

How peer driving student teachers use pedagogical observation in their teaching practice: Experiences from Norway

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Abstract

Given the high numbers of people killed or badly injured globally in road traffic accidents, research into the education of driving teachers is both timely and urgent. Europe has no common regulations on becoming a driving teacher, and Norway is one of the very few countries that educates driving teachers at the university level. The aim of this study is to develop new knowledge on how peer driving student teachers use pedagogical observation in their in-car teaching practice. Academic education of driving teachers in Norway was introduced at the university level in 2016, and practical in-car teaching, as part of the educational programme, is still under development. The data used in this study consist of observations of nine driving lessons and nine semi-structured interviews involving 18 driving student teachers (DSTs). The findings indicate that DSTs could benefit from having a stronger theoretical foundation for engaging in pedagogical observation. It also appears necessary to develop a formal structure for peer learning activity and for DSTs to develop shared views on how to communicate with peer DSTs.

Keywords: pedagogical observation; peer learning; higher education; driving teacher education; practice architectures

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Introduction

Norway is one of the few countries in Europe that educate driving teachers at the university level (European Commission, 2022). Approximately 100 driving student teachers (DSTs) graduate in Norway every year, from Nord University's programme (Nord Universitet, 2018). Rules and regulations for obtaining a driving licence exist in European countries (Directive 2006/126/EC), but there are no

common regulations on driving teacher education, though many countries regulate the profession (European Commission, 2022).

The current study adds to the limited research on driving teacher education. Several European research projects have focused on aspects of the profession, such as the MERIT project, which addressed minimum requirements for driving instructor training (Bartl et al., 2007); the Hermes project, which developed the coaching and communication skills of driving teachers (The International Commission for Driver Testing [CIECA], 2010) and set minimum requirements for those delivering professional driving teaching; and the Road User Education project (CIECA, 2015). However, few studies explore how DSTs execute practice in higher education (Kjelsrud, 2019; Kjelsrud & Lyngsnes, 2021).

Traffic accidents are a major problem, and strengthening driving teachers' competence will benefit societies throughout the world. Driving teachers play an important role in reducing fatalities and serious injuries involving road traffic (CIECA, 2015). Norwegian driving teacher education must work towards the standards of Vision Zero, a multinational road traffic safety project (Norwegian Ministry of Transport and Communications, 2013) that aims to create a system with no fatalities or serious injuries involving road traffic. Driving teachers are part of the road traffic system and transmit road safety strategies and attitudes to drivers; having driving teachers who are safety experts is a basic precondition for reducing the high accident rates of novice drivers on European roads (Bartl et al., 2007).

Vision Zero is closely connected to the personal motivation of both researchers, whose research interests concern how we can help bring the profession forward by gathering data on what DSTs do and using it to help the next generation of driving teachers. This study is connected to prior research on how DSTs perceive pedagogical observation and what they believe they learn from the activity (Kjelsrud, 2019; Kjelsrud & Lyngsnes, 2021).

The aim of this study is to develop new knowledge on how peer DSTs use the learning activity of pedagogical observation in their practical, in-car teaching activities. Findings can contribute to our understanding of the complex process of becoming a driving teacher by revealing what DSTs do in practice. Moreover, these insights can provide a platform for the further development of driving teacher education, particularly in the practical field of driving teacher programmes, but they can also support the conceptual understanding of such programmes. This study explores DSTs' practice of pedagogical observation as a learning activity by scrutinising what peer DSTs do when they help each other before, during, and after a driving lesson. Therefore, this study sought to answer the following question: *How do DSTs in Norway use the learning activity of pedagogical observation during university-based teaching practice?*

Context of the study

Driving teacher education in Norway started in 1970 as a one-year vocational training programme, which, in 2003, became a two-year programme at the university college level, and in 2016 a two-year study programme at Nord University. To become a driving teacher in Norway, one needs to have received a basic driving teacher education and passed an exam administered by ‘Nord University or equivalent’ (Samferdselsdepartementet, 2005). Nord University is the only university educating driving teachers in Norway. It delivers a full-time two-year programme comprising 120 credits (Nord Universitet, 2018) and is regulated by ‘Regulations relating to studies and examinations at Nord University’ (Nord Universitet, 2020). The programme is at level 6.1 (intermediate bachelor qualifications) in the national qualifications framework for lifelong learning (Kunnskapsdepartementet, 2014) and includes courses in pedagogy, psychology, physics, law, car technology, road traffic transport, technology and society, and guided teaching practice (Nord Universitet, 2018).

Nord University has its own driving school with 20 cars, and students practise teaching skills one and a half days per week in learner cars. This element of the course is compulsory, and students are required to participate in a specified number of driving lessons. The primary learning outcome of this practical course is strengthened teaching skills, namely, the ability to create conditions for learning and facilitate good learning situations with the goal of acquiring knowledge, skills, and attitudes in practical and theoretical contexts (Nord Universitet, 2018).

Theoretical framework

The research question is grounded in the following themes: educating driving teachers, peer learning, and using a guidance approach/giving feedback. In Europe, countries other than Norway have recently focused on optimising driving teacher education. For example, the German driving instructor law was revised in 2018 to optimize driving instructor education, further develop driving school supervision, increase the attractiveness of the profession as a driving instructor, and reduce bureaucracy (Bredow et al., 2021). Furthermore, the need to specify the minimum training content for driving teachers both for passenger cars at driving instructor training centres and for practical driving preparation has been highlighted in Serbia, as the quality of driver training depends on the knowledge, experience, and skills of the driving teacher and on how effectively they transfer this knowledge to their student drivers (Milosavljev et al., 2020). DSTs must be equipped with a strong

foundation for practice, including facets of communication, cooperation, digital media use, scaffolding and peer learning (Algers & Bradley, 2020; Aspfors & Valle, 2017; Boccara et al., 2015; Kjelsrud, 2018, 2019; Kjelsrud & Lyngsnes, 2021; Ranner, 2011). Thus, researchers have stressed the importance of standardising both qualifications and practices among driving teachers (Watson-Brown et al., 2021).

Three strands of participation are at play during a driving lesson: intra-unit participation (within the car), inter-unit participation (between traffic participants), and cross-unit participation (between drivers of different cars) (De Stefani & Gazin, 2018). Research on interactions between fully trained driving teachers and student drivers has focused on technical skills and how drivers interact with other road users, such as drilling the mirror routine, starting out as a driver, showing where one is going, and formulating directions/navigations (Björklund, 2018; Broth et al., 2017, 2018; De Stefani, 2018). Regarding in-car cooperation, researchers have focused on aspects of the dialogue between the driving teacher and student driver, such as learning how to communicate (De Stefani & Gazin, 2018; Deppermann, 2015; Rismark & Sølvsberg, 2007; Scott-Parker, 2017). This aspect can be connected to how peer DSTs carry out pedagogical observation, a form of peer learning that builds upon a sociocultural perspective of learning, which assumes knowledge is acquired through interaction in a given context (Boud et al., 2013).

The term 'peer' can be used in various relationships and settings, from senior students tutoring junior students to students within the same year assisting each other with course content and/or personal concerns (Boud et al., 2013; Gosling, 2002). The latter is closest to this study's use of the term 'peer' insofar as it concerns same-year students. Peer students need access to physical resources, participants' expressed knowledge, and new knowledge (Rusk & Rønning, 2019). Boud et al. (2013) define peer learning as 'students learning from and with each other in both formal and informal ways' (p. 4), proclaiming that it is a two-way reciprocal learning activity. In this study, this definition implies that both the pedagogical observer (PO) and the peer DST learn from the activity. There are advantages to learning from peers, as peers often have the same challenges, use the same language, and are in the same position (Boud et al., 2013). Peer learning focuses on the 'acquisition of knowledge and skill through active helping and supporting among status equals or matched companions' (Topping, 2005, p. 631), which is what peer DSTs do in the field. Overall, peer learning concerns students helping each other learn, actively participating, being innovative, and taking responsibility for their own learning (Williamson & Paulsen, 2018). Student dislike of peer learning may be the result of prior (negative) experiences and/or the activity in which they are engaged (Boud et al., 2013), and attitudes may also depend on motivation to learn (Safranková & Sikyr, 2016).

DSTs seemed to use different approaches in this peer learning activity, namely, giving guidance and/or feedback. This guidance approach relates to how POs communicate with the peer DSTs in the pre- and post-guidance sessions. The approach is unlike that of a supervisor or a tutor, as both PO and DST are same-year students following the same programme.

The current study is informed and inspired by previous research on guidance (Skagen, 2013), guidance and practical vocational theory (Lauvås & Handal, 2014), lesson planning and metacommunication (Baltzersen, 2008; Hiim & Hippe, 2009; Lyngsnes & Rismark, 2020) and guidance in practice—basic skills (Mathisen & Høigaard, 2004; Pettersen & Løkke, 2019). POs must be familiar with the field of practice and help peer DSTs get the most out of an activity; moreover, they must help DSTs use concepts, principles, and ways of understanding to gain a richer theoretical understanding (Lauvås & Handal, 2014). POs also evaluate the work of peer DSTs; therefore, learning-oriented feedback is passed between POs and peer DSTs (Rienecker et al., 2020). Nicol and Macfarlane-Dick (2006) argue that education should build on formative assessment and feedback processes to promote self-regulation. POs may use formative (i.e., forward-looking), summative (i.e., looking back at executed activities), or analytical (i.e., criteria-based and divided) feedback (Rienecker et al., 2020).

The theory of practice architectures (TPA; Kemmis et al., 2014) is used in this article as an analytical resource when discussing the site-based local conditions that influence what happens when peer DSTs work together in pedagogical observation. Here, we view the practical part of the driving teacher education programme as a space designed to strengthen teaching skills (Nord Universitet, 2018). According to Kemmis et al. (2014), practices are composed of sayings, doings, and relatings that hang together in the project of a practice. *Sayings* include thinking, language, and forms of understanding; *doings* involve the activities and actions of a practice; and *relatings* refer to the ways in which people relate to one another and to the world (Mahon et al., 2017). Practice architectures appear in the form of cultural-discursive, material-economic, and social-political arrangements, by which practices are enabled or constrained (Kemmis et al., 2014). Cultural-discursive arrangements prefigure and make possible particular sayings in a practice, such as what it is relevant and appropriate to say and think. Material-economic arrangements shape the doings that are characteristic of a practice, pointing to what, when, how, and by whom something can be done. Finally, social-political arrangements shape how people relate to other people and non-human objects in a practice (Kemmis et al., 2014; Mahon et al., 2017). Practices do not develop or unfold in a vacuum, as practice architectures are the preconditions that prefigure, but do not predetermine, them (Kemmis et al., 2014).

The study's theoretical framework—involving educating driving teachers in Europe, peer learning using a guidance approach/giving feedback, and practice architectures—sheds light on the research question and arrangements that produce different kinds of pedagogical observations among DSTs.

Design and methods

As the aim of the study is to develop new knowledge on how DSTs use pedagogical observation, the methodological approach is qualitative (Creswell, 2013). Observations and semi-structured interviews were used to explore how pedagogical observation was executed (Denzin & Lincoln, 2011; Kvale & Brinkmann, 2015; Savin-Baden & Major, 2013). Dean (2019) emphasises that observational research enables the researcher to go inside a workplace or a community where actions and conversations unfold to investigate the complexities of work, learning, and practice. Using observational methods, researchers can find social, cultural, and material arrangements that enable, constrain and shape what is possible (Dean, 2019). TPA is used as an analytical resource in the discussion section of this article. The use of sayings, doings, and relatings and how they happen together can contribute to identifying and understanding how the DSTs execute the learning activity (Valle & Tverrbak, 2021, as cited in Aspfors et al., 2021; Kemmis et al., 2014).

The data consist of observations of nine driving lessons and nine semi-structured post-lesson interviews involving 18 DSTs, and all observations and interviews were recorded and transcribed (Figure 1). In phase 1, the researcher (white hair in Figure 1) informed the DSTs about the study, and in phase 2, she observed the pre-guidance session between the PO and DST before the lesson. In phase 3, the researcher was in the back seat as the lesson was executed, and in phase 4, she observed the post-guidance session between the PO and DST. In phase 5, the researcher interviewed the PO and DST, using a semi-structured interview guide (Kvale & Brinkmann, 2015), exploring how they experienced the pedagogical observation. Interviews were conducted in Norwegian and translated to English by one of the researchers.

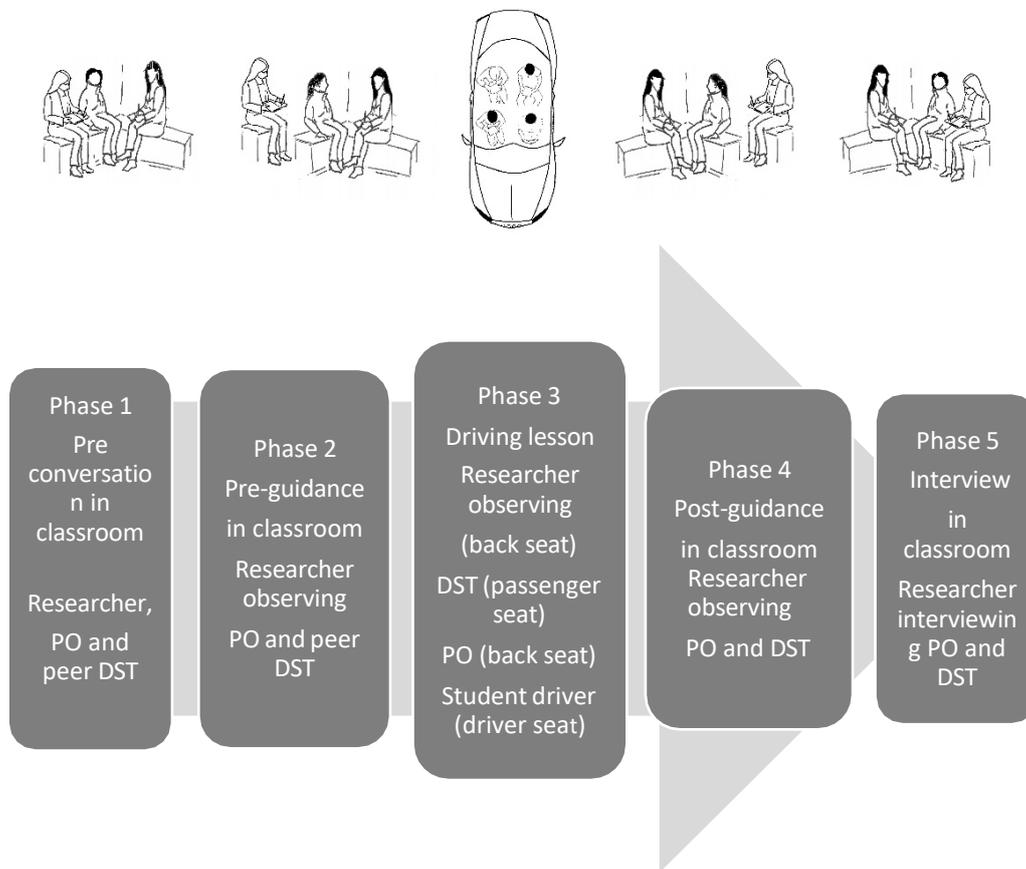


Figure 1. Five phases of data collection; diagram developed from Kjelsrud (2019)

The data consist of material from the pre-guidance (phase 2), post-guidance (phase 4) and post-interview (phase 5) phases; most communication between the DST executing the driving lesson and the PO occurred in phases 2 and 4.

The study uses thematic analysis. According to Braun and Clarke (2022), thematic analysis involves six stages. The first stage is getting to know the data. The material in the current study was divided into three groups: pre-guidance sessions, post-guidance sessions and interviews. Data from the pre-guidance sessions comprised utterances between POs and peer DSTs executing the driving lesson (phase 2). The post-guidance session data comprised utterances from the same POs and DSTs after the driving lesson (phase 4). The last group of data comprised interviews with the POs and peer DSTs conducted by one of the two researchers, as a final step of the field observation (phase 5). These three groups of data were analysed separately to look at the findings from each phase.

The second stage of thematic analysis involved the generation of initial codes. Colour codes were used to identify different meanings in the dataset of 212

utterances. This resulted in eight codes connected to the pre-guidance sessions (phase 2), nine codes connected to the post-guidance sessions (phase 4), and eight codes connected to the interviews (phase 5).

The third stage concerned searching for potential themes. We grouped codes of coincident meaning and found three potential themes. Stage four entailed a review of the themes (Braun & Clarke, 2022); that is, a review of the coded data to see whether the themes were connected and to determine the validity of each theme in relation to the entire dataset. After this process, in stage five, three themes were defined and named: (1) variations in approaches, (2) topics of communication, and (3) guidance skills concerning communication and relations.

Stage six was the final step: producing this article. To gain a deeper understanding of how DSTs in Norway use the learning activity of pedagogical observation during their university-based teaching practice, TPA was applied to the already analysed data. Hence, the discussion section presents the findings from a TPA perspective.

This project was approved by Sikt, the Norwegian agency for shared services in education and research, and the DSTs provided written consent by signing a confirmation letter. Confidentiality concerns privacy protection, and student statements are referred to by using 'PO' (back seat) and 'peer DST' (passenger seat) connected to a number instead of their name. The PO and peer DST observed in a specific driving lesson were assigned corresponding numbers.

We did not come empty-handed into this research process, as everyone brings their own ideas with them; therefore, openness and integrity were fundamental, together with accountability and verifiability (Alvesson & Sköldberg, 2008; Vinther et al., 2016). There were challenges in conducting observations and interviews; we had to be aware of tensions in the situation since one of us worked at the location of the field observation, and this researcher had considerable knowledge of the learning activity. One possible objection to this method is that observations and interviews could be coloured by the experiences and background of the researcher (Kvale & Brinkmann, 2015; Savin-Baden & Major, 2013). The students' voices needed to be heard, as an indication of basic respect for the dignity of the DSTs as informants (NESH, 2016). Transparency was sought to ensure a proper basis for drawing conclusions. The power in the relationship between researchers and DSTs was asymmetric (Kvale & Brinkmann, 2015), but none of the researchers were supervisors of the students who participated.

Findings

In the coding process, three themes were generated: (1) variations in PO approaches, (2) topics of communication between POs and peer DSTs, and (3) POs guiding peer DSTs. These themes are described below, and student statements are used to exemplify findings.

Variations in PO approaches

The first finding is connected to the variation in approaches that POs used in the learning activity. The findings show that some POs guided the DSTs by using questions, some mainly gave feedback and advice, and others did both.

In the pre-guidance sessions, before the in-car lesson, all POs employed a guidance approach, and the focus was on the peer DSTs. The POs wanted to learn about the peer DSTs' plan for the lesson. Field observations of the pre-guidance revealed that two POs asked the peer DSTs what they wanted them to observe. One PO started by asking an open question and followed up by proposing to observe a certain activity: 'Is there something you want me to focus on? Like if you're on time with directions on where to drive?' (PO 4). Another PO asked the DST open questions, but pointed more to teacher activities in general: 'What should I observe? Everything—or should I look at teacher activities?' (PO 6). He also made references to the planning document: 'In the planning document, it says that you'll start the lesson by making the student driver adjust the seat and mirrors. How do you intend to make him do it?' (PO 6). Hence, the PO signalled that he had read the planning document and used this information to guide further communication.

Field observations in the post-guidance session revealed that most POs started by asking questions with a guidance approach. One PO said: 'What do you think, yourself?' (PO 5), while another started by expressing: 'I can start by asking what you (peer DST) think about the driving lesson' (PO 4). Some continued by asking follow-up questions; for example, one PO asked the DST to further explain an utterance: 'You said the driving lesson was a bit messy, how?' (PO 4). The PO was paraphrasing, repeating the meaning and content.

One PO was particularly concerned with dialogue and a guidance approach during the post-guidance session. He listened, asked questions, waited for answers, and followed up on the agreement made in the pre-guidance session. The communication between this PO and the DST in the post-guidance session also pointed to a connection between pre- and post-guidance sessions: 'What about the things you asked me to observe; giving directions early enough about where to drive. How was that?' (PO 4). However, only one of the POs maintained a questioning approach throughout the post-guidance phase.

Some POs gave feedback mainly when executing post-guidance: ‘We’ve somehow worked our way into how to give feedback’ (PO 5). Furthermore, three of the nine POs gave feedback according to pre-guidance agreements. They repeated what the DSTs had done during the driving lesson and drew their own conclusions about the DSTs’ intentions, as the following statement confirms: ‘You also spoke about the blind spot, that was a good comment, he had to be careful’ (PO 2).

In general, the POs gave feedback directly after the driving lessons, face to face, but the feedback could also be in the form of written text. One PO said, referring to executing driving lessons himself: ‘The PO can send feedback by text message; I asked the PO to send his notes’ (PO 7). Moreover, feedback from POs included praise, criticism, and/or advice. One PO praised the DST: ‘On the way out of the roundabout you said “blind spot”; I think it was a very nice way to lead her’ (PO 4).

During the interview, one PO emphasised the importance of DSTs learning to give and receive feedback: ‘If I say two or three positive and one negative thing as a PO, the peer DST wants me to be PO next driving lesson, too’ (Peer DST 3). The following DST referred to feedback as comprising positive and negative comments: ‘Everyone needs feedback. You can learn a lot yourself, but getting feedback on something you did well or badly is good, either you choose to change or not’ (Peer DST 2).

POs sometimes gave advice to DSTs without reasoning their advice in that particular situation. One PO said: ‘You could explain to the student driver why he should take that security check’ (PO 5). Some proposed other solutions to DSTs; one did so by asking: ‘Can it be an idea to advise the student driver to never reverse longer than you have to?’ (PO 4). Another said: ‘I would’ve planned the lesson together with the student driver, as this is his first driving lesson’ (PO 1). The latter was more direct; however, the PO explained why the advice was relevant.

POs often referred to personal driving lesson experiences when giving advice; almost all referred to situations they had personally experienced during the pre- or post-guidance session. One PO explained: ‘I experienced the same today when I had a driving lesson with another student driver’ (PO 7). Another PO went deeper: ‘I also went through the same as you, just have a look at my drawings, describing traffic situations, from my previous driving lesson’ (PO 7). These utterances often contained a piece of advice, as in the following: ‘In the next driving lesson I would’ve practised a hill start and using the clutch more smoothly’ (PO 6). Here, the PO was concerned with what he himself would have done and did not ask the DST for his opinion. In the post-guidance phase, POs regularly referred to

personal experiences, starting sentences with for example, ‘I think’ (PO 9) or ‘I would have’ (PO 8).

Topics of communication between POs and peer DSTs

The second finding concerns topics of communication between the POs and DSTs. Students in phases 2, 4, and 5 largely talked about the planning document/agreement, traffic or other pedagogical topics, or the structure of the learning activity.

Observations during the pre-guidance session revealed that all nine POs made an agreement with the DSTs about what to observe. However, only two POs referred to the planning document made by the DST; for example, one remarked: ‘I read in your planning document...’ (PO 1). Another way of using the planning document came from a DST: ‘I’ve made a planning document for my own use; it makes it easier for me’ (DST 7). This DST stated in the pre-guidance phase that he had a planning document; however, the PO did not pursue this information.

POs repeated or paraphrased the agreement to check the content with the peer DST before the lesson: ‘Our agreement today is that I’ll look at how you describe the goals for the lesson and how you justify the task’ (PO 5). Making the agreement seemed to depend on what the DST needed but also on the capacity of the PO: ‘It’s better to have two or three things to observe than to look at everything because you can’t concentrate long enough to observe everything’ (PO 5). In addition, the pre-guidance session revealed that some POs wanted to expand the task: ‘My task is to observe the use of language and teacher activities, especially the explanation of the exercise. Is there something else you want me to observe?’ (PO 1). Another PO asked for the freedom to bring up more themes than those agreed upon in the pre-guidance session: ‘Apart from motivation and context, am I allowed to bring up other things?’ (PO 1). The peer DST controlled the agreement by saying: ‘No, that’s probably enough’ (DST 1).

POs and DSTs rarely used pedagogical terminology; however, when they were used by POs, they often elicited confusion from DSTs. ‘You can use an inductive working method’ (PO 2). The DST to whom this comment was addressed looked confused and whispered: ‘What’s an inductive working method?’ (DST 2). In another post-guidance session, the PO needed to explain a pedagogical term. In this case, the DST said: ‘I don’t understand. What’s a spiral omnibus?’ (DST 4).

One interview finding, brought up by POs, is that DSTs and POs need to be aware of pedagogical terms. This DST learned from bringing along an unfamiliar PO: ‘I had a PO from another group. He said that I could be more specific about the goals and motivation and refer to them at the end of the driving lesson’ (PO 5). In one post-guidance session, the PO referred to curriculum licence category B

(Statens vegvesen, 2016) because he did not agree with the DST on what to work on that particular driving lesson: 'Is this such a good point to use in step 2, about basic vehicle and driving skills?' (PO 6).

In one interview, a PO pointed out the importance of using professional language among peers: 'At least you won't be misunderstood, if you use professional language... you express smartness in a way' (PO 1). In another interview, a DST proclaimed he needed to read more theory: 'I feel that we haven't worked enough with the pedagogical tools in theory. We should definitely read more theory' (DST 5). In relation to this awareness of theory and practice and the connection, or lack of connection, between them, one PO pointed out that 'there is sometimes a big difference between what happens in the auditorium and what happens in the car' (PO 3).

POs and DSTs rarely communicated during the driving lessons, as only the two individuals in the front seats spoke. Only twice did they stop the car and have a short dialogue about the driving lesson. During a post-guidance session, a DST referring to this said: 'I could've asked you [PO] during the driving lesson, so that I could've addressed those problems a bit earlier' (DST 7). The PO answered by emphasising that 'it's possible to interrupt the driving lesson, but you don't want to be the one who thinks you're better than others' (PO 7). In an interview, one PO stated: 'There's no tradition for guidance during the driving lessons in the car-group of six DSTs, nor in the other groups that I've observed' (PO 5).

The post-guidance was the most prioritised session. The pre-guidance session lasted 2-30 minutes (two lasted 2 minutes), while the post-guidance sessions lasted, on average, 30 minutes: 'We don't spend much time on pre-guidance. We may ask on our way out to the car if there's something we should observe or if the peer DST has a planning document' (PO 4). Nevertheless, some POs demonstrated a clear connection throughout the pre-guidance, driving lesson, and post-guidance sessions. One PO repeated the agreement made during the pre-guidance session at the start of the post-guidance session, which was a structure quite often found in field observations. He said: 'In the agreement between us, my assignment was to observe how you explain and describe the exercise and the connection between explanation and the student driver's execution' (PO 1).

POs guiding peer DSTs

The third finding concerns aspects of the POs' guidance skills, focusing on communication and relations during the post-guidance session and in the following interview. The observations from post-guidance sessions highlight that POs were worried about how the DSTs would respond to negative feedback: 'It's just that I'm trying to give you something to work on. I hope you don't get bitter about it' (PO

2). In interviews, POs said that when they knew the peer DSTs well, they were usually direct, but when they were not so familiar with the DST, giving feedback was more difficult. One stated: ‘They react a little differently, so I don’t bother saying everything, because when they can’t handle hearing it, there’s not much point in me saying it’ (PO 2).

Language barriers due to the use of different dialects were present during post-guidance sessions. In some observations of the learning activity, the POs and DSTs had difficulty communicating: the DSTs looked confused and spoke little, while the POs, who did not seem to notice, continued a monologue. In other observations, the POs stopped speaking while the peer DSTs monologued.

The findings show that the POs wanted the peer DSTs to observe how they facilitated communication connected to asking questions, as the following exemplifies: ‘I want to ask good questions and have the right timing. It’s very important to have someone in the back seat who can observe and come up with tips’ (PO 8). In addition, observations show that many questions were asked at once, as revealed by this utterance by a PO during a post-guidance session: ‘But what do you think was a little... what were you not happy with... what do you think was good?’ (PO 7).

When talking about his role, one PO tried to define a ‘good’ PO: ‘To me, a good PO is one that addresses both the good and poor sides of the teaching activity’ (PO 8). In interviews, POs indicated the importance of relations in pedagogical observation: ‘We have confidence in each other’ (PO 1). The findings illuminate the importance of the relation between the PO and DST: ‘I get more help from PO 6 than the others in the group, because many peer DSTs don’t concentrate on what’s happening in the lesson, so you get no feedback’ (DST 6) and ‘it’s important to find someone you enjoy working with’ (PO 1).

All DSTs talked about their expectations of the POs. One emphasised that ‘the PO should be honest, regardless of a good or poorly executed driving lesson’ (PO 1). Another PO continued by saying ‘it’s difficult to understand what a PO means when he uses utterances such as “that was good,” and no more comments’ (PO 6).

Discussion

The aim of this study was to develop new knowledge on how DSTs use pedagogical observation in their practical in-car training. TPA was used to more closely examine factors that enabled and constrained the learning activity.

The field observations showed that POs varied their approaches to guiding peer DSTs in different phases of the pedagogical observation (doings). They were able to practise a variety of skills in communication, cooperation, using text messages to give feedback, scaffolding and peer learning (Boccaro et al., 2015; Kjelsrud, 2018, 2019; Kjelsrud & Lyngsnes, 2021; Ranner, 2011). In regard to the DSTs' expressions (sayings), the findings indicate that their understanding of pedagogical observation relates to the way the concept of pedagogical guidance is used by Skagen (2013); that is, knowledge transfer occurred in conversations between POs and DSTs. Moreover, the POs seemed to enable the learning activity through solidarity and ensuring fruitful relating between themselves and the DSTs, for instance by being aware of how the DSTs responded to feedback (a social-political arrangement).

Through the lens of material-economic arrangements, the findings show that the POs needed time and space to enable the learning activity. According to Rusk and Rønning (2019), there is a need for physical resources. Field observations of pre-guidance, post-guidance, and interview sessions indicated that POs had the appropriate resources in terms of space, that is, concerning classrooms and learner cars. However, the resource of time used in pre-guidance sessions was variable. The pre-guidance sessions lasted between 2-30 minutes, and in all observations, the PO and DST made an agreement before the lesson. However, the findings indicate that during the pre-guidance sessions, the POs and DSTs spent little time discussing the pedagogical aspects described in the curriculum (Nord Universitet, 2018).

In this regard, Lauvås and Handal (2014) point to a five-step guidance loop: the basis of the guidance, pre-guidance, practice and observation, post-guidance, and summary. The first part of the loop was the planning document made by the DST, which may enable the PO to prepare for the pedagogical observation. Planning is part of the day-to-day preparation for a lesson (Hiim & Hippe, 2009; Lyngsnes & Rismark, 2020). Hence, we point to the importance of learning basic guidance skills (Pettersen & Løkke, 2019), as these may enable POs to perform pedagogical observation as a guidance loop in the manner described by Lauvås and Handal (2014). The learning activity of pedagogical observation is used in the practical field of education, and the learning activity may be enabled by using a guidance loop for structure; however, the activity could be constrained if POs do not set aside enough time for pre-guidance.

The DSTs described the pedagogical observation as giving feedback (sayings), which may indicate that they viewed feedback as the main activity. Rienecker et al. (2020) highlight different ways of giving feedback: formal (forward-looking), summative (looking back at executed activities), or analytic (criteria-based and divided into predetermined feedback dimensions). Here, most

POs provided one-way summative feedback, which could constrain the learning activity compared to a two-way reciprocal approach (Boud et al., 2013). This possible constraint is outlined by Nicol and Macfarlane-Dick (2006), who stated that higher education should build upon formative, not summative, feedback, in a dialogue to encourage student self-regulation. In addition, Williamson and Paulsen (2018) observe that peer learning is an activity wherein students help each other learn; accordingly, giving one-way summative feedback does not connect well to its overall concept.

The findings indicate no formal structure regarding what POs are expected to address during pedagogical observation nor specific expectations in the driving teacher programme curriculum (Nord Universitet, 2018). This lack of structure seemed to constrain the execution of the learning activity, as many POs seemed unsure of what to talk about in the pre-guidance session, aside from making an agreement with the DSTs. Through the lens of sayings, the pre- and post-guidance sessions showed that the participants used traffic terminology (e.g., how to drive in a roundabout) in pre-guidance and post-guidance sessions and in the interviews. The POs' use of professional language enabled them to discuss traffic-related subjects (cultural-discursive arrangement). In addition, DSTs spoke in interviews about using professional terminology when making pedagogical observations and hence gaining a richer understanding by using theoretical concepts, principles and ways of understanding (Lauvås & Handal, 2014). However, most POs seemed to have only a vague grasp of pedagogical terminology. This type of joint communication through professional language may contribute to an intersubjective understanding of the learning activity (Valle & Tverbakk, 2021, as cited in Aspfors et al., 2021).

Differences existed between those DSTs who used pedagogical terms and those who did not. Thus, maintaining the notion of peer learning as active help and support among status equals (Topping, 2005) could be difficult. The participants may not be status equals, but they still need to take responsibility for their own learning (Williamson & Paulsen, 2018). The curriculum of the driving teacher education, as a prefiguring social-political arrangement, points to the importance of using professional terminology acquired across all subjects in the programme (Nord Universitet, 2018). The use of a common professional terminology seemed to enable fruitful relations and pedagogical observations among DSTs, and the lack of professional terminology seemed to constrain the learning activity.

In all pre-guidance sessions, the POs and DSTs discussed and agreed on what to observe during the driving lesson, enabled by material-economic arrangements of time and space set aside for this activity. Such an agreement can therefore be seen as an external structure that enables the execution of the learning

activity, as emphasised by Lauvås and Handal (2014), and it can be referred to as a binding contract or an important agreement between participants ahead of a planned action. In line with Mahon et al. (2017), the discussions and agreements in the pre-guidance sessions can be viewed as social-political arrangements, as the interaction between POs and DSTs may shape the way they relate to each other in a practice. According to the POs in this study, the agreement enabled them to focus on the assignment. Consequently, pedagogical observation appears to be context-sensitive, indicating that the quality of conversations between the POs and DSTs depends on the specific agreement. This understanding of pedagogical observation may relate to Skagen's (2013) use of the concept of pedagogical guidance because the agreement facilitates conversation between people and awareness of the culture and conditions it encounters.

In the pre-guidance sessions, all the POs took a questioning approach. These utterances (sayings), in the form of questions, can be understood as ways of understanding how DSTs develop dialogue and speak during learning; the questioning approach is a cultural-discursive arrangement that may enable or constrain practice. A questioning approach should be prominent in guidance (Mathisen & Høigaard, 2004; Pettersen & Løkke, 2019), and it can enable a PO to obtain information about what to observe and to explore the plans of the DST. In TPA, relatings can be understood as ways in which people relate to one another and the world (Rønnerman et al., 2017). The questioning approach, highlighting communication and relations, did not seem to be as prominent during the post-guidance sessions. Most POs did not ask DSTs extended questions about their experience of the lesson, and they did not obtain much information in the post-guidance session about how the DST perceived the lesson. This may connect to the social-political arrangement, as the interaction is shaped by DSTs' different roles in relation to power and solidarity: guiding as a dialogue or giving feedback as a monologue. Accordingly, a lack of interaction may constrain the learning outcome for the DST because the PO's focus changes from communicating with the peer DST to a monologue—what Boud et al. (2013) refer to as a two-way learning situation—to one in which the PO talks mainly about their own experiences of the lesson.

In the post-lesson interviews, the POs expressed concern about how negative feedback would affect their relationship (relatings) with the DSTs; however, they did not communicate this concern to the DSTs in the post-guidance session. To enable a continuing fruitful relationship, metacommunication (Baltzersen, 2008) may be used as a resource (social-political arrangement) to limit the possible negative consequences of an interaction. According to Kemmis et al. (2014), 'communicative action is the kind of action that happens when people aim

to reach intersubjective agreement about how to understand their world' (p. 9). The aim is to reach a mutual understanding of another's positions and perspectives so that participants can come to an unforced agreement about what to do (Kemmis et al., 2014). Experiences must be shared, acknowledged, and considered through reliance on trust, respect, informality, and authenticity (Algers & Bradley, 2020; Aspfors & Valle, 2017). Our findings point to the need to recognize quality of the relationship between the POs and the DSTs, as the POs indicated the importance of knowing the specific DST. If the PO did not know the DST well or the two did not reach a common understanding about the activity, pedagogical observation might not work as intended; that is, as reciprocal learning.

Conclusions

In this study, Norwegian DSTs' use of pedagogical observation during university-based teaching practice was explored by using TPA as an analytical resource when discussing the results.

Our findings indicate that, on the one hand, the POs had the necessary resources in terms of a classroom and learner cars (space) and enough time to execute the learning activity. On the other, the POs seemed to spend less time on pre-guidance than post-guidance, which could indicate a need to further develop the formal structure for the peer learning activity.

We also found that the POs and peer DSTs used traffic terminology in pre-guidance and post-guidance sessions. However, there was little focus on discussing the pedagogical approach, and few POs continued to use the questioning approach throughout the learning activity. In the post-guidance session, the POs' focus changed from communicating with the peer DSTs to mostly giving advice. In order to enhance pedagogical discussions, we suggest that more attention be paid in the post-guidance session to the agreement made in the pre-guidance session on what the POs should observe in the back seat.

The findings also reveal that POs, in their communication with DSTs, seemed to be concerned about how DSTs responded to negative feedback. The DSTs could therefore benefit from developing a mutual pedagogical language and shared views on how to communicate in order to establish a fruitful relationship between POs and peer DSTs in the execution of pedagogical observation.

Finally, the study indicates that DSTs could benefit from having a stronger theoretical foundation for engaging in pedagogical observation to improve the quality of the education of driving teachers, with a view to working towards Vision

Zero. Hence, further research is required into the development of driving teacher education in higher education.

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