces, as well as students' self- assessment, while summative assessment consists of grading at the end of the course. Teachers in VET are responsible for assessment and grading of students' learning processes and performances, both in school and at workplaces. However, the VET- teachers are only occasionally present at the latter, while workplace instructors conduct formative assessment on a daily basis

(Nyen and Tønder 2012). The guidelines for formative assessment in the Project made by policy makers are vague when regarding formative assessment itself, assessment criteria and tools. VET-schools are responsible for the implementation of all aspects of assessment (Directorate for Education and Training 2011; Directorate for Education and Training 2012). Assessment in the Project therefore calls for a thorough collaboration between participants, to implement assessment according to the curriculum. The national curriculum in the Project clearly ascertains that VET-schools are supposed to develop a local curriculum, based on competence aims in vocational programmes, and adjust to the local and regional workplaces available for placements. The national curriculum also requires a written documentation of the students' learning processes during placement periods. The documentation is supposed to bridge the gap between workplace learning and learning in school, as well as serve as a base for assessment (Ministry of Knowledge 2006b). A portfolio is the most common tool for documentation and assessment (Nyen and Tønder 2012), which is the informants' experience in the present study. The documentation of learning processes shall be related to mastery goals in the national curriculum (Ministry of Knowledge 2006b). Tillema et al. (2000) emphasizes the importance of considering the workplaces' perceptions of vocational knowledge, and forming a reciprocal understanding of assessment. Instruction ought to be individually directed and performance-based, and closely linked to assessment. However, to establish learning dialogues there is a need for new assessment instruments, i.e. portfolios, where students' self-directed learning is made visible (Tillema et al. 2000). Kvale (2004) has described workplaces as rich assessment environments, distinguished by a variety of informal assessment situations, which can be a valuable contribution to understanding assessment in workplace learning experiences. Tanggaard (2004) shows how appreciating and learning oriented assessment function as a learning resource for students, while formal assessment, like grading, often functions as a basis for selection and control. A recent study (Havnes et al. 2012) shows that VET-teachers involve students in setting goals and criteria as well as organizing peer assessment. Torrance (2007) discusses the importance of developing tutors' and assessors' judgment at a local level, as well as the importance of introducing students to communities of practice. Yet, how VET-students experience assessment in workplace learning as part of school-based VET is an issue which, to our knowledge, has not been widely investigated. It is this concern that motivated and directed the study reported here.

Methodological Framework

The study is inspired by phenomenological theory (Moustakas 1994; Patton 2002; Creswell 2007) and uses a qualitative approach to explore and understand students' experiences with assessment in workplaces. We considered an open approach to the current study to be useful for gaining insight into how students experience different aspects of assessment. How students describe, perceive and make sense of assessment, and the guidance and instruction in the workplaces were considered meaningful information for this study. Data were collected through focus group interviews with two groups of students (six students in each group) in the Programme for Health and Social Care attending their first year in VET. Focus group interview is an exploration of

a topic involving informants having a similar background and is conducted as a collective activity based on dialogue (Parker and Tritter 2006; Liamputtong 2011; Belize and Öberg 2012). The focus group interviews were conducted as a complementary interaction between the participants, where different aspects of their experiences were shared and discussed in-depth (Kvale and Brinkmann 2009; Liamputtong 2011). Focus group interviews were chosen to secure an understanding of students' assessment experiences, while also considering the value of a group dialogue to reveal the students' differing concepts of assessment (Parker and Tritter 2006; Liamputtong 2011). The sample of informants comprised students attending a VET-school which had previously participated in an action research project with the researchers, aiming to develop digital assessment portfolios. All the students ($N=12$) majoring in the program for Health and Social Care participated in the current study. However, these students had not been involved in the action research project. The students were all female and had twice attended different workplaces related to Health and Social Care professions, i.e. kindergartens, pharmacies, nursing homes and ambulance services. They knew each other well from the first year in VET and had gained experience with assessment at workplaces. The informants gave written consent to participate prior to the study, and the study followed ethical guidelines for research involving human subjects. The interviews took place at the informants' school, and were carried out using digital recordings and then transcribed. The informants were made anonymous by coding, and all authors analyzed all transcripts.

As noted, the aim of the study was to gain a thorough understanding of how VET-students relate to assessment in a workplace learning environment. We used a semi-structured interview guide as a frame for the interviews. The interview guide was prepared and adjusted by the authors before data collection. The main themes in the interview guide were: i) students' experiences with workplace learning; ii) instruction and supervision at workplaces; assessment practice and iii) assessment criteria in the In-depth Study Project. We asked the students e.g. about the different learning activities and work tasks, both in school and at workplaces, cooperation and learning dialogues with teachers and workplace instructors, routines for workplace learning, documentation of learning activities. The themes were formulated as topics for discussion, open questions and statements about assessment, all of which served as starting points for the dialogues in the two groups. The authors functioned as moderators, and the dialogues continued until the moderators considered the themes to be covered in depth (Rabiee 2004; Parker and Tritter 2006: Liamputtong 2011).

The analysis of the focus group interviews was first conducted manually by the authors and secondly by using NVivo software. The manual coding was based on the dynamic nature of the interviews, with the informants' interaction and dialogue as the key to understanding their experiences. During the initial coding, statements were grouped into meaning units and conceptual ideas. Matrices for systematic comparison of the meaning units were created, and this formed the basis for analytical categories (Creswell 2007). Written memos followed the categories and these were revisited throughout the analyzing process (Richards 2005; Saldaña 2009). The memos consisted of nodes, phrases, quotes and ideas made by the researchers during the analysis. These memos helped identify important questions regarding the data, the different students' voices and the contradictions in students' experiences. The analysis

moved from the investigation of meaning units and analytical categories to the memos in cycles until three main themes were established (Richards 2005; Kvale and Brinkmann 2009). In the second phase of the analysis, NVivo software was used to organize the data by making nodes and categories based on the first phase of analysis, and to illuminate some of the categories through our connection of codes and meaning units, as well as giving an overview over the data. During both phases of analysis, data were examined by all three authors together, whereas the final inter-pretations were made by the first author. This interpretation was presented to the VET-teachers for validation.

The relatively small numbers of samples influence the generalizing of the findings. However, we find that two focus groups, each consisting of six students, gave students the opportunity to interact and go further into the dialogues mod-erated by the researchers (McLafferty 2004). The students had been placed in different workplaces, and the amount of data coming from the focus group interviews revealed a variety and complexity in the students' experiences which provided ground for the analysis. When the data collection and analysis are made explicit for the audience, as well as discussed in relation to research in the field, this will also provide ground for an analytical generalization of the findings in the study, (Kvale and Brinkmann 2009).

Findings and Discussion

Three themes emerged from the analysis: 1) students' perceptions of assessment; 2) participation in workplace activities; and 3) perceptions of vocational knowledge. The most salient theme for this article is the students' perceptions of assessment, to which most attention is given. The other two themes will be presented more briefly. In the following, each theme will be presented separately and discussed in relation to theo-retical concepts.

Students' Perceptions of Assessment

The student informants were asked to describe different activities which they defined as assessment and how they related feedback to their learning in the workplaces. The analysis showed a complexity in these students' perceptions of assessment through different topics and approaches, such as assessment activities and tools for assessment, different participants with different involvement in assessment activities, as well as assessment criteria.

Assessment Activities and Tools

When students discussed assessment activities they describe a) VET-teachers' feedback and assessment of portfolios; b) VET-teachers' impressions of students' performance at workplaces as a result of occasional visits; and c) oral or written reports from workplace instructors to VET-teachers about the students' performances at workplaces. These activities are seen as the basis for VET-teachers' grading of the students and a support for the summative purpose of assessment. According to the students, the various forms of assessment during the course constitute a basis for grading at the end of the term.

They refer to the grading, which has a summative purpose, as assessment. For instance, one student stated:

The teachers always refer to the grade when they talk about assessment, so then it must be important.

The focus group interview revealed how the use of portfolios as a tool for assessment influenced students' perceptions of assessment and how students relate to assessment. The students are responsible for developing a portfolio during workplace learning, and this portfolio should contain written reflective logs and documentation on their work tasks and learning during the practice. The students stated that the VET-teachers gave feedback on portfolios both during and after workplace learning expereinces. VET-teachers commented on the students' logs. The logs contained descriptions of achievements and reflections on the learning processes, and there seemed to be an underlying focus in the feedback on facilitating students' opportunities for progress in their learning. The students' descriptions of VET-teachers' comments are generally positive; the comments make their learning visible and valuable. However, several students report they are uncertain about how to improve their skills with reporting through these logs.

We get feedback from the VET-teacher in our portfolio on what we should improve, and this is positive in a way but I do not know how to do it.

The teachers give comments in my portfolio. And that is good, but I don't think I learn from it, just what I should write and not write in my portfolio log.

Some students report that writing the portfolio contributes to consciousness of reflecting on learning, while it is a valuable tool for the development of vocational knowledge. Other students find it difficult to relate their written reports of their workplace experiences to learning, as, for instance, one reports:

The portfolio is important for my grading, but it does not influence my workplace learning.

Some students explain improvements in their portfolio as the result of adapting to the feedback in order to get high grades, not as part of their learning process. It is unclear whether the feedback regarding improvement is followed up by VET-teachers or workplace instructors. However, some students describe VET-teachers' comments as redundant because they cannot relate to these comments, or have no opportunity to act on them because of practical circumstances in the workplace. So, in this way, the logs became an artefact for something else (administration), rather than being perceived as promoting learning.

Moreover, some students found it difficult to establish a connection between what they have actually learnt in the workplace and VET-teachers' feedback and assessment of the portfolio. During the focus group interview, the students discussed this issue thoroughly and offered three explanations. First, they point to VET-teachers' lack of insight in daily life in the workplaces and the fact that students' work tasks are mainly determined by what happens in the workplace, rather than the learning goals in the VET curriculum. Second, the students find it challenging to describe their learning and reflections in the portfolio; sometimes, it becomes a repetitive activity, and does not function as a tool for reflections on learning. Third, it is also difficult to have a meaningful dialogue in the portfolio when VET-teachers have not been present in the learning environment. One student noted:

How can the VET-teachers get any impression of my work? They have not seen me in action! But the workplace instructors do, they have seen what I have been doing.

On the other hand, the students find the dialogues about their work tasks and learning meaningful when VET-teachers visit them at the workplace, and they regard the feedback as important for further learning. To be seen in action by those who are doing the grading in the end, i.e. the VET- teachers, is also important for the students, according to their perceptions of a fair assessment.

The workplace instructors give feedback on students' performance of work tasks during the workplace learning period. There seems to be a variety in feedback activities, such as instruction and guidance, comments and dialogues during the work processes, as well as assessment of the quality of the performance. The students do not refer to these dialogues as assessment, but see it as just a natural part of the work processes. A student reports:

We discuss how to accomplish the task and I get a lot of comments, both positive and negative, during the day. This is not assessment! It is the VET-teacher who is doing the assessment after the workplace learning period.

The students also refer to workplace learning as a subject in In-depth Study Project, but without any reading list, with one suggesting the following:

Workplace learning is a kind of subject, but we do not have any reading list, just the learning through experience. That is why we get a grade in the end.

The assessment activities as described by the students can be interpreted as formative assessment, although the students see them as tools for the grading and summative assessment. The different assessment activities and tools described by the students are visualized in Fig. 1:

Discussion – Students' Descriptions of Assessment Practice

The students define assessment as 'grading', and interpret the assessment activities as the basis for grading. They seem to be performance-oriented and refer to the assessment as summative. In this perspective, workplace learning is justified as important for assessment since the various types of documentations for students' workplace learning
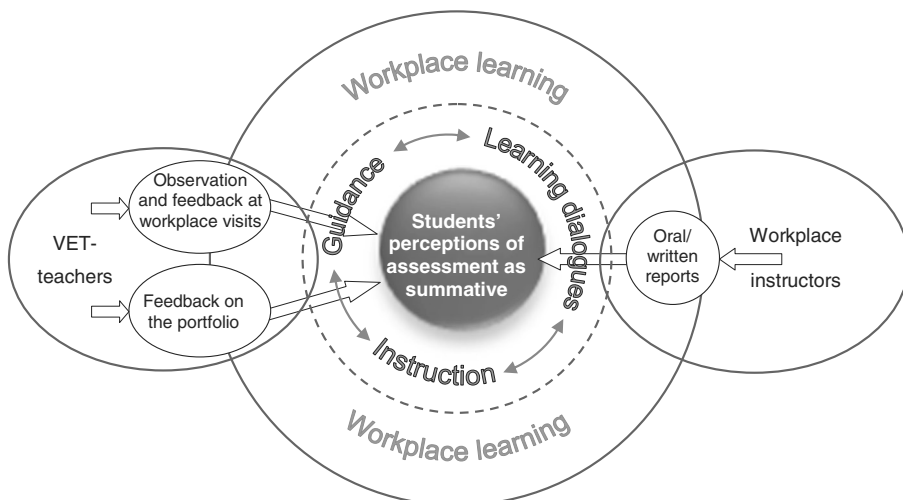

Fig. 1 Students' descriptions of assessment practice

form the basis for grading. At the same time, they recognize and appreciate feedback at workplaces. They refer to such feedback as valuable and meaningful for learning vocational skills and competence, but do not define it as assessment. The portfolio serves as a tool for summative assessment, while the formative aspects of reflections on learning are less important for these students. Students' strategic descriptions in their portfolios, where experiences are described in a more positive manner than what actually happened, contribute to an understanding of the portfolio as an instrument for documentation, more than a tool for reflection and development. Boud (2001) refers to a tension between assessment and self-reflection in the students in order to portray themselves in the best light, and not as a basis for development. As Boud claims:

Reflection involves a focus on uncertainty, on perplexing events, of exploration without necessarily knowing where it will lead. It is in the interests of their learning for them to express their doubts, to reveal their lack of understanding and to focus on what they don't know (Boud 2001).

If portfolios are intended to function as a tool for formative assessment, students need to have a clear understanding of the feedback from VET-teachers, as well as the ability to act upon the feedback (Black and Wiliam 2009; Havnes et al. 2012). Sluijsmans et al. (2008) underline the importance of involving the students in self-assessment and reflections on learning, building on the design of instructional activities. The format and purpose of the portfolio do not seem to be clearly defined in the current study, as also experienced by Smith and Tilema (2003). According to the students' descriptions the portfolio seems to have an instrumental and summative function when used for grading, as well as a formative purpose when VET-teachers give feedback through comments on the logs. The former is emphasized by the students in the current study, and therefore understood as assessment. From this perspective, students may find it useful not to express their doubts and lack of understanding (Boud 2001).

These students reported being uncertain of how to improve after having been given feedback, and also whether they are expected to do so. The timing of the feedback also seems important to the way they relate to it (Shute 2008), and to their experience of the feedback as reliable or not. An interesting finding is how students describe feedback from VET-teachers as fair and trustworthy when the teachers were present in the actual learning activity and observed the students' performances. This finding illuminates the importance of intersubjectivity in assessment (von, Wrigth, M. 2000). Intersubjectivity in assessment can be interpreted as a shared understanding and meaning in an assessment situation, and as a characteristic and sign of quality in the situation (von, Wrigth, M. 2000). When the VET-teachers participate and take part in the social interaction in learning activities, the feedback seems to be based on a mutual understanding between the students and the teachers. This situated assessment is both meaningful and valuable to the students, while VET-teachers' feedback based on students' descriptions in the portfolio seems to be less important and more difficult to relate to for the students.

According to the students' descriptions, dialogues about ongoing work at workplaces can be related to informal and incidental learning (Marsick and Watkins 1999) and informal assessment (Boud and Middleton 2003; Billett 2004; Kvale 2007). The feedback is related to situated work tasks and the immediacy in work processes (Shute 2008). However, it is not understood as assessment by the students, but rather as instruction and guidance. As perceived by the students, feedback and guidance are interpreted as learning, while grading and assessment activities aiming at grading are

defined as assessment. This analysis is visualized in Fig. 2 (Interpretations of students' learning experiences as assessment).

Learning Goals and Assessment Criteria

All students report uncertainty in several aspects with regards to criteria for assessment. They mention VET-teachers stressing goals specified in the curriculum as the basis for learning and assessment. The preparation for workplace learning involves setting personal learning goals for the work period, but the learning goals, which are derived from the VET- curricula, are not adjusted to the actual work tasks at different workplaces. Students' personal learning goals were specified in cooperation with VET-teachers before attending the workplaces, but these goals were not presented by the VET-teachers and discussed with the staff at workplaces before the placement periods. According to the students, their personal learning goals play an insignificant role as basis for feedback and assessment from the workplace instructors. Many instructors do not know that students have established learning goals for their workplace learning before the practice period. The students do not know of any routines for information and dialogue between school and workplace about the learning goals and the content of students' workplace learning. Some students are worried about this, as the following two report:

If the instructors have no insight into our learning goals, how can they guide us? When the instructors don't read the goals and know how we think, it's of no use at all!

Some students see vague criteria for assessment as risk factors for unfair assessment when it comes to grading. However, when students and workplace instructors discussed the actual learning goals and adjusted the goals in relation to work tasks, or adjusted work tasks in relation to the goals, the students perceived the learning and feedback as meaningful. One student reported:

The workplace leader sat down and talked with me. We went through the learning goals, and she asked me to explain and reflect on my learning.
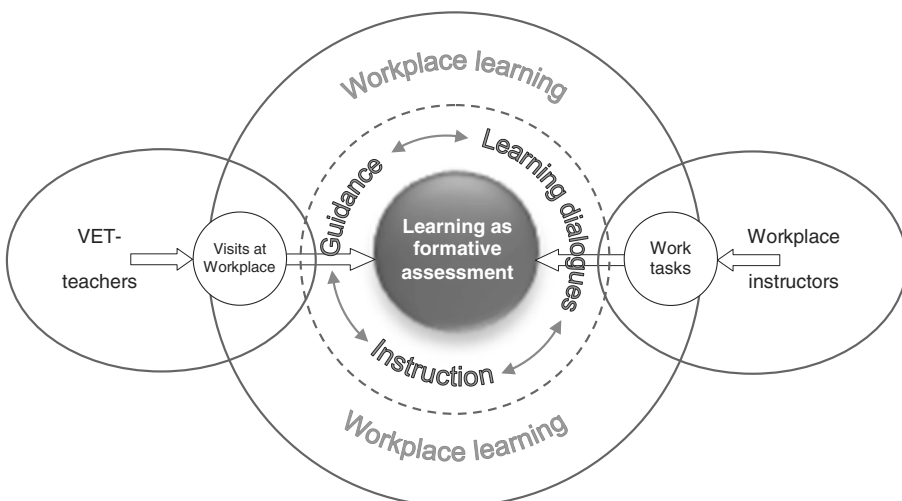

Fig. 2 Interpretations of students' learning experiences as assessment

A considerable part of feedback from workplace instructors is momentary and spontaneous and not clearly related to curricula aims. The feedback concerns vital issues at the workplace as well as students' behaviours, attitudes and ability to cooperate and communicate with colleagues and customers. The students refer to feedback on their personal skills and key competencies in a positive manner; it makes sense to them and is closely related to the work tasks with which they have been engaged. The feedback on personal skills is referred to as fair and reliable. One student reports:

I can identify with the feedback, it is about me. I trust the instructor because she has seen me and my work.

The informants also referred to oral or written reports from the workplace instructors to VET-teachers commenting on personal skills and key competencies, but the students do not connect these comments to goals in the VET-curricula. VET-teachers do not give feedback on key competencies, and it the students who distinguish between these different kinds of feedback.

Discussion - Learning Goals and Assessment Criteria

The students' descriptions show a clear understanding of the importance of cohesion between learning goals and learning activities, as well as learning goals as a basis for assessment criteria. Some students express annoyance with workplace instructors' lack of insight into students' expectations from learning in workplaces. The students in this study are conscious of the importance of learning goals, but this potential for learning and assessment seems not to be fully utilized by the workplaces. However, workplace instructors give feedback on crucial aspects of the students' vocational learning. They focus on key competencies, while feedback is situated in work tasks and embedded in the social practices at the workplaces (Lave and Wenger 2005). These findings can be interpreted in the perspective of workplace learning as task related and affected by the immediacy in problem-solving situations (Pachler et al. 2009; Black and Wiliam 2009; Ruiz-Primo 2011). The fact that workplace instructors emphasize key competencies in their instruction and guidance shows that those in workplaces regard them as crucial knowledge and skills.

The main challenge regarding assessment in workplace learning is that students are often find themselves conflicted between learning goals set in school on the one hand, and workplace goals embedded in work tasks and the daily activities at the workplaces, on the other. Instructors and students do not have a shared understanding of learning goals, and neither do VET-teachers and workplace instructors (Wiliam 2011). As perceived by the students there seems to be a lack of communication between VET-teachers and workplace instructors regarding students' learning goals and learning activities. The students are left in the middle, trying to bridge the gap between the VET-school discourse focusing on learning goals derived from the VET-curricula and workplace discourses focusing on the acquisition of skills through participation in work tasks (Schaap et al. 2012).

Participation in Workplace Activities

Learning experiences in workplaces differ according to students' peripheral participation, degree of autonomy and self -determination. When students report their position to

be that of an observer of work tasks executed by the workplace staff, they feel demotivated and alienated. The students refer to authentic work tasks and participation in daily life at workplaces as important learning experiences and a source for interest-development. The fact that they are welcomed and regarded as co-workers is important for interest-development and identification with the profession. One student claims:

If you have an instructor who wants you there and supports you, you're having a good practice.

The experiential learning and opportunities to participate in everyday activities also contribute to reduce uncertainty regarding the choice of further vocational education. However, if the students take on a passive position, it seems to be unproductive in acquiring experience that may contribute to making sensible decisions, which is the general aim of the Project.

The degree of participation and what kind of work tasks students have been engaged in depends on the instructors. Some students experience a balance between their own expectations of workplace learning and the instructor's expectations towards the students, and they describe the instructors as supportive and inclusive, as well as perceptive to the students' learning goals. However, several students experience instructors' demands as vague as well as unrealistic, and they refer to this as a discrepancy with regard to their own competence. When the demands are too simple, students describe work tasks as routine-work and tedious, while with unrealistic demands, they feel inadequate. Both too simple and too complex demands influence their self-efficacy and motivation for the vocational profession.

Discussion - Participation in Workplace Activities

Students' participation position as learners has an impact on how they experience assessment. Students' inclusion in communities of practice at workplaces, together with their desire to be included, can be motivating and create opportunities for experiential learning (Wenger 2006). The students' and workplace instructors' awareness of the learning potential in work tasks can be an important premise for dialogue at the workplace. If students are given a restricted participation position, they are prevented from benefitting from unplanned, spontaneous learning possibilities. All opportunities for learning cannot be predetermined and fully planned in advance, and such moments of contingency rely on opportunities to learn through participation in daily work tasks (Pachler et al. 2009; Ruiz-Primo 2011). The findings about the students' different types of participation in workplace learning also show how students' responsiveness to feedback influences the actual work tasks and students' self-efficacy (Pachler et al. 2009; Ruiz-Primo 2011).

Perceptions of Vocational Knowledge

When the students discussed assessment practice in workplaces in the Project, they related both purpose of assessment and assessment activities to the development of vocational knowledge. As previously mentioned, the students' experiences with assessment form their perception of vocational knowledge.

Everyday knowledge and vocational knowledge embedded in work tasks

In the focus group interviews the students discussed how to identify vocational knowledge at workplaces. Some students find it difficult to discover vocational knowledge embedded in work tasks at workplaces, and do not separate everyday knowledge from vocational knowledge. In one student's words:

There aren't many work tasks to do in a kindergarten, you just stay ther being with the kids, playing, and helping the staff in the kitchen and so on.

At the same time, some students are conscious of what they are supposed to do, and show autonomy and initiative.

I don't need anyone to tell me what to do all the time in a kindergarten, I can decide on my own what to do.

These independent students are confident with the practical work tasks, but they appear not to be conscious of the implicit vocational knowledge as well as the academic aspects of this knowledge. They describe the work tasks as simple and regard themselves to be capable and qualified for the work, with no need for any guidance. For instance, one student reports:

At school, we learn what skills and knowledge are required in the profession, but it is not so easy to recognize this at the workplace.

Some students find the instructors' guidance and feedback tiresome and superfluous. These students are uncertain and less motivated to commit themselves to a vocational career. However, some students are aware of the importance of key competencies like accuracy, communication skills, capacity to cooperate with colleagues as well as clients or customers in the vocational field. These findings indicate that the students do not have a distinct understanding of the various kinds of vocational knowledge embedded in daily work tasks.

Theoretical Knowledge and Practical Knowledge

The students often reported experiencing a gap between the classroom teaching of vocational knowledge in the In-depth Study Project and the practical knowledge they gain through workplace learning. The students draw a picture of 'school knowledge' and 'practical knowledge' as opposites to each other. They report that classroom teaching includes both theoretical knowledge in the VET subject areas, and practical tasks in vocational professions. At workplaces, these students reported being involved in practical work tasks and learn vocational skills in an authentic work environment, but without any link to vocational theory learnt in school. Many students find it challenging to relate learning in VET at school to workplace learning. Most of them describe the subject matter at school and at workplaces as different, meaning both the content of the learning and different learning contexts. This difference is accentuated in the VET-teachers' comments in the portfolios, where they encourage students to reflect on their learning in a theoretical perspective related to aims in the VET-curriculum. Workplace instructors tend not to relate their instruction and feedback on students' performance to academic and and educational institutional requirements. Instead, they refer to the practical necessity of the actual work tasks, at least according to the students.

However, several students reported finding they practice the key occupational competences such as communication, care, empathy and ethical considerations. They

describe these experiences as the most important qualifications for their future profession, and this is also emphasized by instructors at workplaces and VET-teachers in school.

We learn how to behave and communicate with different people, and we get a lot of experience with caring.

The students are aware of the importance of an authentic work environment for developing these qualifications, which is facilitated when they interact with other people and work together with colleagues.

Discussion – Perceptions of Knowledge in VET

The data suggest there is a thin, and for many students, invisible line between everyday knowledge and specialized vocational knowledge which influences the way they understand and respond to guidance and feedback at workplaces. This indicates a need for guidance in order to discover the vocational knowledge embedded in everyday activities at work places. Students may also need guidance to discover how and why specific knowledge and qualifications are required in vocational professions. How these students relate to the embedded vocational knowledge and perceive the guidance and feedback at work seems to depend on their responsiveness to feedback (Pachler et al. 2009; Ruiz-Primo 2011).

The students' perceptions of theoretical knowledge and practical knowledge as different kinds of knowledge seem related to the learning environment and the learning activities. Vocational knowledge at workplaces is embedded in work tasks and formed by work production and norms, while vocational knowledge in school is framed in educational structures (Eraut 2004). Classroom teaching is also a community of practice (Lindberg 2003), although the learning activities are characterized by the school context and not situated in an authentic learning environment as in workplaces. The students also sometimes find it difficult to relate different types of vocational knowledge in the different learning contexts to each other. This interpretation is underpinned by the students' understanding of assessment as summative in nature, while they do not perceive feedback at workplaces as assessment.

Students' perception and experiences with assessment in In-depth Study Project are visualized in Fig. 3:

Concluding Remarks

The study reported and discussed here revealed important findings regarding assessment in the subject In-depth Study Project. The initial research question focused on students' experiences with formative assessment in workplace learning in the Project. The data shows that the students' definitions of assessment were related to the summative purpose of assessment, and they describe the different assessment activities as basis for grading. However, their descriptions of their guidance and feedback at workplaces can be interpreted in such a way that they actually are exposed to formative assessment. Our findings show that VET-teachers' formal assessment suffers from ignoring the personal aspects of learning, and might contribute to making vocational knowledge abstract through de-situated assessment. It seems that the assessment system, in general, is designed for school-based learning, while workplace learning is characterized by instructional activities and informal assessment (Sluijsmans et al.
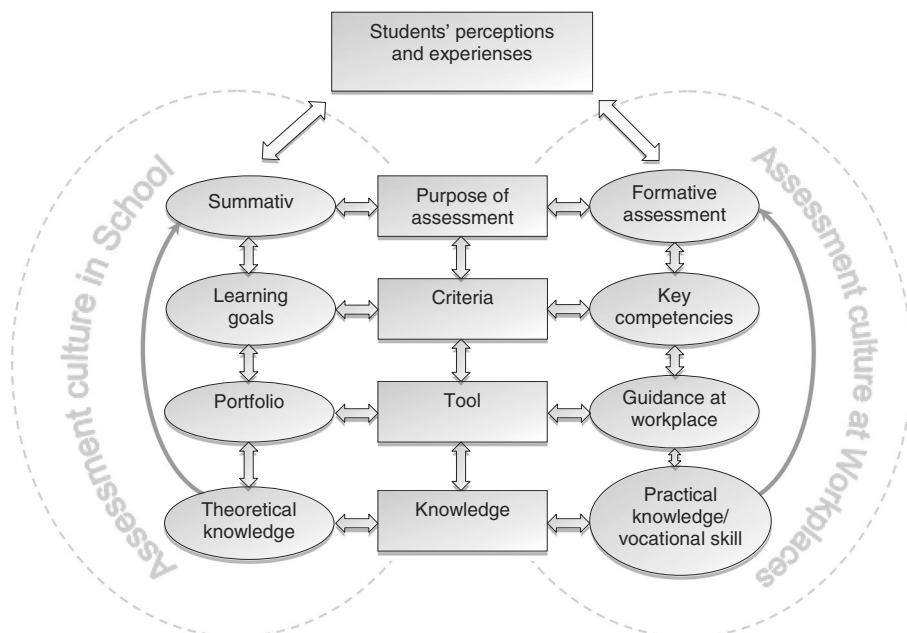
Fig. 3 Students' perceptions and experiences with assessment in in-depth study project

2008; Ruiz-Primo 2011). The participants in this study (students, VET-teachers and workplace instructors) lacked a shared understanding of learning goals and assessment criteria, and students are socialized into the school discourse when discussing learning goals as basis for assessment. On the other hand, the findings also show that when the students are given feedback in a specific learning context at the workplace by various assessors (VET-teachers or workplace instructors), it seems to have an impact on students' mastery experiences and learning processes. The crucial feature of such assessment events is the immediacy and shared understanding by participants, as well as the inter subjectivity embedded in the assessment dialogues.

Assessment in the Project seems to be an encounter between school discourse and workplace culture related to the purpose of assessment, assessment criteria, tools for assessing students' learning and performance, and perceptions of vocational knowledge (Fig. 3). Akkerman and Bakker (2012) argue that school and work can be defined as different practices with different aims, and students often experience discontinuity with regards to roles, perspectives and knowledge when moving from school to the workplace. The present study reveals such a discontinuity between school and the workplaces in the perceptions of assessment and how assessment is conducted (Fig. 3). A recent study of the implementation of the Project supports these findings (Nyen and Tønder 2012). A perspective for future research in this field might be the notion of boundary crossing, to overcome the socio-cultural differences between schools' assessment cultures and assessment cultures in workplaces (Akkerman and Bakker 2012; Schaap et al. 2012). Schools and workplaces are different learning environments and emphasize different aspects of vocational knowledge, which is reflected in assessment practices. To create continuity in assessment for the students both the schools and workplaces need to acknowledge and recognize the underlying assumptions in

assessment embedded in both learning environments, as well as different aspects of vocational knowledge. Identification of the particularities and different perceptions of learning and assessment as well as establishing a mutual dialogue between the participants are means to bridge the gap in assessment practices (Kvale 2007). Tanggaard (2007) argues that the different learning cultures offer different opportunities for acquiring vocational knowledge and are a matter of boundary crossing between different practices. In this perspective the notion of boundary crossing might contribute to bridge the gap between assessment cultures in school and assessment cultures at workplaces.

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