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A THEORETICAL FRAMEWORK FOR SYNCHRONOUS REMOTE TEACHING? RESHAPING THE PEDAGOGICAL TRIANGLE

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ABSTRACT

This paper explores synchronous remote teaching as a pedagogical practice and elaborates upon a framework with which to understand the practice theoretically. The empirical backdrop comprises remote teaching practice in Sweden, where this practice is implemented via digital technology and with an onsite facilitator who is present with the students. The pedagogical triangle is revisited, examined, and explored in relation to remote teaching as a new pedagogical practice. In the theoretical elaboration, the pedagogical triangle is reshaped into a pyramid due to the onsite facilitator's participation in the remote teaching. This elaboration is a first step to establishing a theoretical understanding of remote teaching practice on its own terms.

Keywords: distance education, online learning, onsite facilitator, synchronous remote teaching, theoretical framework.

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1 INTRODUCTION

In recent years, remote teaching has developed as a new teaching practice and comprising an increasing number of students in schools worldwide (Barbour, 2018). Remote teaching, which can be synchronous (i.e., occurring in real time) or asynchronous (i.e., not in real time), uses digital technologies so that actors can interact and communicate in class (Schwirzke et al., 2018). In education, remote teaching can be for a single lesson, a significant part of the school day (blended learning), or full-time with some kind of facilitator involved (Barbour, 2015; Borup & Drysdale, 2014). In Sweden, remote teaching often concerns small groups of students and in certain subjects (Olofsson et al., 2019). According to the Education Act (2010:800), it must be a synchronous practice, in which the teacher uses information and communication technology (ICT) to mediate teaching of students at a different physical school location. Significantly, an onsite facilitator almost must be present with the students during the lesson (Öjefors Stark & From, 2020). Digitization in schools has provided the means to develop this teaching practice in Sweden (From et al., 2020), where the goal for schools can be seen as providing accessible and equivalent education regardless of where one lives (Stenman & Pettersson, 2020).[1]

Given the spatial separation between the teacher and students, the digitally mediated teaching, and the presence of an on-site facilitator in the physical classroom, remote teaching challenges the pedagogical thinking formed in relation to traditional teaching. This raises questions concerning how remote teaching, as implemented in Sweden, could be analysed and understood as a new pedagogical practice. This is also the focus in this paper. First, however, we will provide a more thorough overview of the pedagogical conditions for remote teaching in Swedish and international contexts.

2 REMOTE TEACHING IN SWEDEN

In Swedish, remote teaching has emerged from societal changes and school needs (Öjefors Stark & From, 2020). From the 1970s onwards, urbanization has caused extensive closures of schools in sparsely populated areas, which challenged the rule of vicinity to the primary school. Later, in 2011, the difficulty of finding qualified teachers for all students increased because the government introduced a requirement for licensed teachers (From et al., 2020; Pettersson & Hjelm, 2020, cf. SFS 2011:326). Remote teaching then appeared as a way to realize the vision of an equal and accessible school for all students regardless of place of residence, although restrictions exist in terms of age groups, scope, and subjects (Öjefors Stark & From, 2020). With this as a backdrop, remote teaching became accepted in the Education Act (2010:800) in 2015 as a deviation from the norm that teaching traditionally

[1] Regarding the international development of remote teaching, see, for example, Barbour, 2018, 2019, and Schwirzke et al., 2018.

must take place in a classroom. The regulation stipulates that remote teaching is an interactive and synchronous form of teaching that is conducted with ICT in which teachers and students are separated in space but not in time. In remote teaching practice, a facilitator also must be present in the classroom to provide support and take responsibility for the students during the lesson (Pettersson & Olofsson, 2019). The responsibility to plan, implement, and assess the students' level of knowledge as a basis for grading still lies with the teacher.

At first, remote teaching comprised teaching on modern languages, mother tongues, Sami in Sami schools, and sign language, as well as providing students with study guidance in their mother tongue and integrated Sami teaching (cf. Parfa Koskinen, 2020; Pettersson & Hjelm, 2020). Later on, remote teaching also became permitted for theoretical subjects and upper secondary school (cf. Hilli & Åkerfeldt, 2020; Pettersson & Olofsson, 2019). Lastly, remote teaching currently is allowed for cases in which no teacher meets the school law's requirements for identification and eligibility or if the student base is limited as well as for students who are unable to participate in traditional teaching due to a documented medical, mental, or social problem (SFS 2020:605).

2.1 Conditions in remote teaching

Digitalization has changed society in terms of communication and access to knowledge and information through new technical developments (Lantz-Andersson & Säljö, 2014). This is true for education as well because digitalization has altered its conditions (Selwyn & Facer, 2014). Digitally mediated teaching challenges traditional concepts of teaching and learning (Selwyn, 2011) because various synchronous and asynchronous e-learning models depend on digital technology (Hrastinski, 2008). According to Krumsvik (2014) and Fischer et al. (2020), well-functioning technical equipment is a crucial prerequisite for all kinds of online learning, which involves, for example, a sufficient and stable Internet connection, functioning computers, and appropriate software. Thus, good digital infrastructure and well-functioning technical equipment can be seen as prerequisites for carrying out remote teaching in an effective way (Kristensen & Bratteng, 2021). This is in line with the need for organizational factors, as stressed by Pettersson (2018), that condition the remote teaching practice at an educational level.

Just as every teaching practice has special conditions that create opportunities and limitations for the practice, remote teaching does too. The fundamental conditions for remote teaching that affects the teaching situation, as already touched on above, are that the teacher mediates the teaching via digital technology at a distance while a facilitator is onsite with the students at the school, mainly to monitor them and facilitate practical matters (Pettersson & Hjelm, 2020; Siljebo, 2020). This means that the teacher cannot move among the students physically and stop at someone's desk to offer help, nor can the teacher monitor

their students in the traditional sense and ensure that all of the students understand the instructions and participate actively in the lesson (Wiklund-Engblom, 2018). The teacher can only see the students on a screen, which makes it harder to create a relationship with students (Kristensen & Bratteng, 2021).

Hence, although remote teaching encourages personal participation (Hrastinski, 2008) and the teaching practice in itself contributes to student engagement (McBrien et al., 2009), a need always exists to manage the distance in a way that facilitates interactions (Moore & Kearsley, 2011). The facilitator helps the teacher to handle the distance by clarifying and explaining things to the students (Borup & Stimson, 2019) and helping to create student engagement (De la Varre et al., 2011).

Thus, even if the Education Act regulates the facilitator role in Sweden (see above), it can involve a wide range of tasks in practice. For example, Borup and Drysdale (2014) identified several roles of the facilitator, including nurturing, monitoring motivating, and encouraging students as well as functioning as a communication channel between teachers and students and between students. In some ways, these characterizing conditions of remote teaching can constitute a pedagogical practice that distinguishes it from other teaching practices. This also raises questions as to how remote teaching, as a pedagogical practice, is ontologically different from others and how previous teaching arrangements could be understood.

3 PEDAGOGICAL THINKING ON TEACHING

For several thousand years, teaching as a phenomenon has been the subject of pedagogical thinking dealing with the arrangement, implementation, and purpose of teaching (Burman, 2014; Kroksmark, 1989). In addition, pedagogical thinking reflects the factors that conditioned the teaching at each historical period, which can involve certain pedagogical ideas. This goes for the pedagogical thinking of Confucius in the 5th century BC (From & Holmgren, 2001), as well as for Comenius in the 17th century, Pestalozzi in the 18th century, and Herbart in the 19th century (Bailey, 2010; Kroksmark, 1989), to name several individuals who had an imprint on pedagogical thinking in the East and the West. Although teaching arrangements and pedagogical ideas regarding methodology differed among these and other historical pedagogical thinkers, they touched upon the teacher, the subject content, and the students in some way in their pedagogical reasoning. In recent years, digitalization could be seen as a paradigm shift for how teaching is organized (Billmayer et al., 2020), which has forced pedagogical thinking to expand in new and unforeseen ways (Sharpe et al., 2010) and has given rise to new learning theories regarding learning in digital environments (Picciano, 2017). Even so, the theoretical frameworks often applied in educational research regarding online learning commonly lack a specific pedagogical focus even if they engage in educational matters. They can, therefore, only unpack the educational context and be useful in analysis of the teaching situation to a certain extent. For instance,

TPACK (Mishra & Koehler, 2006) is primarily intended to be formed as a normative framework for teacher training, and CHAT (Engeström et al. 1999) mainly addresses the activity and theory of practice (Kemmis & Grootenboer, 2008), focusing on what constitutes a teacher's practice. These theories are all useful in terms of what they are designed for, but they were not designed to assess the teaching situation or for an online learning context. Hence, Barbour (2018) expressed a need for frameworks defining specific aspects of remote teaching.

4 REVISITING THE PEDAGOGICAL TRIANGLE

Fenstermacher (1986) was one of many pedagogical thinkers who have analysed the traditional teaching situation. In his philosophical reasoning, he reflected on the classical pedagogical questions "What?", "How?", and "Why?" and stated that the teacher should possess the knowledge and has the role of conveying certain subject content to the students. Given this, the students constitute the recipients, who allow themselves to be shaped by the teaching. This was Fenstermacher's (1986) starting point in his exploration of the ontology of the teaching situation and how the teacher should relate, morally and pedagogically, to the students given a certain subject content. Similar reasoning is common in pedagogical research on the teaching situation (Kroksmark, 1989), which results in or takes as a starting point different versions of the schematic representation of the teaching situation, called the pedagogical triangle, in the European context (Arfwedson, 1998). This representation is hard to attribute to any specific originator but can be traced to Herbart's exploration of the classical pedagogical questions (Hopmann, 1997; Künzli, 2000). In the triangle, the teacher, the students, and the subject content are separate nodes, between which an interaction takes place with a constitutive character for pedagogical investigation (Hopmann, 1997; Imsen, 1999). Thus, the exploration of the relationships among the three nodes forms the basis for understanding and analysing the teaching situation, in which one of the three nodes can be emphasized, depending on which learning perspective one wants to start from in one's analysis (Künzli, 2000).

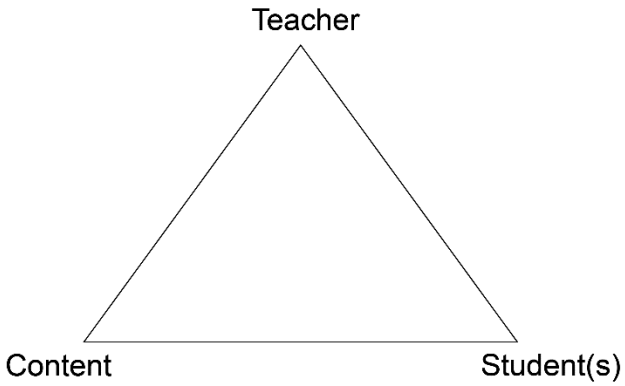

Figure 1. The pedagogical triangle

As in traditional teaching, the three nodes of the triangle are parts of remote teaching, but as discussed by Öjefors Stark and From (2020) and Pettersson and From (2018), remote teaching is characterised foremost by the mediation of the teaching and the facilitator's presence onsite. One can argue that the facilitator is not missing from the representation of the triangle since the facilitator does not engage in the actual teaching. Yet, when looking at how remote teaching is carried out in practice, the facilitator obviously plays an important role in the teaching situation and must be acknowledged (Borup & Drysdale, 2014; Pettersson & Olofsson, 2019). Another condition for remote teaching that the pedagogical triangle does not address is the semidigital learning context of remote teaching (Öjefors Stark & From, 2020). Because this conceptualization is developed in a traditional learning context, the physical environment is taken for granted; therefore, the relations in the pedagogical triangle do not touch upon the learning context per se. This relates to the ontology of remote teaching that concerns both digital and physical learning contexts, which involves both a teacher and a facilitator. Therefore, it can be argued that the pedagogical triangle must be reshaped in some way to become a more valid theoretical framework for analysing remote teaching and with a facilitator on site.

4.1 Reshaping the pedagogical triangle for the remote teaching practice

Because the facilitator plays an important role in remote teaching, the facilitator must be added to the pedagogical triangle somehow. In Figure 2, the facilitator is placed together with the teacher at the top of the triangle. The facilitator can be viewed as a helper to the teacher in the teaching in different ways (Freidhoff et al., 2015; Pettersson & Olofsson, 2019), and with their placement at the top, it is visible that the facilitator, just as the teacher, relates to both the subject content and the students. Furthermore, as seen from the students' perspective, the facilitator appears as an authority, just like the teacher does (Borup & Drysdale, 2014), and in many ways constitutes the "teacher in the room" in remote teaching, whom the students ask for help when they encounter problems or want something explained further (Borup et al., 2019).

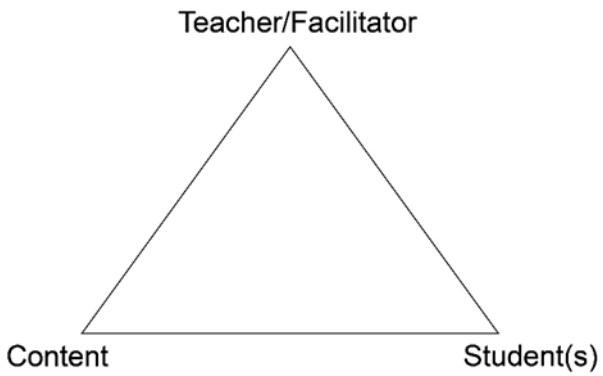

Figure 2. The pedagogical triangle with the facilitator included.

However, the problem with placing the facilitator together with the teacher at the top is that the number of relationships that exist in remote teaching does not appear. When the shape is still a triangle with three nodes, it looks as if the teaching situation continues to consist of only three relations. However, as Pettersson and Olofsson (2019) put forth, remote teaching is a more complex teaching practice due to the facilitator. Both Borup and Drysdale (2014) and Pettersson and From (2018) highlighted that the facilitator has their own relationships with the teacher, subject content, and students, which the triangle shape does not indicate. Furthermore, the teacher and the facilitator have two separate roles with different tasks to perform (Öjefors Stark & From, 2020). The teacher plans and implements the teaching and assesses the students' knowledge based on set criteria, whereas the facilitator's tasks are to ensure that the technology works, that the students are gathered and ready when the lesson is to begin, and so forth (Stenman & Pettersson, 2020).

What ultimately indicates that the facilitator needs a separate node in the triangle is that the teacher and the facilitator are separated spatially (Pettersson & Olofsson, 2019; Siljebo, 2020). The facilitator is in the same physical room as the students, while the teacher is at a different location employing digital technology to mediate the teaching. Hence, in Figure 3, the Facilitator has its own place in the centre of the triangle.

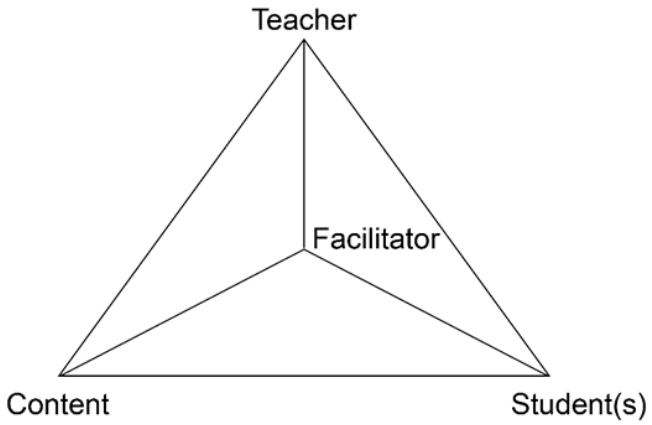

Figure 3. The pedagogical pyramid.

The triangle has been reshaped into a pyramid, and three additional relationships emerge: teacher–facilitator, facilitator–content, and facilitator–student. These additional relationships, together with the preexisting relationships, provide a more valid representation of the relationships existing in remote teaching (Pettersson & From, 2018; Öjefors Stark & From, 2020). Moreover, when these additional relationships are made visible, they can become the subject of analysis and open up new questions that were previously inaccessible. This can be seen as a part the pedagogical pyramid's theoretical contribution.

4.2 Added relationships in the pedagogical pyramid

The teacher–facilitator relationship raises questions as to the division of roles and collaboration between the teacher and facilitator. Facilitators can be given responsibility for leading classroom activities and managing interactions and social issues between students (Freidhoff et al., 2015; Staker, 2011; Wicks, 2010). Thus, the roles and responsibilities of teachers and facilitators can be intertwined. Previous professional background and the facilitator's preparation conditions what tasks the teacher can delegate to the facilitator (Hendrix & Degner, 2016; Pettersson & From, 2018). The facilitator–content relationship also affects the teacher–facilitator relationship. The level of knowledge the facilitator has regarding the subject content determines what roles are appropriate and affects the teaching situation in different ways (Hendrix & Degner, 2016).

The last new relationship is the facilitator–student relationship, which, unlike the teacher–student relationship, it is not digitally mediated. The facilitator meets the students daily and not only in the teaching situation. This gives the facilitator greater opportunities to build relationships with the students compared to the teacher (Borup & Drysdale, 2014). How the facilitator–student relationship affects the teacher–student relationship is an interesting question, as is how the relationship affects which role the facilitator takes on in the teaching situation. Also of interest are the different effects of the new relationships on the preexisting relationships: teacher–student, teacher–content, and student–content. Are they strengthened or weakened in any way? And if so, how, and why? And, perhaps most importantly, in what ways is the students' learning impacted?

5 FINAL REMARKS

In this elaboration of a theoretical framework for remote teaching, as implemented in Sweden, only the facilitator's addition is considered. The aspect of distance must be elaborated further in relation to remote teaching practice. According to Moore (1993), a transactional distance always arises from the separation in time and/or space, as dictated by three variables: structure, dialogue, and learner autonomy. Therefore, it would be interesting to explore the ways in which a transactional distance arises in a synchronous remote teaching context and how the teacher can handle this distance, in collaboration with the facilitator. In addition, further research is needed regarding the teaching being digitally mediated. What implications does this have for the teaching and for the teacher's relationship to the students and the facilitator?

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