



Examination as knowledge development: A case study from vocational education and training

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Abstract

Post-graduate and further education can easily be overlooked as a contribution to collective knowledge and practice development in a field of practice. An overarching theme of this article is how the organisation of a post-graduate and further education initiative can influence collective knowledge in vocational education and training. This article aims to inquire about what teachers and school managers in vocational education and training experience with an examination format where the teachers conduct a university exam at their school, with their management as audience and potential participants. This case study is based on qualitative data from four focus group interviews with teachers and five focus group interviews with school managers at five vocational training schools. The teachers participated in the 'Vocational Teacher Training Initiative programme' (YFL) in Norway. 'The third space' is used as the overarching theoretical framework. Through a thematic content analysis, the findings were crystallised into three categories. 1) The examination format facilitated a proximity to practice. 2) Knowledge sharing appeared as concrete actions. 3) The examination format revealed new possibilities for co-creation with higher education. The result is that the examination format seemed to function as a bridge between conventional teaching practices in higher education and collective development in vocational education and training. Minor changes in the examination format appeared to open the door to what is termed 'a third space' between higher education and schools.

Keywords: the third space, examination format, vocational teacher training initiative, co-creation, proximity to practice, knowledge sharing



Introduction

The purpose of this article

The relation and cooperation between higher education institutions on the one hand and vocational education and training schools (VET schools) on the other, can be described as a challenging theory and practice-relationship. However, it could be possible to ensure productive approaches that might question our conception of the hierarchical structure of knowledge (with 'research' at the top) and thus the epistemological prerequisites for professional practice. This article aims to explore this by focusing on examination as a development link between higher education and VET schools and to highlight how changes in an exam form might transform the meeting between examiners and examined from assessment of learning to assessment as learning on an organisational level. In short, we are asking if minor changes in exam form might influence collective knowledge development in vocational education and training. The research question is: What experiences do VET teachers and school managers have with an examination form where the school managers observed and potentially took part in the exam setting of their VET teachers?

The case in question was an educational initiative where VET teachers from five VET schools participated as in-service teachers in an educational programme provided by a university college. The teachers were 'students' in the programme but are systematically referred to as 'VET teachers' in this text. The exam form invited school managers to observe and participate in the examination process where they experienced their staff members in new roles. It was not planned as such, but in a sense, 'examination' became a sort of 'intervention.'

A focal point is that the assessment situation – the exam – is a key element in the relationship between higher education and vocational education and training. Lejonberg et al. (2017) describe a model implying a dialogical relationship which makes it relevant to talk about a third space between higher education and vocational education and training (Daza et al., 2021, p. 2).

'Examination' is a type of assessment. The actual form employed might have been inspired by Raaheim (2019, p. 21) who describes three types of assessments: Assessment of learning, also named summative, assessment for learning, also named formative, and assessment as learning. Raaheim notes that the latter also is named 'sustainable assessment', or 'student-participated assessment', which is of particular interest to us. Raaheim's point is that conventional exam forms in higher education tend to be summative, not formative, or sustainable (Raaheim, 2019, p. 121).

The distinction between individual development and organisational development (French & Bell, 1999) is potentially broken down through this exam form. If so, higher education might, through the notion of the third space, have an easy,

but little-travelled path to organisational change in vocational education and training.

The structure of this article

In this introduction, we describe the context of the study before the research methodology of a qualitative case study with data from VET teachers and management teams is presented. After this, the concept of 'a third space' is presented as a theoretical concept, linking other theoretical approaches employed in the analysis, particularly 'knowledge development'. The result section focuses on the empirical answers and the findings are organised into three empirically founded categories: *proximity to practice*, *knowledge sharing*, and *co-creation*. Under each category, we present data from the VET teachers, and then data from the management groups in each of the five schools. In the discussion section, our findings are elaborated on and analysed through the lenses of the theoretical concepts we introduce before concluding with a summary of the study considering some implications the experiences might have for practical leadership and development in VET schools.

The context of the study

In 2015, the Norwegian government launched a new vocational education and training strategy. 'The Programme for Professional Development in Vocational Education and Training' (YFL) was a national, political initiative to raise the competence of vocational teachers through continuing education ('Yrkesfaglærerløftet - for fremtidens fagarbeidere,' Kunnskapsdepartementet, 2015). The intention was in general to improve professional quality, strengthen education, and prevent drop-offs in vocational education and training. The initiative was based on an understanding that workplace-based competence development had greater potential for school development than continuing education courses for individuals (Hargreaves et al., 2018; Helstad & Møller, 2013; Vangrieken & Kyndt, 2020). Sharing knowledge and skills development in the schools as learning communities were then key components of YFL. Individual learning should contribute to 'knowledge sharing and organisational development at the individual school level' (Utdanningsdirektoratet, 2016, p. 3). The continuing education programmes were to be developed and implemented in cooperation between higher education and the county councils (school owners responsible for the schools).

At the start of YFL, The Norwegian Directorate for Education and Training (Udir) stipulated that there should be at least three VET teachers from the same school in the same education programme and that compulsory work requirements should contribute to knowledge sharing among the staff (Udir, 2016). The Norwegian Directorate for Education and Training financed the

courses that were delivered by universities and university colleges but under agreements with the county councils as school owners. This gave the initiative a regional dimension.

Our institution, Western Norway University of Applied Sciences, delivered several continuing courses (15 ECTS) as part of the initiative. Among the learning activities developed and implemented in these courses was a type of testing in the VET teacher's practical setting. The university college arranged the exams as oral group examinations at the VET teacher's school, with their colleagues and the school management as spectators and potential participants in the exam situation. The overall aim was that it should be a reflective and learning meeting between everyone involved. The VET teachers were tasked with creating a research question related to an optional topic within the content of the course. Based on that question, they were supposed to share practice experiences and discuss these with relevant theory in mind. In addition, the VET teachers should present their thoughts on how the new knowledge could be used and further developed at their workplace. The exams in question were divided into three parts. First, the VET teachers had their presentation and everyone in the group had to participate actively. Then there was an academic conversation between examiners and VET teachers based on the presentation. In the final part, the examiners invited colleagues and school management to provide questions and comments.

Research methodology

Design and informants

The article is partly based on a larger study focusing on the specific educational initiative described in the context section (Sekkingstad & Glosvik, 2022). We define what is addressed in this article as a case study and the exam and examination format as the phenomenon in question (Flyvbjerg, 2006). Case studies are commonly used in various fields to provide an in-depth exploration of real-life situations, and it was decided to use this approach as we noted early on that the qualitative material on the question of the exam had an unusually positive tone from the informant side. We interpreted this according to Morgan (2019), who notes that a case might exemplify certain features of the social world in ways which prove valuable for further analysis, either of the same case or in many domains beyond the original study.

If a case is unique, it is not relevant to generalise from it (Grønmo, 2016). This is not so in this case study, as both the content and context are relevant for higher education, vocational education and training, and policymakers. Hence, we define it as a strategic case. Following Grønmo (2016) on this point, theoretical

generalisation is relevant to us. Therefore, we actively employ the chosen theoretical perspectives and terms as we discuss the results and draw conclusions.

Through focus group interviews, we wanted to elicit diverse experiences (Brinkmann & Tanggaard, 2020). Four groups with a total of 17 'students' (that is vocational teachers) and five groups with a total of 22 school managers from five upper secondary schools in Vestland County in Norway are included. The vocational teachers had as mentioned in the context section been taking part in 'The Programme for Professional Development in Vocational Education and Training.' We asked the principal of each school to recruit participants from his management team.

The main theme of the interview with all informants was their experiences with the examination form. In the interview with the school managers, we also asked how they could develop the VET teacher's contacts with the university college as a resource for the school's competence development in general. In both groups, we wanted to highlight strengths and challenges of the examination format. A flexible interview guide and agenda made it possible for the participants to influence the order and emphasis of topics, and we had the opportunity to ask follow-up questions (Thagaard, 2018). Author Dorteia Sekkingstad together with colleague Ingrid Syse conducted the interviews in the spring of 2018. The interviews with the VET teacher's focus groups lasted between 15 and 23 minutes, and the focus group interviews with the school managers lasted between 25 and 60 minutes. Audio recordings were made and the interviews were transcribed.

Analysis of the data material

We have conducted a thematic content analysis (Thagaard, 2018, p. 171). Through a hermeneutic approach, we have condensed and interpreted the material based on which meaning elements recur and which stand out. The analysis was divided into two phases. The first was characterised by an inductive approach where we systematised the material in an open coding phase. The three categories, *proximity to practice*, *knowledge sharing*, and *co-creation* grew from the empirical material. In the second phase, an abductive approach was employed as we used the notion of a third space to interact with the empirical categories (Postholm & Jacobsen, 2018).

Ethical and methodological assessments

The study was approved by the Norwegian Centre for Research Data (NSD) (reference 58144). We have been conscious and reflective about our roles as researchers, as one of the authors, Dorteia Sekkingstad, had a dual role as both a researcher and a teacher in the educational programme in question. One key

point is the advantages and disadvantages of conducting research in our field related to the issues of proximity and distance (Wadel, 2014, p. 225). A strength associated with proximity to the research field is knowledge and experience with the studied phenomenon. This can contribute to trust and effective communication in the interview situation, which can provide richer data. However, closeness to the field can also blind us, so that we do not ask questions or keep the necessary critical distance since we are studying ourselves. Hence, the dual role of teacher and researcher can contribute to reinforcing the asymmetrical relationship between the researcher and the participants. This may have caused participants to hesitate in providing critical input. We reflected upon this throughout the research process, and it has also been a topic in meta-communication with the informants. Our impression is that they were open and honest in their statements.

It is a strength that author Øyvind Glosvik did not take part in the teaching, examination, or interviews with the VET teachers. To ensure validity, both authors analysed the data and discussed the findings. During the analysis, we negotiated coding and categorisation in what Denzin (1989) refers to as 'interpretive interactionism'. Multiple interpretations provided a nuanced analysis process through intersubjective agreement. Through productive collaboration, we have created space for corrections and development of the analysis (Eggebo, 2020, p. 120). Such collegial validation can serve as a counter-balance to any blind spots and preconceptions. A strategic choice of theoretical framework has also contributed to a critical distance in analysis and discussion.

A third space as a conceptual approach

A conventional understanding of learning is associated with the individual as the fundamental unit of learning. However, the focus has shifted to social aspects of the learning processes. This has been called both the 'social learning theory' (Wenger, 1998) and the 'turn of practice' (Caspersen et al., 2017). The works of the Russian psychologist Vygotsky, through the concept of the zone of proximal development (ZPD), have had a profound influence on pedagogy and teacher training (Vygotsky et al., 1978). The framework for learning is perceived as just as important as the individual's benefit. The idea of 'the third room' or 'space' can be understood considering this shift.

Examination in the third space?

The term originates partly from Bhabha (1994) who argued that encounters with diverse cultures influence and shape our identities. The cultural geographer Soja (2010) speaks of 'home' as the first space and 'workplace' as the second (school, university). The third space becomes the meeting between these, or hybrid spaces

created by the interaction between the first and second. In the light of our context, learning is about the interaction between everyday knowledge in VET schools and academic knowledge represented by higher education institutions.

Different authors use the term 'third space' in slightly diverse ways, but not mutually exclusive. Gutierrez et al. (1995) and Gutierrez (2008) use it to describe processes in classrooms, where both teachers and students challenge hegemonic social processes through dialogical approaches not belonging to either home or school. Zeichner (2012) uses the term as a metaphor for the encounter between schools, higher education, and local communities. In this perspective, the third space might challenge our conception of the hierarchical structure of knowledge.

Three models for interaction between higher education and schools?

Teacher education programmes have been criticised for lacking relevance for practical teacher work (Lejonberg et al., 2017). An increased element of practice is a solution to this, and Lejonberg et al. (2017) argue for closer cooperation between teacher education programmes and practice schools. These authors present three models which are supposed to shed light on the relationship between teacher education and practice schools. According to Lejonberg et al. (2017), only one of them will function well as a framework for the development and improvement of practice.

The reflections on the three models can also shed light on the relationship between higher education and vocational education and training. The first model describes a conventional relationship between higher education and practice schools. The main premise of such an organisation (Lejonberg et al., 2017 pp. 70–71) is that the higher education institution has the formal responsibility and is the driving party in an asymmetrical relationship between the university college and the other party. The opposite is true in the second model, where the school or the authority in charge of the school requests teaching or competence development from one or more higher education institutions. This is also an asymmetric model, where the field of practice has greater influence over the relationship. Schools or school authorities define the need for knowledge to be provided by the higher education institution. The third model is based on a balance between higher education and practice schools. This so-called partnership model emphasises dialogue and shared interest in the implementation of the student's practice. The authors discuss how the renewal expected with this model must – for it to be successful – entail commitment and willingness to change on the part of both teacher training institutions and practice schools. However, if such change takes place among and between the partners, we need a working definition of knowledge development.

Knowledge development in the third space?

Nonaka (1994), referring to Polanyi (1983), splits the concept of knowledge into explicit and tacit. Explicit knowledge can be articulated, written, and stored, while tacit knowledge refers to subjective experiences, values, beliefs, and emotions more demanding to articulate. In a summative approach to examination, explicit knowledge would be in focus, while changes in tacit knowledge could be central in assessment as learning. However, Nonaka (1994) and Nonaka and Takeuchi (1996) write that in organisations, explicit and tacit knowledge are not separated but interact together in social relationships. The authors describe four modes of interaction or knowledge conversions in the SECI model: Through 'socialisation', an individual or a group transfers tacit knowledge to another individual. An often-used example is learning to master a craft or a technique by imitating an expert. Assessment for learning might be the form of examination associated with this type of knowledge transfer. Through 'internalisation,' the individual learns formal or codified (explicit) knowledge. We could associate this knowledge process with the assessment of learning. 'Combination' is a learning process where an individual, group, or organisation is linking explicit and implicit knowledge. In our context, we can understand both this process and 'externalisation,' or the making of implicit knowledge into explicit knowledge, in terms of assessment *as* learning.

When describing knowledge conversions Nonaka uses the Japanese word 'Ba' (Nonaka & Konno, 1998). A 'Ba' is a meaningful context, a shared space that serves as a foundation, a platform or a basis for knowledge creation and conversion through relationships. Spaces such as this can, according to Nonaka and Konno (1998), be physical, mental, or any combination of them. Nonaka (1994) and Nonaka and Konno (1998) describe four types of 'Ba' that correspond to the four stages of the SECI model, and each of them supports a particular conversion process or the processes of knowledge creation.

There might however be an overlap between the concept of 'a third space' and 'Ba' that is central for us. Daza et al. (2021, p. 2) proposed to use the term 'third space' to theorise about tensions and relationships between participants who, through meaningful interaction, enrich each other's experiences. This could follow the notion of 'Ba.' Specifically of interest is that Daza et al. (2021) point out how, through partnerships between higher education and schools, one can both better understand, but also develop and improve practice in schools. This is the understanding employed in this article, as we ask if examination could contribute to knowledge development. Daza et al. (2021) also said that all texts in their meta-study conceptualised – yet to varying degrees – the third space as a construct in which identities are in constant negotiation and where epistemologies converge. This is also our starting point when we ask if and how a change in examination form changes the epistemological and organisational processes in VET schools.

Daza et al. (2021, p. 12) analysed how thirty-six studies conceptualised and applied the idea of 'the third space' as a concept and model for professional practice in higher education from 2010 to 2019. The potential of the third space to support a less hierarchical structure in the relationship between schools and higher education was evident in all included studies. Both tensions and sustainability were described and discussed. 'Third spaces' however appeared utopian, as they are not merely organisational constructs, but seek to combine academic and experiential learning and various epistemologies for mutual professional development. In other words, they are challenging established structures and epistemologies and therefore cannot be taken for granted. The third space was a continuous process, not a goal to be achieved. Or we might ask: a potential context, a 'Ba'?

Results

We aim to explore examination as a development link between higher education and VET schools and to highlight how changes in an exam format might transform the meeting between examiners and examined from assessment of learning to assessment as learning on an organisational level. The research question is: What experiences do VET teachers and school managers have with an examination format where the school managers saw and potentially participated in the exam setting of their VET teachers? The answers are presented through three main categories and under each category empirical data is first presented from the VET teachers, then from the management groups. The categories are not mutually exclusive, as shown by the subsequent analysis and discussion. The focus groups comprising teachers have been assigned the names T1, T2, T3, and T4. The focus group comprising school managers have been named M1, M2, M3, M4, and M5.

Proximity to practice

The VET teachers found it meaningful to participate in an education programme where they were able to take challenges in their practice as their point of departure, and where the exam provided an opportunity to reflect on how they had developed and could further develop their practice through various measures.

A deeper understanding of the justification of practice

The importance of analysing one's practice with relevant theory from the syllabus was emphasised, and the exam created motivation to read theory: 'The more you read [...] the more it creates a curiosity,' said T1. The examination form required reading, writing, and reflecting jointly on relevant issues from practice.

Through the exam preparation, they felt they were in a learning process. The VET teachers found that they developed a deeper understanding of the theoretical justification for their practice: 'We had to know the subject matter,' told T1. In comparison, VET teachers pointed out that through written 'home exams' one usually just 'pastes the subject matter,' as T2 coined it. Oral exams in groups meant that 'you get to say much more' and 'you get the opportunity to share experiences you have gained through the programme,' T2 continued. Some say it this way: 'You can kind of colour it in a different way when you have an oral exam' (T1). In this way, the examination form provides opportunities for putting words to one's own experiences, rather than the reproduction of knowledge.

Management notes a professional boost among the VET teachers

The managers were in general not much involved in the teacher's assignments as students but met them through the exam. Based on this, they emphasised that the continuing education and examinations were a professional boost for the VET teachers: 'They have reflected, they have worked on issues they are concerned with' (M2), and this helped the teachers develop their practice. The managers emphasised the content of the VET teachers' presentations: 'It was exciting to listen to. I like the exam form' (M1). M2 elaborated on this as follows: 'It is topical. The [college teachers] use the latest relevant knowledge,' (M2). The managers noted the close connection between the content of the presentations related to focus areas and development plans at their schools.

Knowledge sharing

The VET teachers talked about positive experiences of sharing knowledge in the examination group and with colleagues and managers during the exam: 'Then you may become more confident in expressing your own opinions [...] one dares to expose oneself more, after such a setting' (T3). This helps to build confidence in one's competence: 'Being able to trust one's thoughts, even if one receives feedback that another person looks at things a little differently' (T3). In addition, listening to others offers the opportunity to 'learn from others' (T3). The VET teachers feel that they have 'become better at communicating with colleagues [...] and achieve a good dialogue and good cooperation,' according to T2.

'... a little scary ... a little proud!'

Some expressed that they had been entirely positive about presenting the exam to colleagues and management at their school, while others had found it both frightening and positive: 'It was a little scary in front of colleagues, but I feel a little proud, to be allowed to stand here and show that I have done something [...]. When it comes to the result, I feel pride', as T4 told. Several mention that it felt safe to sit the exam in a group: 'You know that you have the others with you.'

You have advisors around you' (T4). Having a good colleague with you can also be important: 'I knew she was going to see me. So, it can also be a safety factor' (T4).

The VET teachers perceived positive feedback from the examiners during the exam as constructive: 'I was never a bright light at school myself, and now we got feedback on a good setup and good language' (T3). They perceived sharing knowledge and experiences with colleagues as educational. One of the VET teachers illustrated this by referring to the learning pyramid: 'What is at the top is teaching others. Then you learn more yourself' (T1).

'He did not know that he has such good employees'

Experiences with knowledge sharing through exams motivated working on the development of practice: 'I think the threshold is lower now for [...] video filming our teaching, to see what we look like in teaching contexts' (T3).

Sharing theoretical knowledge with colleagues was a new experience: 'I see it as a good sharing arena [...] and where to have a dialogue about this' (T2). But the management needed to be involved in the exam: 'Great that the principal was present' (T3), and 'that we get to show our research to the management' (T2). Through the exam, the management can also experience what competence the VET teachers acquired through the programme: 'He [the principal] was a little surprised. He did not know that he had such good employees,' T1 said.

When the VET teachers refer to the exam as an arena for knowledge sharing, they however make it clear that the exam 'is just the start of knowledge sharing' (T1). If it is to be systematised in the workplace, the management must facilitate further knowledge sharing.

The importance of being present

The managers also perceived the exams as good arenas for knowledge sharing: 'The examination form makes it possible to share in a different way than through a written exam [...] Then it was quite private [...], but with this form, things get shared in a way you have not seen before' (M3). They emphasise that knowledge sharing across disciplines and departments can inspire: 'When the VET teachers present different ways of working, there are members of the staff who find it exciting' (M4). Informants also pointed out that a culture of sharing across subjects is important for teachers to be able to do a decent job: 'This is particularly important now because the teachers are not as interdisciplinary as they used to be' (M2). The managers also use the word 'learning arena' when they argue that more staff members should have been present and involved (M3).

All managers present during examinations emphasised the importance of being there and that department heads also should take part. The county council should have demanded all management to be present during the exam because:

'It took a while before I understood this form of teaching [...], we could have received better information from the county council [...] we should have been made aware of how important it was that the management team was involved and that we should bring the [other] teachers with us' (M4).

The managers saw that the examination form could structure development work: 'We have always been conscious of competence development among the teachers [through courses], but I was not aware of this exam situation, that we could start already with this' (M4). Once the managers had gained experience with the examination format they would see things differently. 'I can easily address it [...] So that all the department heads can use the teachers [i.e., in more structured ways]', said M4.

Experiencing a culture of sharing

The managers agree that the exam gives the staff 'experiences with a culture of sharing' (M5) and that the exam can serve as a starting point for the development of knowledge sharing at the workplace. But this needs to be worked on: 'How we could formally incorporate this into our structure when we have meetings, departmental meetings, work on development, etcetera. [...] We have talked a lot about developing this in the future' (M3).

Collaboration and co-creation

All informants describe cooperation in the exam groups as valuable, and the exam presentation is a result of the collaboration: 'We all provide input' (T4). Knowledge sharing and competence development take place through interaction: 'You receive direct feedback that makes you think new thoughts' (T1). It is especially valuable to collaborate across disciplines and departments. The VET teachers gain access to new professional perspectives and 'see that it is okay to cooperate' (T1). Staff members create new relationships and lower the threshold for cooperation. In their collaboration, VET teachers are keen to share experiences about what works: 'It can quickly become a negative focus on certain pupils, so we have to try to twist it', said T3 and went on to say that through this collaboration one had started communicating better with others, and that it 'has given us a different view, and I think it will probably be transferred to colleagues [...] things don't happen in a snap, but over time such things will probably affect the culture, perhaps' (T3).

'Reduce the number of balls in the air'

About the interaction between them and colleagues and management during the exam, T1 says: 'I thought it exciting to listen to the questions from the audience. How they thought, and how they perceived our presentations. And then there were things you may not have focused on yourself. This was a lot of fun'. The

informants experienced a cheerful outlook from the management present during the exam. 'I think that we can bring something back to the school and that it gives management perspectives that things can be done differently' (T1). The VET teachers seemed to have acquired new knowledge that may be important for the school's focus areas. They see the importance of using the school's development plan actively: 'We should have had the development plan as a fixed point at all the collaborative meetings [...]. For reflection and for the way forward, not just as a vision left in a drawer. I would have done that if I were the principal' (T2). The development plan can form the basis for fewer goals: 'I think we could have focused on things such as teacher conversations, and just focused on exactly that,' said T2. The school must not have too many areas of focus: 'I would have had fewer things we should be working on because I feel like the school has too many balls in the air. Reduce the number of balls,' as T4 formulated it. The focus areas should be relevant 'and something we want to work on [...] Maybe the management doesn't have any insight into this?' (T4).

Examiners as dialogue partners

The VET teachers referred to the examiners as dialogue partners during the exam with a two-way communication about a common topic, which helped them to present what they had worked on: 'what we are concerned with and what we have learned' (T3). One of them suggested that cooperation between VET teachers and the university college (examiners) should continue after the exam: 'After four months, you can come back to us and ask: [...] Have you used any of this? An after-check,' said T4 and laughed. The university college can have an important function by following up the dialogue with both VET teachers and management teams the following year, as a resource in a collaborative learning community.

The VET teachers perceived the comments from the examiners as appreciative. Some of the VET teachers referred to themselves as the 'industry boys' (i.e., blue-collar workers) and said they could feel inferior when comparing themselves to colleagues who talked about taking a master's degree or had other plans for career paths. In this context, it was a special experience to receive appreciative comments from the examiner: 'Then we got such good feedback from the examiners' (T3). It showed something to the colleagues. In a written exam with a focus on summative assessment, on the other hand, the target group for the presentation will only be the examiner: 'It will not be a collaboration' said T1.

However, oral exams in groups also present challenges: 'It requires quite a lot of work [...] Not much time has been allocated for collaboration' (T1). It is time-consuming to collaborate, and it can be challenging to find common time in a busy school day. Therefore, the VET teachers recommend no more than three to four participants in each group. In the groups, it can also be a challenge to decide

what to focus on in the presentation: 'I felt that I cut through [...] even though there were a lot of good points,' T3 told us.

The VET teachers highlighted several reflections when asked how many colleagues should be present during the examination. One advantage of having the entire staff present is that the school could develop a culture of sharing throughout the organisation. One disadvantage might be that it then becomes difficult to set up good dialogues between VET teachers and colleagues during the exam. The conclusion seems to be that the group of colleagues attending should not be too large.

One remark highlighted by the managers was the value of the discussions during the exam between those present. An example is the development and use of interactive logs:

It was special to hear about the projects of those responsible for the placement of pupils in companies in vocational specialisation. How communication between teacher, company and VET teacher has improved. And then there was a discussion in the audience about what was positive, negative, and challenging. (M3)

It seems as if the school managers found it particularly valuable to hear examples of practice development, which led to comments and questions between the audience, and between the audience and the VET teachers.

More work-place based competence development

The management groups mention the diverse cultures at their workplace and that it could be important to get external input from the university college in development processes at the school: cooperation and help to initiate collegial mentoring were mentioned by M5 as examples. The managers also envisage the school as a research arena, through action research towards school development and involving those who have taken further education: 'Staff from the [university college] can supervise,' said M5. However, the collaboration can also include schools contributing their ability to the university colleges. It was emphasised that the VET schools had valuable expertise that could benefit the colleges. The cooperation had to go both ways.

The main findings in short

This form of examination facilitates proximity to practice in the sense that the VET teachers give an account of their own experiences and thoughts, rather than reproducing external knowledge. VET teachers nevertheless perceived the examination format as labour-intensive. It exposed school managers directly to relevant knowledge through their employees' reflections. This not only offers greater insight into knowledge and knowledge acquisition but also insight into the employees' practices as reflecting teachers.

It also appears that this way of presenting knowledge in one's professional community promotes the VET teacher's individual academic and professional self-confidence, which then also probably promotes a sharing culture. There is reason to believe that this is visible for managers, and it is conceivable that it highlights aspects of a knowledge management role not normally emphasised. We might interpret this as knowledge-sharing and that knowledge-sharing culture appears as concrete actions and not just abstract visions.

In the context of co-creation between higher education and VET schools, it seems as if VET teachers interpret interaction with higher education not only as 'education' but also as professional development. For managers, this could mean that new arenas for knowledge development across departments are appearing. Managers are asking for closer cooperation between the field of practice and the university college through development projects. We will discuss these findings further in the next section.

Discussion

Given the introduced theoretical approaches, how can we interpret the VET teachers' and school managers' experiences?

Proximity to practice reveals relevance for learning

With the SECI model (Nonaka, 1994) in mind, we could ask if the examination form converts tacit knowledge from the teacher into new explicit knowledge in the form of a formal pedagogical frame and language. If so, we are witnessing an externalisation process where the teachers can use dialogue to formulate local images, metaphors, and local contexts. Gheradi (2000) discusses whether such processes can only succeed if tacit knowledge is disembedded through a reflection-on-action process. One could question if the examination format with participants from the university college creates a distance that makes this possible.

Nonaka et al. (2006) also call this knowledge creation process 'crystallisation', where knowledge is 'sophisticated' or 'synthesised' into relevant images, models, or mental maps for the organisation. When knowledge is accessible to the organisation in this sense, it is no longer tacit, but explicit. It is then possible to couple it with other kinds of explicit knowledge accessible in, or for, the organisation. The SECI model is naming this combination, and as organisational members are part of the examination as an externalisation process it is likely that this also facilitates knowledge conversion. One could ask if the managerial levels of the VET schools now see that new strategies, tactics, and operational modes are becoming available.

Knowledge sharing in a professional community

The study programme in question represents several layers for potential learning, or rather it is an arena where several learning situations occur. The first is the subject courses, which assemble all the VET teachers. The second one is the individual VET teacher's reflection. A third is the relationships among participants from several VET schools, the fourth is the local group from each school, and a fifth is the potential link between the actual study activities and the VET teachers' daily work. A sixth is the collective school level through the examination. In all these potential situations knowledge sharing might take place. We will, however, note their professional nature and hence the role of identity forming.

As mentioned in the introduction, the term 'a third room' originates partly from Bhabha (1994). This author argues that encounters with cultures shape and influence identities. It is known that teachers in VET schools live with the tension between an identity as skilled artisans and as teachers (Dalton & Smith, 2004; Mårtensson et al., 2019). The data we have analysed here on examination suggest that the latter identity is promoted.

Another side of this is that individual learning processes in daily working life, are in general invisible to colleagues. This examination form, however, creates situations where individuals can show mastery of new knowledge. This can, of course, strike both ways, but as we have pointed out, learning and mastery in this arena become something concrete and linked to both individuals and organisations. Since this is a group exam, the collective voice of the team in question will, as some of our data seems to suggest, dominate over critical voices among staff members.

Through the examination form, these learning processes have somehow become public, and they show both how colleagues acquire new knowledge and how new knowledge can be relevant to their organisation. We do not have much data on this, but it is possible to ask if these exam teams also exemplify how a VET school can become a learning organisation, more than a knowing organisation, to use such a phrase.

Co-creation for knowledge development

We found the category of co-creation in two senses in this study. The first is that the examination form promoted a discourse challenging existing interaction between internal disciplines and departments. This could be a stepping stone towards organisational learning or organisational development, but as mentioned above, depending on both local management practices and a functioning development plan. The second finding in this category was related to the context of co-creation between higher education and the VET schools. The VET teachers interpreted interaction with higher education not only as

‘education’ but also as professional interaction. This challenges existing, internal relationships as new arenas for knowledge development and sharing across disciplines, departments and higher education were emerging. Some managers observed this and asked for closer cooperation between their schools as a field of practice and the university college through new development projects. We could hence ask if the examination form opened a door to ‘the third space’.

In other publications from the same data set as the present one, Sekkingstad and Glosvik (2022) observed three leadership practices among the five included management teams: One of the practices seemed to view the individual teacher as the learning unit. This represents a conventional concept of learning. The other two, however, highlighted the social and organisational aspects of the learning processes and this observation as such represents a turn towards ‘social learning theory’ (Wenger, 1998) and the ‘turn of practice’ (Caspersen et al., 2017). From such perspectives, the framework for learning is just as important as the individual’s benefit, and since the framework in this study is comprised of the higher education institution, the idea of a third space became relevant. As mentioned, Soja (2010) spoke of ‘home’ as the first space and ‘workplace’ as the second (school, university). The third space becomes the meeting between these two, or hybrid spaces, as created by the interaction. In our context interaction between everyday knowledge in VET schools and academic knowledge represented by the higher education institution is in focus. We have answered that this new form of examination could bridge the gap between teaching initiatives with a focus on summative assessment and collective development in vocational education and training. We are inclined to assert examination as a development link between higher education and VET schools. As we have concluded, changes in examination format influenced collective knowledge development and indeed opened the door to the third space in these schools!

However, the Norwegian Directorate for Education and Training quickly closed it again. A basic premise in ‘The Programme for Professional Development in Vocational Education and Training’ had been the understanding that workplace-based competence development had greater potential for school development than continuing education courses for individual VET teachers. As said in the introduction, individual learning should contribute to ‘knowledge sharing and organisational development in each school’ (Udir, 2016, p. 3), and it was the Norwegian Directorate for Education and Training that stipulated there should be at least three VET teachers from the same school in the same continuing education course. The logistical challenges this created for the VET schools combined with limited academic offers from the colleges meant, however, that not all teachers could participate in courses that interested them.

Because of this, the Directorate changed the basic premise of the Programme for Professional Development in Vocational Education and Training. After 2019

anyone interested in participating in continuing education in YFL could apply for all courses. As mentioned in the Context section, the courses through agreements with the school authorities had at the start a regional dimension, but an unintentional consequence of the change made them now national. This increased the number of VET teachers in each course, but it was much more difficult to organise them with close ties between colleges and schools. It also became impossible for Western Norway University of Applied Sciences to be present for the exam at each school. The college made attempts to safeguard the intentions through simpler schemes, yet the door to the third room was no longer open. At best, it is now ajar.

Some theoretical reflections

Daza et al. (2021, p. 12) concluded that the concept of a 'third space' appeared utopian. Our conclusion follows Daza et al. (2021) on this point: The third space is a continuous process, not a goal to be achieved. What we observed seems to be a development of productive and sensible ways of cooperation between higher education and VET schools. The examination format combined academic and experiential learning and various epistemologies for mutual professional development. Without the theoretical lens of a 'third space' it would however have been difficult to observe and analyse this interaction.

It has also been useful to complement the term with Nonaka's 'Ba' since this approach emphasises multiple - and competing - contexts for knowledge creation and knowledge sharing within and between organisations. Nonaka (1994) mentions four basic contexts: *originating* Ba is the space where organisational members share feelings, emotions, experiences, and mental models. It corresponds to 'socialisation,' or transference of tacit knowledge from an individual or a group to another individual. As indicated in the introduction, assessment *for* learning might be the form of examination associated with this type of knowledge transfer, but it is not what we have observed in this study. Neither seemed *exercising* Ba to be relevant this context supports learning for the individual, as it is the category for conversion of explicit to tacit knowledge. As noted in the introduction, we could label assessment *of* learning as the type of examination associated with this process, and classroom teaching could be aligned with this Ba.

In contrast, 'the third space' seems to correspond well with a combination of *interacting* Ba and *cyber* Ba. In the first of these, there is an externalisation of individual knowledge, and in the second, the possibilities of linking (combining) this knowledge with other, externally formulated knowledge. We observed both of these processes in this study and understand the examination format as an assessment *as* learning. It also aligns with the notion of organisational learning.

Conclusion

The research question in this article concerns an examination format where the school managers observed and potentially took part in the exam sitting of their VET teachers. It seems as if this examination format allows VET teachers to share personal experiences and reflections rather than repeating external knowledge. Despite being beneficial, teachers find it labour-intensive. It helps school managers gain relevant insights from their employees' reflections, enhancing knowledge and understanding of teaching practices. This approach boosts teachers' confidence. Enhanced knowledge-sharing culture is highlighted, promoting concrete actions over abstract visions. Interaction with higher education fosters professional growth for VET teachers and opens new avenues for knowledge development across departments, prompting closer collaboration between practice fields and universities through development projects.

It was possible to build a development link between higher education and VET schools. Minor changes in the type of exam seemed to influence collective knowledge development in vocational education and training. The examination form opened the door to a third space, even if it was quickly closed again.

This raises several important questions. One is how managers in this type of school can exercise knowledge management. In other contexts, Sekkingstad and Glosvik (2022) have discussed some other findings from the same data material. They found that the practice of 'Daily operations' was the dominant form of knowledge management. However, there were fragments and traces of another practice where the focus was more on 'Systems and plans,' rather than everyday survival. A third practice Sekkingstad and Glosvik (2022) named 'systemic'. This is more concerned with learning for the future than knowledge needed today. The main finding was that the first management practice placed the individual teacher at the centre of knowledge processes, the second focused more on the school as an organisation, and the third on the pupils' learning and needs. The practical form of leadership that predominated in these schools had therefore consequences for collective learning, general management being thus also knowledge management.

It follows that one should look further into the potential link between the employees' self-development through such educational initiatives and the schools' development plan. This was a topic raised by several of the informants. The question is whether a dynamic aspect of the development plans appeared to be lacking, as the VET teachers through the examination reflected on further professional development in their schools. An answer would demand more research on leadership practices and functional relations between higher education, VET schools, and school authorities.

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