

Lesson study with music: a new way to expand the dialogic space of learning and teaching

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Abstract

Purpose – The purpose of this paper is to show that lesson study by including elements from music and music education can sustainably expand and improve the dialogical space for teaching and learning in higher education, especially for primary and secondary teacher education students.

Design/methodology/approach – For the first time under the topic “Lesson Study: Music in Dialogue,” corresponding study programs were prepared at the University College of Teacher Education, Lower Austria. The data material from which answers to research questions can be generated are the “Didactic Design Pattern” and classical research lesson planning, observation and discussion instruments. Moreover, discussion protocols of the reflection meetings offered insights the participants gained through sharing their experience of a series of lesson study cycles including focussed collaboration between mentors, teachers, teacher education students and primary school pupils.

Findings – Within the lesson study groups, the space for cooperation and dialogue widened considerably and the interest in the work and expertise of each other increased. Based on the principles of a “community of practice,” this study shows the positive effects of professional collaboration on primary and secondary teacher education students and a lasting impact on their pupils’ learning. Thereby, the dialogical principle was found to play a central and important role. In connection with music- and art-related processes, previous limitations in teaching and learning with music can be exceeded for pupils, teacher education students and teachers.

Research limitations/implications – This study, therefore, provides new insights into questions of organization and implementation, as well as scientific and didactic support in professional learning communities.

Originality/value – So far, there has been little practitioner research through lesson study in the field of music education. In particular, lesson study enhancing the cooperation between music education and other subject areas through dialogical-integrative work has brought about knowledge and insights of great importance for the further development of an appropriate didactic approach in dialogic music education.

Keywords Lesson study, Professional learning communities, Dialogical processes, Integrating music and arts education

Paper type Conceptual paper

Introduction

The development of the quality of teaching and learning in music education

For almost a 150 years, lesson study has been an integral part of Japanese school culture (Dudley, 2014; Lewis, 2000; Stigler and Hiebert, 1999). As a particularly effective and successful form of collaborative practitioner research, its focus is on the students learning and the development of teacher practice knowledge. It is something like a grassroots movement that is mostly initiated and supported by the teachers themselves. But they are also promoted by some state institutions. This research context is defined by collaboration and reciprocal accountability and can be experienced as a way of life, not just as a strategy for some projects (Posch, 2014a, b).

Besides Japan, it is Singapore and China, in particular Hong Kong (Lo, 2009), which also have referred to a similar tradition (Dudley, 2014; Tan-Chia *et al.*, 2013). Moreover similar



efforts have been made in Western countries over the past 20 years, particularly in the USA, Canada, England, Sweden, Norway (Hiebert *et al.*, 2002, Marton and Morris, 2002) and a few years ago in Austria, where recently Peter Dudley's Lesson Study Handbook has found a wide audience in its German version (Dudley, 2014, 2015), and since 2019, when the first German-language handbook for collaborative development and research of teaching and learning with lesson study was published (Mewald and Rauscher, 2019). Every year, regional and national network meetings take place to promote and advance Lesson Studies in Austria. More and more schools, especially in Lower Austria, use lesson study to further teaching and learning (Mewald and Mürwald-Scheifinger, 2019). Part of this is also the study program "Lesson Study: Music in Dialogue" (Gruber, 2019b, p. 195).

Background

Time and space for dialogue and encounter

The concept of dialogue is rooted in that of the Logos of the Judeo-Christian tradition of antiquity. After Genesis 1, everything was created from the Logos, the Word of God. God spoke and it came into being. In the New Testament, John the Evangelist took up this aspect and thought, opening his gospel with the famous phrase: In the beginning was the Word, the Logos (Schedl, 1974, pp. 218-221). From this understanding of faith, the Vienna born philosopher of religion Martin Buber developed at the beginning of the twentieth century "The Dialogic Principle." Here, the idea of the relationship plays a central role, which he describes as follows: "I do not experience the person to whom I say you. But I'm related to him" (Buber, 2002, pp. 10-13).

Creative, effective and meaningful learning becomes possible when an encounter between learner and teacher leads to a relationship or, in other words, only when a sustainable level of relationship between the dialogue partners could be created, also a real and effective exchange of experience at the content level is possible. Basically, this principle is very simple but always demands a person in their entirety for the moment of encounter. What is more appropriate than to implement the dialogic principle in the field of pedagogy and to place learning and teaching in the context of such dialogical processes, as suggested by the educationalist Marian Heitger (1961)? Thus, the space can be created, that it needs, to exchange knowledge and experiences in a temporary synchronization of a dialogue (Gruber, 2012, p. 12). The same can be said of the "Transformative Practice Zones – TPZ," a concept of the American music teacher Liora Bresler for collaboration across disciplines and institutions, "where there is time and space for listening to other's ideas, visions and commitments, and to build relationships" (Bresler, 2004, p. 281).

Moreover, dialogue also has an important role in the "Seven Principles for Cultivating Communities of Practice" by Étienne Wenger, Richard McDermott and William M. Snyder. Especially, when the members of such a community are invited to "open a dialogue between inside and outside perspectives" (Wenger *et al.*, 2002a, p. 44). This is of particular importance because, as will be seen later, lesson study groups may be referred to as such a "Community of Practice" (Lave and Wenger 1991; Wenger *et al.*, 2002a, b), or as that of a "Professional Community" (Schrittmesser, 2004). In her model of a "Professional Community," Ilse Schrittmesser uses aspects of permeability. Learning processes lead to "professionalized action" to enable the "development of a special 'osmosis' between theory and practice" and "as problem-oriented action along the border between routine and new" (Schrittmesser, 2004, pp. 131-132). Thus, it seems more than appropriate to speak of dialogical permeability in this context.

Finally, the question whether it would be better to replace the term dialogue by that of a more contemporary one: that of communication, arises. Last but not least, the term of "Professional Community" or "Community of Practice," as applied to lesson study groups, seems to imply the use of the term communication. Many years of experience not only in the field of education have shown me that the meaning of dialogue differs in many ways from what

is understood and lived today as the concept of communication. What does communication mean? The roots of the term are in Latin language and the noun “communication” can be translated as “message” or “announcement.” The Latin verb “communico” means also “to do something together, to unite, to merge” or “to share, to participate” and to “consult, discuss.” Moving a little further from this word stem, we come to the Latin term “communio,” the “community,” where qualities are important for such communities, that shows, decrypts indeed the same verb “communio” with its meanings “to entrench themselves” or “fortify with walls.” Here, it is quite obvious that in all related terms of communication clear references can be made to the Latin word “moenia,” the “city wall” (Gruber-Rust, 2009, p. 90).

Thus, communication in its elementary meaning is a message not intended for all, only for those who form a community behind a protective wall. It offers protection. And if a message is addressed “to those out there,” it often has a defensive character and goes hand in hand with a demonstration of power. Communication often makes the use of the simplest signs of togetherness. They are symbols, coats of arms, flags, badges as well as sounding signs, above all hymn-like melodies, which everyone recognizes and understands as such, without much explanation. And the consequences are often either exclusion and invisibilization of others, who do not belong to this community, or instrumentalization and incorporation but not dialogue (Gruber, 2012, pp. 8-12).

It explains and helps to understand why Wenger, McDermott, and Snyder see their Communities of Practice (CoP) in clear demarcation from other formal organizational units such as departments, project groups, communities of interest, and networks with their often-biased communication channels (Wenger *et al.*, 2002a, p. 44). Such communities need these walls of communication to use them purposefully only for their own interests, work and goals. And precisely such “moeniae” have to be demolished, with the help of dialogical processes, gently but sustainably, to create space for something new, surprising and enriching. The concept and methods of lesson study, especially integrating the dimensions of music and art, provide a variety of occasions and possibilities to do so.

Challenges and opportunities of crossing borders in music and arts education

When Friederike Bliss, Anja Johanning and Hildegard Schicke speak of their analysis of Wengers concept of a Community of Practice (CoP) of an “access to social knowledge-generation” (Bliss *et al.*, 2006), the concept is correct, but in my opinion, it lacks another important aspect. In addition to generating knowledge in the context of social structures, the aspect of music and the arts should not be neglected and, therefore, be sustainably integrated into processes of research-based learning. Why this?

According to Rainer Winkel, every person can activate three different ways of being and living (Winkel, 1997, pp. 9-11):

- (1) In theory, someone approaches reality “in the mode of reflection.” Counting, measuring, weighing, establishing hypotheses, falsifying or verifying are common methods in theoretically oriented searches. It is that access to the world with which one “looks” or “ponders” in order to ultimately discover truths.
- (2) In practice, on the contrary, it is about “being active, being there in everyday life, living and acting.” The goal is not the explanation of the world, but the management of everyday tasks.
- (3) Last but not least, we also live “out of the art.” In this context, Winkel refers to the Greek concept of “Aisthesis,” which he translates as “the ability to design, to shape and to feel,” unlike those to explain, to interpret or to manage or to cope with something.

What role and task does music and other arts play in such “social knowledge-generation”? Herbert Altrichter speaks of art as “a dimension of irritation” on or as a way to

research-based learning (Altrichter, 2018). He refers to Ulrich Oevermann's approaches, which he presented in his 1996 speech, "Crisis and leisure: structural characteristics of aesthetic experience from a sociological point of view," arguing that autonomy and failure, crisis and crisis solution are central moments of experiencing the arts (Oevermann, 1996, p. 37). The arts have the power and the ability to question what seems so familiar and self-evident, both in theory and practice. These are big challenges and opportunities, crossing the borders with music and arts and also with Music and Arts Education, to create new, especially in dialogical spaces of learning and teaching, opportunities, that so far have been used little or not at all.

And music might have a special task. For Johann Götschl "music constitutes a kind of dynamic unity of emotion, cognition and socialization." thereby it counteracts the fragmenting tendencies of our world because it contains a still largely untapped potential for the transformation of society. For Götschl, it is the unique fluent transitions between rationality and emotionality: "rationality can be emotionalized in order to find the content of emotionality more easily and vice versa." Although these facets can also be found in other cultural and artistic dimensions such as theater, literature, visual arts, maybe music is the most sensitive cultural phenomenon in this way. And so "music generates no definite picture of man or community but more possibly room for building personal and cultural identities" (Götschl, 2004).

Music has also another interesting quality for crossing borders in dialogue. The well-known German philosopher Peter Sloterdijk (1993) asked himself and us in one of his articles in his book "Weltfremdheit" (unworldliness): "Where we are when we hear music?" One of his answers is: "The location remains vague – the only certainty is that you can never really be in the world when listening to music. For listening in the musical sense always means: either go to the world or flee" (Sloterdijk, 1993, p. 307). His answer is based on the early experiences of unborn human beings. Unborn babies can hear their world outside, and it is actually their first relation to this, even if they perceive and hear above all the maternal milieu. What they hear is a continuum of sounds, the rhythm of mother's heartbeat and her breath, mixed with different sounds of the surrounding environment. After their birth, this perception changes fundamentally. They hear nearly nothing, when they hear the silence of an empty room or they hear the noise of the people living in it and both are different from their first experiences (Sloterdijk and Mauser, 2007, pp. 6, 12). And the desire to return to the acoustic home, to that place where they came from, can be strong (Sloterdijk, 1993, pp. 303-306). Just as unborn children can indirectly communicate with their world outside by listening, the reverse is also possible, when mothers (or even also fathers) sing songs to their unborn children and do it regularly. Kaarina Marjanen has shown in her studies how this can succeed and what qualities can be developed (Marjanen, 2014, pp. 1-11).

Moreover, as a hearing person, we do not experience the sound in the same way as we see or feel. Listening crosses borders much more than anything else and makes the boundaries between inside and outside permeable. The "peculiar quality of music" is based on "being able to create a very specific form of world relation, namely, one in which the world relation as a whole becomes perceptible and, at the same time, modulatable and modifiable. Because the experience of music "dissolves the separation between self and world by transforming it into a pure relationship," so describes Hartmut Rosa in his book *Resonance. A sociology of world relation* (Rosa, 2016, pp. 161-162).

Music, or rather an active engagement with music as intended in every lesson in connection with music, creates space for dialogical processes due to its special nature. And these dialogical processes, which are connected with this musical activity and the associated contents, in turn create something connectable, in the sense of the so-called dialogical-integrative learning and teaching (Gruber, 2019d, pp. 7-8). The quality of these processes can best be explained by the sentence: "The whole is different from the sum of its parts," a

central statement of Max Wertheimer and his Main Theory of Gestalt Psychology (Goethe-Universität Frankfurt am Main, Institut für Psychologie, Fachbereich 05, 2017). The newly created quality, the innovative, is characterized not by a better or higher quality, but rather by a new being in its form. It is respectful in a dialogical sense, as opposed to the individual parts as well as the whole (Gruber, 2019b, pp. 198-199).

Method and implementation

Key features, structures and timeline

The implementation of the lesson study in a series of cycles has shown that much of what has been said so far can be experienced within this method. And the encounter and an active engagement with music and also other arts favor, reinforce and expand the space of these processes described before. So, tracing these crossing border phenomena and the related questions and issues was at the heart of several Lesson Studies in recent years. And the method was that of lesson study.

For John Elliott, lesson study is a very effective form of Educational Action Research with the following key features: They are carried out by a group of three to eight teachers in which their members focus on the collaborative development of a lesson defined in terms of a topic rather than a unit of time. The study proceeds through cycles of planning, teaching, and evidence-based discussion. In each cycle, a collaboratively planned lesson is taught by a different teacher, whereas the other teachers collect observational data, which is then discussed in a post-lesson conference as a basis for moving into the next cycle of planning a revised lesson, teaching and discussion. Such a teacher group may be facilitated by an expert specializing in the curriculum area concerned, which lesson study brings teachers, sometimes also students and academic experts together as learning communities in schools (Elliott, 2014, p. 3).

In 2014, Bradley A. Ermeling and Genevieve Graff-Ermeling, two American licensed teachers in a Japanese school published a detailed description of the project phases and timeline of a full lesson study cycles from Japanese secondary schools (Ermeling and Graff-Ermeling, 2014, p. 174):

- (1) Selection of Research Theme (together with the school principal and the head and teachers of a school department).
- (2) Planning of Research Lesson (two meetings together with teachers of a school department).
- (3) Research Lesson 1 (in Japanese: *kōnai kenkyū jugyō* = within school research lessons).
- (4) Reflection Meeting (on the same day together with the school principal and the head and teachers of a school department and members of other faculties).
- (5) Lesson Revisions (in Japanese: *hansei kai* = self-critical reflection meeting, two meetings together with head and teachers of a school department).
- (6) Research Lesson 2 (Public Open House, *kōkai kenkyū jugyō* = public research lesson).
- (7) Formal Reflection Meeting (same day together with teachers of the district).
- (8) Final Reflections (two meetings together with head and teachers of a school department).

Nearly the same structure can be found in Dudley's Lesson Study handbook, where the entire process is also described (Dudley, 2014, p. 5). So "teaching a lesson becomes an integral part of a cumulative research process in which practical hypotheses, developed from discussions of data, are systematically tested" (Elliott, 2014, p. 4).

Very similar temporal and organizational structures were used in the study program "Lesson Study: Music in Dialogue," which has been offered and conducted at regular intervals since 2016 at the University College of Teacher Education, Lower Austria, on one hand

currently, a few for in-service teachers as part of their education programs and, on the other hand, to a much larger extent for student teachers as part in their practical studies in schools:

- The first LS group 2016–2017 consisted of four secondary school teachers. One of them has written her Bachelor thesis on this topic (Ensinger, 2018).
- The second LS group 2016–2017 consisted of two secondary teacher education students and one secondary school mentor. Both students have written Bachelor theses (Hübner-Trieb, 2017, Popovic, 2017).
- The third LS group 2016–2017 consisted of three primary school teachers.
- The LS group 2017–2018 consisted of six primary teacher education students and one school practice consultant.
- The LS project work group 2018 consisted of seven primary teacher education students and two primary school mentors.
- The LS project work group 2018–2019 consisted of eight primary teacher education students and two primary school mentors.
- The LS project work group 2019 consists of five primary teacher education students and three primary school mentors.

In addition to all of these persons, there was also the task of the scientific, didactic and organizational support, taken over by the author of this article. This role is somebody like the More Knowledgeable Other (MKO), someone who has a better understanding or higher level of performance in relation to a particular task, process, or concept than the learner. In this case, it referred to the lesson study method and the field of music didactics, including the dialogical-integrative approaches. The term MKO was first introduced in the United States as part of discussions on the reception of Vygotsky's theories. Learning and teaching are primarily understood as processes embedded in social and cultural contexts. The Russian-Soviet psychologist Lev Semyonovich Wygotski (1869-1934, Russian: Лев Семёнович Выготский) saw the development of a (young) person as the common work of this child in cooperation with adults and other children, influenced by the respective cultural environment. He argued that almost all psychic structures and cognitive abilities are due to social phenomena that they initially interacted with other (more competent) individuals and were then internalized by the child. As a result, the term MKO was derived and further developed (Galloway, 2010).

Most of the time, there were four lesson study cycles (Gruber, 2019a, p. 134). Each of these cycles, as described in Peter Dudley's (2014, p. 5) handbook, consists of a joint planning of the research lesson, one sequence of teaching and observing, the interview of the pupils and the reflection meeting with post-research lesson discussion and initial plans for the next research lesson. At the beginning of all cycles, there is the initial meeting of the lesson study group to determine what should be developed overall, improved, taught, learned and observed. And at the end of all cycles, there is the presentation of the work results for colleagues, school leaders and other interested persons as a synopsis of insights gained in the cycles in connection with new questions and visions. The same structure applies also to the LS project work groups carried out as part of the study-specialization "Cultural Education" in conjunction with lesson study (Gruber, 2019c, p. 220), although the project method in combination with that of lesson study presents an additional challenge.

Data collection and research design

All these study programs make use at the "Didactic Design Pattern" (DDP) to collect different data (Gruber, 2019a, b, c). The DDP was developed at the University of Music and

Performing Arts Frankfurt (Main) in cooperation with the Goethe University Frankfurt (Main) by Peter Mall, Maria Spychiger, Rose Vogel and Julia Zerlik. It is part of the Teacher's Handbook "European Music Portfolio (EMP) – Maths: Sounding Ways into Mathematics" (Spychiger *et al.*, 2016, pp. 21-24) and has been slightly modified and adapted to serve the needs of lesson study so that the Didactic Design Patterns enables a synopsis of didactic processes with simultaneous differentiation of the same. The DDP consists of four parts (Spychiger *et al.*, 2016, p. 21) (Figure 1).

Part 1 provides an "Overview" with title, topic, keywords, short description and the assignment to subjects and their curriculum area. Part 2 the "Preparatory deliberations" ensures that students or pupils have all the knowledge and skills needed for these learning activities. Part 3 "Implementation" provides information about the aims, the target group, the timescale, the standard approach and the used materials. Part 4 the "Variations" engages with the various approaches of learning and teaching and provides space for developing more options.

During the "kick-off meeting," this design pattern will be developed jointly by all participants of the lesson study group and modified and varied in the cycles according to the assumptions and learning objectives. With the help of such a Didactic Design Pattern, not only comparative insights between the individual cycles of a Lesson Study project are possible, but also between several projects with quite different topics. On one hand, it enables the synopsis of individual aspects of learning and teaching. On the other hand, the DDP provides a starting point for similar learning and research situations and thus promotes sustainable teaching and school development.

For Elliott (2014, p. 4), lesson study, as a form of experimental research, does not fit traditional experimental designs in educational research. Normally, they employ control groups as a basis for comparison with experimental groups. But in lesson study there are no control groups. There are other forms of comparison, and they come for example from the data of the "Research lesson planning, observation and discussion sheet" from Dudley's (2014, p. 11) Lesson Study handbook. Starting from questions, about what the research lesson is aiming to teach and what learning or teaching technique should be developed by this. The analysis focuses on concrete learning outcome. Three case pupils who had to be chosen and observed were analyzed with regard to performances of the expected behavior and observed reactions. The learning progress, made by the pupils until the end of the learning sequence, was identified through this data. This was supplemented and evaluated by interviews with case pupils after the research lesson "to gain their perspectives on what worked for them, what they felt they learned and how they think lesson could be changed if it were taught again to another class in order to make it work even better" (Dudley, 2014, pp. 11-12).

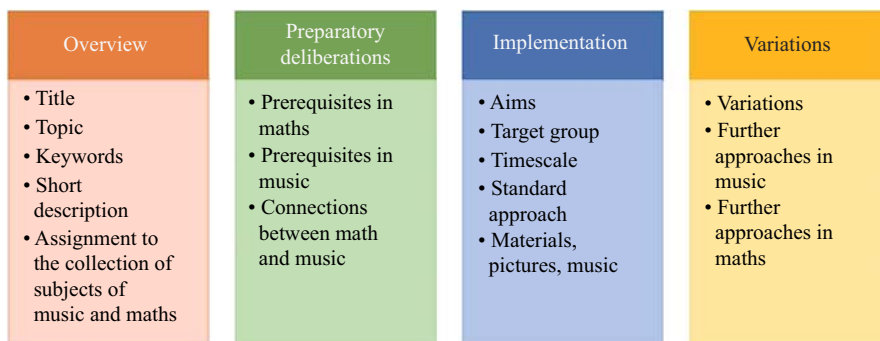


Figure 1.
Structure of the original didactic design pattern

In all of the LS groups mentioned above, the joint aim of the research lessons was to develop in-depth and perhaps sustainable processes of teaching and learning with the dialogical-integrative approaches in connection with music and also other arts or, in the words of Dudley's (2014, p. 11), research sheet formulated in a very common way and not with the view to each lesson of the different cycles: "By the end of this lesson pupils will be able to" understand holistically that learning skills and content related to music and other forms of art can provide experiences on the emotional, social and cognitive levels that would be difficult or impossible to learn without them. For this fundamental approach, specific learning sequences with various topics in each case were then developed by the student teachers of the different LS group, always, with tasks related to the age of the pupils. So, that the student teachers "will know this when" the pupils have mastered their tasks and challenges joyful and inspired and were able to reflect on these activities.

Normally, in lesson study, the classroom teachers formulate the predictions regarding the expected response of the case pupils. Here, actually they were in their role as mentors very little involved in the joint planning of the student teachers. However, they had to make predictions using the DDP, how the respective pupils would react and respond due to the lesson planning. The observations of the individual case pupils were then made by the student teachers, mostly without knowing how the predictions of the mentors were. Only at the end of one cycle in the reflection meetings, their observations were compared with the predictions of the class teachers and also compared with the results of the interviews with the case pupils, which were made after the research lesson. According to Dudley's (2014, p. 12) guidelines, there were questions asked such as "What did you enjoy most about that lesson? What did you learn? (What can you do now that you could not do. What can you do better? How is it better?) What aspect of the teaching worked best for you? If the same lesson is being taught to another group what would you change. Why would you change that aspect?"

In addition to these data, the protocol transcriptions to the reflection and revision meetings after each research lesson provided a variety of insights and knowledge. On one hand to the observed learning progress of the individual case pupils, but also that of the class community as a whole. Then, of course, with regard to the jointly formulated aim of the research lessons to develop in-depth and perhaps sustainable processes of teaching and learning with the dialogical-integrative approaches in connection with music and also other arts. Not at last but also and especially regarding their own dialogical qualities as members of the lesson study group during the many processes of planning, teaching and observing as a professional learning community.

Findings and results

Much of that what the student teachers said in their reflections about their experiences with the dialogical qualities did not seem so important to them that it should be included in their minutes. Therefore, the MKO asked again to make such insights and findings more aware. One of the most common questions was: What are the central points of training with Lesson Study?

Student teacher A: The experience with the team – the fact that the planning is carried out together, it gets a very different feeling, because you are not alone and not alone responsible for the design of the lesson. It was a great experience that I wish every student and I do not want to miss as it has given a new perspective on teaching.

Student teacher B: Working in and with a team is certainly the most central point for me. Moreover, the development process, and being in the midst of it and being part of it, is an extremely valuable experience. For me, it has once again been confirmed that in projects where several individuals are involved, they are always strengthened and with a considerable added value. Finally, it is important to mention that I consistently had a positive feeling and was not hampered by observations of my person during teaching. Fundamental to this was, the open exchange and the encounter at eye level.

Student teacher C: We had much more time than usual to prepare and discuss the lesson [...] and there were many interesting and new insights and approaches, especially when working with music.

Student teacher D: The work in the lesson study cycle was more intensive than any other school practice. I usually got many suggestions and ideas from the mentor for the next lesson, so the framework was in place and I often did not have to worry too much about it. The fact that Lesson Study involved many people and everyone wants to express their opinions, impressions [...] the various ideas were all buzzing in my mind and it took time to sort them. But I am very happy to have gotten this opportunity, especially with scientific support and the many experiences in connection with the music. I find Lesson Study very interesting and I think that this experience shaped my further education and later professional life.

It was like a common thread, a recurrent theme in nearly all student teachers' statements, through almost all reflection meetings: for them never before there had been so much time and space in the context of their school-practical training, to develop, to plan, to realize, to discuss and to reflect so comprehensively and profoundly one of the core pieces of their work, the processes of teaching and learning, and to do this together with everyone who was involved in this. This reminds very clearly of Liora Bresler's (2004, p. 281) statement: "time and space for listening to other's ideas, visions and commitments, and to build relationships." And for most of them, it was also the space where they could act for the first time within their processes of teaching and learning very free, creative and innovative with the dimensions of music and art. Gentle and respectful with themselves and all the others, although or better, precisely because they all are no specialists in fields of music and arts. They have felt joy and inspiration in doing this, which has been transferred from them to the children and from the pupils back to them again that means, this not only affects the primary and secondary teacher education students, but also has a lasting effect on the learning of the pupils in the class community. And more than that, not only the learning and teaching processes but also student teacher's practitioner research with lesson study as a whole expanded the space for dialogue both on the level of relationships and on content and had a direct impact on pupil's learning.

Here are two excerpts from minutes of one reflection meeting of the lesson study group 2018–2019 with their Project work "Chaos and order" and the research lessons "Colours chaos" and "Timbres order." The team had already worked with lesson study in the previous semester:

Student teacher E: After we were the same team again there was an even better organization and more effective communication. And it is not so obvious that so many students can participate in class at the same time. Therefore, we wanted to use this resource and planned stations and groups, each supervised by a student teacher. The first cycle in both classes was a successful start for our project. An important goal was that pupils experience joyfully their creative work. This is what they have shown us many times with their willingness to do and their positive feedback. In the second cycle, we made some changes after the first run, because a greater willingness and joy was seen at the individual stations. The revised last units have come in my eyes particularly well. The children were engrossed in their work and were sometimes difficult to bring to an end, as they always came up with new ideas that they wanted to bring in their work. The pupils presented us with an unforgettable result of their work.

Student teacher F: The first two cycles ran almost smoothly [...] we did not make any changes in the plan for repeating this unit in another class. But after the second run, we could see significant differences concerning the motivation and the interest of the pupils. All in all, the implementation of the first two study lessons succeeded perfectly. I think that was because of our very detailed planning and the great cooperation of the student teachers. Shortly before the Christmas holidays we had the first run of the second unit. This cost us all more energy, as it was difficult to motivate the children for the artworks assigned to them and then to set them to music. In the last cycle, therefore some changes were made. We gave the pupils and their ideas and creativity more freedom. After that, it was extremely exciting to see how the pupils unfolded within our given framework and what implementation options were found. For me all four lessons were great. The collaboration

with the other colleagues, our MKO and also the mentors of the school proved once again as excellent. Only the duration of the practice is relatively short with four days. Here I would generally wish to spend more time with the pupils of the school also to implement another project.

This was also shown very clearly by the observations and feedback from the pupils in the interviews. According to Dudley's (2014, p. 12) guidelines, as previously stated, for example, the question: "what did you enjoy most about that lesson?" or: "what did you learn?," answered the case pupils interviewed together with other colleagues of their group usually in very short but clear phrased sentences: They liked everything so much. Most of the time it was fun for them. The way they had done it had been their intention. The group was very nice. And most of the time, they wanted to know when the teachers would be back and whether there would soon be such lessons again. Fortunately, the observations are always much more differentiated and detailed. This should be demonstrated by means of a last example.

Before and to be able to understand this all even better a short summary of the learning-sequence how it was planned and carried out by the student teachers: The pupils of the class were divided into small groups. Each group got a variety of materials, not arranged but chaotically placed on the ground. They had to choose from that and should make a picture without any guidelines but assisted by a student teacher. The one thing that was given was a term that described a certain mood. For that they got about 40 min time. The second part of the learning-sequence was to compose a short sound-piece and to prepare it for a presentation together in the group, also with the support of a teacher.

The class teacher's predict of this case pupil B based on the lesson plans given by the student teachers was as follows: Case pupil is a rather "top-heavy" student. He loves z. For example, mathematics and problems that challenge thinking. The student is very restless, prolonged quiet sitting is difficult for him. He does his work very fast, but often inaccurate. Therefore, B will be very sloppy in the image design and try to get the work done as quickly as possible. During the musical part, the pupil will initially show much interest. However, he may not have enough stamina while working to concentrate on bringing the "sonification" of the picture to a close. At the debriefing, he will impulsively express his opinion.

The observations during the lesson then showed the following: Case pupil B was very tired at the beginning of the lesson and rested his head on the table with his hand [...] He was easily distracted and soon began a conversation with his neighbour about his desk pad, a world map. When he uncovered his card, he was very happy about the term "wild." In the group he had many ideas, which he gladly shared. When the group decided to make a tornado, he jumped from his seat and immediately wanted to start drawing. He seemed to have a clear idea of what the tornado should look like. Proportion was a problem for B. Although he was trying hard, he did not manage to paint the tornado larger than 5 cm. When the teacher began to draw up guidelines for him, it was much easier and B was very motivated to make the tornado as wild as possible. "He's not wild enough yet" or "That's got to get even wilder!" were sentences that were often heard from him. B gladly informed his classmates and quickly found a job for everyone. These suggestions were gladly accepted by all. B had a lot of ideas, which he always announced, such as: "I let a burger fly in a tornado!" Such statements particularly pleased his male classmates, who supported him with every idea. While composing the music piece, he immediately thought of a guitar or an accordion, but decided to go for a washboard. He patiently listened to all the suggestions of the other children, but also brought in many of his own ideas. In his opinion, everyone should play the tornado together, only the biggest boy should stand in the middle, because everyone would see him. The title of the picture should also be said by everyone at the same time. These suggestions were well received and implemented in the same way. At the performances of the other groups, he listened intently and leaned forward with his body. Case pupil B seemed very interested and motivated overall. It was easy for him to work as a team and literally "sprayed" with ideas.

Throughout the four years, very similar processes could be identified in all lesson study groups and cycles, even though the topics were different and the dimensions of music and other art forms were constantly re-linked new to content from other disciplines:

- 2016–2017: The ballad “John Maynard” by Theodor Fontane was the starting point for a dialogical-integrative learning with a ballad in the subjects Music, German and Sport.
- 2016–2017: “Slavery in the USA and the emergence of the Spirituals” and “The story with the rice or the numbers on the chessboard.” Both students of the core group have written Bachelor thesis with the topics “Opportunities and possibilities in developing specific conceptions and materials for integrated and interdisciplinary teaching and learning in class in Music and English – and on the other hand – in Music and Mathematics” (Hübner-Trieb, 2017; Popovic, 2017).
- 2016–2017: Painting to music of different styles with music; Bedřich Smetana “Vltava.”
- Miles Davis “So What” and Hans Zimmer “The Prince of Egypt.”
- 2017–2018: The journey of our class mascot Oli/Willi/Olga through Austria – a sound journey with music.
- 2018: Project work “Greek muses and arts” with the research lessons “Kissed by the Muses” and “My strengths.”
- 2018–2019: Project work “Chaos and order” with the research lessons “Colors chaos” and “Timbres order.”
- 2019: Project work “Myth and technique” with two research lessons with the topic.
- “The carnival of the animals. Music, language and performance in the field of tension between virtual and real learning spaces.”

In the field of music education, there has been little or no practitioner research in connection with lesson study to date. Therefore, especially for the cooperation of music education with other subject areas in the sense of a dialogical-integrative work, the knowledge and insights gained here are of great importance for the further development of an appropriate didactic. Of particular importance in all these lesson study series was the view on the dialogical permeability in the different levels of learning and teaching.

Value and implication

Dialogical permeability

This permeability could be found in all three areas where data are generated. First in the “Didactic Design Pattern” didactic processes of a lesson study were described as specific didactic situations and patterns (Spychiger *et al.*, 2016, p. 21). Important for the success of this dialogical permeability was the balance between disciplinary and interdisciplinary content and methods, in which not one side dominated the other. The relationship between these two different parts had to be value free so that the disciplinary qualities or the newly created interdisciplinary qualities were not rated as “better” or of “higher quality.” Point of reference was the concept of Max Wertheimer and his Main Theory of Gestalt Psychology: “The whole is different from the sum of its parts” (Goethe-Universität Frankfurt am Main, Institut für Psychologie, Fachbereich 05, 2017).

It also examined which innovations of music and arts integration in teaching and learning were recognizable. And what was the irritation of art on a way to research-based learning? An essential aspect is certainly to experience music and art for their own sake. Far too often, in the fields of learning and teaching research, music and the arts have been seen as something that can primarily be used to increase knowledge and intelligence. It needs a

dynamic and permeable space for emotion, cognition and socialization. If this does not happen, the following usually occurs (Gruber, 2015, p. 197):

- Teaching and learning are reduced to the dimension of cognition. This is usually connected with a regular review of the knowledge content, but also a far-reaching denial of an experience of music.
- Teaching and learning with music are reduced to the dimension of emotion. The experience of music should be made as pleasurable as possible. It dominates the opinion, music education has a very art-related dimension and should not be subject to any checks.
- Music in teaching and learning is largely reduced to the dimension of socialization. As an emotionally charged tool, it serves to enforce other pedagogical, non-music goals and interests. The handling of music is instrumentalized.

To make aware of and counteract these mechanisms is one of the goals of lesson study with music.

And how can dialogical permeability be found in the data of the “Research lesson planning, observation and discussion sheet” from Dudley’s Lesson Study handbook? It is reflected in the observed learning progress of the three case pupils and, in my opinion, of all pupils in a class as a whole. Successful learning steps of the pupils are the indicator for this. Let us remember. Starting from questions, what is precisely the research lesson aiming to teach and what learning or teaching technique should be developed? By this, three case pupils have to be observed on the focus, what behavior and what reactions of a case pupil will be expected, and what learning progress can be observed. Only when the processes are based on the pupil’s needs, the teaching approach and the curricular content are balanced and permeable, and the learning of the pupils can be developed and improved (Dudley, 2014, p. 9).

Qualities of lesson study groups as professional learning communities

At least, the permeability within the professional learning group itself can be found in the data obtained from the protocol transcripts of the analysis discussion. Therein, it reflects the different levels of relationship and different “degrees of participation” (Wenger *et al.*, 2002a, p. 57; Bliss *et al.*, 2006, p. 9) and how the participants of such a lesson study group cooperate and work together. In a CoP beside dialogical processes, the participation on different levels plays also an important role. “Good community architecture invites many different levels of participation” Wenger *et al.*, 2002b, p. 3). And this can only succeed if the various levels are permeable and capable of dialogue. CoPs, originally conceived as a theoretical model, are increasingly becoming a multi-faceted concept of organizational development in which Lave and Wenger (Lave and Wenger, 1991) place learning in the context of social relationships. This is to make understandable how individuals in social communities learn and how they change. The reason is that participation in a community seems to play a central role in the acquisition of knowledge.

In the center of the CoP, there is the “Core Group” (Wenger *et al.*, 2002a, p. 57; Bliss *et al.*, 2006, p. 9) consisting in a lesson study group of three to eight people (Elliott, 2014, p. 3). It has been shown during all Lesson Study cycles that working together in this group size is quite possible. Besides this Core Group, there are “Active,” “Peripheral” and “Outsider,” people depending on the degree of their involvement or active participation in these dynamic processes (Bliss *et al.*, 2006, p. 9). Students, teachers, mentors, school practice consultants, the school management and the school administration are involved, and of course also the pupils and not to mention the coordinator of the core group. For all who are actively involved in the lesson study cycles

in or around the Core Group, the following principle applies “All members of the LS group are equal as learners whatever their age, experience, expertise or seniority in school (or beyond)” (Dudley, 2014, p. 7).

Thus, mentors and school practice consultants are faced with new challenges and their roles and responsibilities have to be redefined in the context of lesson study. Lesson study creates new spaces of learning and encounter in which students or teachers in their function as lesson planers, teachers, observers, participating observers, as “critical friends” (Altrichter and Posch, 1998, p. 84) take on tasks that were normally the responsibility of the mentors or consultants. A mentor teaches the pupils of his or her class throughout the whole year and, on the basis of appropriate training and qualification, he or she is assigned to mentor teacher education students. Due to the necessity of regular documentation of the achievements and work of the students and many other dedicated mentoring tasks, there inevitably arises a hierarchical gap between teachers and students, which clearly contradicts the model of lesson study. John Elliott sees the role of mentors for lesson study quite critical: “Involving mentors in a leading role in lesson study: the issue [...] mentor and student-teacher collaboration involves an asymmetry, in terms of status, power and experience [...]” (Elliott, 2016, pp. 11-13). A viable way out of this apparent contradiction arises when mentors try to take the position of the so-called MKO (Galloway, 2010).

When working with the different lesson study groups, it has been shown that it is not enough to gather people in a group and send them on their way with a work assignment. Only when self-distancing and self-reflection processes take place in the group and the group thereby undergoes a process of maturation, groups develop into Professional Learning Communities. It is important to observe oneself against the background of group events and to share these observations with others. For Ilse Schrittmesser and her concept of “Professional Communities” and also for me, only then they differ from other groups in their “self-directed goal” while other work and project groups have the mission, to produce or realize something (for example, to teach well and provide learning material accordingly), they also pursue the goal to recognize and understand their own group processes (Schrittmesser, 2004, pp. 12-13) to expand the dialogical space of learning and teaching.

To experience, to learn and to explore this requires a dialogical permeability at all levels, that of theory, practice and also that of music and arts. However, although in nature the osmotic exchange of substances via permeable membranes usually happens naturally, similar processes in the field of learning and teaching constantly require new impulses along the border of routine and new. Lesson study can make this possible as a joint (ad)venture of such Professional Learning Communities.

Especially the dialogical principle plays a central and important role. And in connection with music- and art-related processes, previous limits in teaching and learning with music can be exceeded, gently and yet sustainably, both for pupils and student teachers. This all provides new insights into questions of organization and implementation, as well as scientific and didactic support for these professional learning communities, but also about the qualities of the whole and its different parts in such dialogical-integrative learning processes. This is the point at which the results and findings are presented. But the focus in this paper was less on the pupils’ learning than on that of the lesson study group as CoP or as Professional Learning Community.

The so-called professional learning communities have a strong impact on both the development of school staff and student learning. More than any other approach, they combine and unite the learning of teachers with that of students, staff development with teaching development” (Bonsen and Rolff, 2006, p. 184). For Peter Posch, it is precisely the members of a lesson study group who can do that in this way. They assume the responsibility for evaluation and development together, to improve the quality of

teaching, starting at their own studies on University. Such groups have a number of strengths:

- Lesson study groups prevent the professional isolation of teachers.
- They professionalize teachers by appreciating their expertise.
- The strengths and challenges of teachers are known publicly and prevent privatization of education.
- Lesson study groups provide continuous support for teachers and students.
- Working in lesson study groups generates a collective knowledge base within each school.
- They offer professional growth by providing periodically space, time and structure for systematic reflection on practice (Posch, 2014a, b, pp. 8-9).

Only if there is enough space, time and structure for encounter and exchange of experiences, these qualities can be formed and developed. First and foremost, it needs time, a precious good, that we seem to lose more and more in our modern times. To have sufficient time means to be free in a certain way. This can mean being free of someone or something or being free for someone or something. The latter seems to contain a contradiction in itself. But it is precisely this antinomic character that it takes to develop that space in which for a time a dialog between two or more people can unfold. Dialogue needs this freedom, this free space in order to be able to free itself from constraints or calculus to become free or to be free for the unprejudiced encounter with others.

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