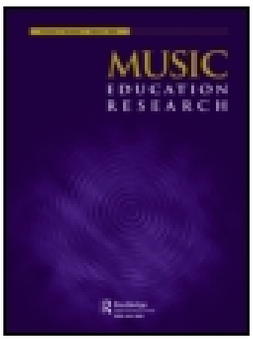

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A pandemic as the mother of invention? Collegial online collaboration to cope with the COVID-19 pandemic

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ABSTRACT

This article aims to present how music teachers in Sweden used the facebook group *Musiklärarna* in the first two months of the COVID-19 pandemic (March andApril, 2020) to cope with challenges related to teaching music. The study is based on Biesta's perspective on the teacher profession. With the consent of the participants, we have analysed the 303 posts (and their comments) that directly addressed the COVID-19 situation during that period. We found that the group works as an important collegial forum and that the teachers pragmatically use the group to solve educational problems; further, the posts concerning work-conditions get the most engagement. The most frequent types of posts concerned how to design teaching situations under the new conditions. Specifically, *asking questions, sharing material, asking for material* and *letting off steam* were the most common types. Music teachers seem to be loyal, collegial and intent on solving any challenge to facilitate students' learning as regulated in the syllabus. We hope this article can motivate other researchers to perform similar studies or build on our results. We conclude by speculating about what the new normal will be for music teachers when the pandemic is over.

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Introduction

This article discusses a study that took place in a giant staffroom filled with music teachers. Music teachers, at least in Scandinavia, are often professionally isolated: they do not have other music teacher colleagues at the school. In Sweden, there are 6,992 members in a Facebook group for music teachers (by 16 October 2020). When the seriousness of the COVID-19 pandemic struck Sweden in early March 2020, this group became what can be described as the staff room and collegial peer group that Swedish music teachers used to cope with the new situation and its pedagogical challenges. This article aims to present an overview of how Swedish music teachers used this Facebook group in the first two months of the COVID-19 pandemic to cope with the new challenges of teaching music.

Theoretically, the study follows a post-Deweyan perspective on professionalism as presented by Biesta (2017, 2010), where teacher professionalism is understood as democratic and relational. Dewey (1910) describes a desirable school system as being genuinely democratic. Biesta (2017) develops this and argues that in an age of neo-liberal education, a democratic and relational

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perspective on the teacher profession is pivotal. A profession is traditionally described as a fairly self-regulated work force that serves society, does highly specialised work, and is dependent on 'relations of authority and trust' (318). On the other hand, a neoliberalist logic values other virtues, and Biesta identifies three 'distortions' of neoliberal professionalism: (1) a turn towards seeing the student as customer or client, (2) a turn from an internal democratic definition of quality to a discourse of technical-managerial accountability, and (3) a turn from professional knowledge and judgement to demands for evidence-based practices. While these three distortions may seem viable at first glance, Biesta shows how they undermine what has defined a profession traditionally – the knowledge, judgement and regulation that are internally defined and built on the knowledge of those who know. As a solution to this, Biesta proposes not only a return to a more classical and closed notion of professionality but also a definition of the teacher profession in relation to students and others involved in the practical life of education (Biesta 2010).

Background

The Swedish approach to handling the pandemic has been different from those in the surrounding Nordic countries and most European countries. In spring 2020, Swedish preschools and compulsory schools remained open, while upper secondary schools and universities transitioned to distance teaching (Pierre 2020). However, parents were strongly advised to keep their children at home with the slightest symptoms, and the same applied to teachers. Some schools that were affected by the virus decided to close down even for the younger children. Consequently, during the studied period, some music teachers were teaching from a distance, some were still in their classrooms as usual (with full or partial student attendance), and some had a class to teach at school but could not because they had symptoms and needed to stay home.

Few studies have been published about music education and the COVID-19 pandemic. Daubney and Fautley (2020) describe the challenges in the United Kingdom for music education in the pandemic. They emphasise the importance of music education and hope that the crisis would underline this issue. Further, Nichols (2020) discusses equality in music education during the pandemic and describes problems in online education in the United States, such as lack of internet access among students. In contrast, in Swedish compulsory and secondary schools, digitalisation is a component in the curriculum (Skolverket 2019; Skolverket 2011). Schools are also required to ensure that all students have access to digital devices. In 2019, 96% of the population had access to internet at home, which makes Sweden the second most internet-dense country in Europe.[1] A combination of access to the internet, a high level of education among teachers, and limited options for daily professional development has led to a rise of a whole range of collegial groups on social media for different groups of teachers (Bergviken-Rensfeldt, Hillman, and Selwyn 2018). This is especially relevant for music teachers in Sweden, as it is common to have only one music teacher per school in compulsory school. Swedish music teachers also rarely follow textbooks in their teaching and instead rely on making their own material based on their interpretation of the curriculum (Skolverket 2015).

The latest curriculum for compulsory school – *Curriculum for compulsory school, preschool classes and after-school centres 2011, Lgr11* (Skolverket 2019) – has toned down the instrumental (Varkøy 2007) role music previously had, compared to other subjects. In previous curricula for Swedish compulsory school, emphasis was placed on educational and personality development aspects, as well as on knowledge development in other subjects in and through music (Skolverket 1994; Strandberg 2007). Instead, the new curriculum requires music as a subject to focus on contributing to the development of students' musical abilities. There has been a shift in the overall goals of the subject; it is no longer instrumental in relation to other subjects in compulsory school. In Lgr 11 (Skolverket 2019), music as a subject has its own value, and knowledge of music is assumed to be the main goal. Knowledge relating to other subject areas is seen as a consequence rather than a goal in itself, which the curriculum advocates overall and thus is all teachers' responsibility (Ferm

Thorgersen 2015). Since the view of the subject has changed, the curriculum places new demands on what is expected to happen in the classroom. In Lgr11 (Skolverket 2019), the subject of music has a clear requirement of making music and listening to music: 'Teaching in music should aim at helping the pupils to develop knowledge which makes it possible to participate in musical contexts, both where they play and listen to music' (159).

The syllabus for music also highlights composing music as one of three abilities that should be developed during the nine years of compulsory school (Skolverket 2019). Organising teaching towards composing music can be a challenge for Swedish music teachers in several ways. Music teachers face the complexity of teaching students to think creatively and to use creative thinking to play instruments as well as to listen to, analyse and create music (Mars 2015). Furthermore, they face the challenge of implementing the revisions of Lgr11 (Skolverket 2019) concerning the importance of digitalisation. A study by Zandén and Ferm Thorgersen. (2015) shows that the implementation of Lgr11 (Skolverket 2019) offers both challenges and possibilities for music teachers. They conclude that the teachers interviewed were committed to implementing the new curriculum (Skolverket 2019) and that within one year Lgr11 had already influenced their teaching. This is in contrast to earlier implementations of curriculums (e.g. Lpo94; Skolverket 1994), which were 'notoriously slow' (Zandén and Ferm Thorgersen. 2015, 39). This reluctant attitude towards implementing new curriculum has also been stated by Johansen (2003), who concludes that the teachers relied on their experience and routine rather than focusing on implementing a new curriculum.

The gap between using digital tools and singing, playing an instrument and composing has been recognised by several music teacher educators in Sweden. This resulted in several initiatives to bridge this gap, for example, the project (and affiliated conference) Make Music Matter, initiated in 2017 by Linnaeus University in Sweden.[2] The aim of the project is to ensure children's democratic rights to express themselves through music by means of digital tools. Partti and Westerlund (2013) have studied teaching composition with the help of the cloud-based resource *Operabyyou*. The study has a critical starting point and finds that informal arenas (e.g. cloud-based resources) for musical learning cannot be transferred directly to formal teaching practices. Thorgersen and Zandén (2014) reached similar conclusions in an action research study on how music students used the internet to learn to play an instrument. Further, Mars (2020) shows through concrete examples how skilled music teachers can create good learning processes by knowingly and consciously using artefacts (Wartofsky 1979), for example, software and cloud-based services. Mars (2020) argues that it is important for music teachers to know their own level in both knowledge and use of an artefact. By identifying whether an artefact is used at the primary, secondary or tertiary level, teachers can become aware of what abilities they, as teachers, need to develop. Not only music teachers face the challenge of incorporating digital tools into their teaching. According to Godhe and Sofkova Hashemi (2018), teachers in the core subject Swedish feel that they lack the competence to assess qualitative aspects in the digital form of film production, and they express a struggle to develop teaching that can give students basic knowledge in the digital tools required. This issue affects students, which is confirmed by Kenneth Silseth and Øystein Giljes (2017). They argue that it is problematic to use multimodal texts, such as digitally produced texts, as a form of examination because this new and unfamiliar way of working takes time from learning the subject itself, which in turn makes students reluctant to work with multimodal texts.

Mars, Brännström, and Brännström (2017) conclude that when teachers expressed pedagogical satisfaction in teaching with digital tools, the common themes were clear leadership, collegial peer learning, colleagues that teach together, colleagues that act as critical friends, and teachers' view of failure as an opportunity for learning. In this collegial learning process, teachers can employ a 'trial and error' attitude to develop new didactic methods that are shared and evaluated together with colleagues. Mars, Brännström, and Brännström (2017) argue that this learning process needs to become normalised and incorporated into school education in order to facilitate teachers' development. In Swedish compulsory schools, there is usually only one music teacher per school, which

means that music teachers lack the collegial learning aspect of teaching. In the study by Bergviken-Rensfeldt, Hillman, and Selwyn (2018), a major finding is that the teachers do a particular kind of *work* when they participate in the professional Facebook group: a work of developing as a professional and also a work of co-creating a profession.

When analysing how the Facebook group in the current study is used during the first months of the COVID-19 crisis, we take a particular interest in how this work of creating and supporting professional development is manifested in the posts. This is particularly relevant because previous research has indicated the need for music teachers in Sweden to develop in order to develop as a profession (Zandén 2010).

Materials and methods

The study analyses material from the largest Facebook group for music educators in the Nordic countries, the members-only group *Musiklärarna* (The Music Teachers). As of 16 October 2020, the group has 6,992 members. It is run by four administrators, who all have an education of four or more years from a music academy and 20–25 years of experience teaching music. In order to be admitted into the group, you must be either a music teacher or studying to become a music teacher; the admins check before allowing membership. The total number of employed music teachers in the comprehensive school (*grundskola*) and upper secondary school (*gymnasium*) in Sweden was 12,992 in 2019 (Skolverket 2020). Therefore, this Facebook group includes approximately a third of the music teachers in Sweden. There are also music teachers in the group from other school forms like pre-school, higher education, churches, and municipal arts schools (*kulturskola*), as well as members that are not currently working as music teachers. However, in the current study, the posts analysed mainly involved music teachers in comprehensive school and/or upper secondary school. Furthermore, the Facebook group focuses on discussing educational issues, mainly in comprehensive school. The description of the group states,

> This group consists of fantastic music teachers and is run by volunteers without any help from institutions or profit-driven companies. We are tolerant in discussions and we enrich each other by different perspectives on what is happening in music education, foremost in compulsory school.

The data for this study was collected on 15 September 2020. All posts between 15 January 2020 and 15 September 2020 were collected in order to document some quantitative differences in the activity level before and after the outbreak of the disease. The analysis can be understood as a hybrid study of mainly quantitative data, supported by strategically chosen posts and conversations to exemplify and develop the quantitative analysis. However, even the quantitative analysis is based on '"quantifying" qualitative data' (Holtz, Kronberger, and Wagner 2012, 59) in that every post is read and coded by the researchers. The two authors have collaborated on every aspect of this study from a distance, making extensive use of collaborative tools such as Google Docs and Zoom to perform the analysis and write the article.

Procedure for data collection

The Facebook group was scraped for all posts and comments, along with data such as names of the posts/comments authors and links to images posted. The software used was the open-source software Ultimate Facebook Scraper (UFS).[3] After UFS had downloaded the posts, they were all listed in a big text file that was imported into LibreOffice Calc – a spreadsheet programme. The format of the text file has flaws which make it necessary to clean up the spreadsheet. This was done manually by Thorgersen (the first author) and Oliver Pahmp[4] (a research assistant) before the file was uploaded to a Google Sheet, where it was shared with Mars (the second author) for collaborative analysis.

Procedure for analysis

In Google Sheets, the dataset was manually coded to prepare for analysis. First, all main posts were coded for the sex of the main author of a post.[5] Next, all posts that we interpreted as being a response to the COVID-19 situation were identified. The data-sheet was cleaned from posts that dealt with topics that had no reference to or relevance for the topic of the study: COVID-19. All the *relevant* posts were thereafter inductively coded by both researchers together in Zoom meetings while sharing screen, where the *qualitative data was quantified* (Holtz, Kronberger, and Wagner 2012). A total of 42 categories were identified: 26 of these were related to the topic of the post, 9 were related to what kind of content was posted (links, questions, tips etc), and 7 categories had to do with what kind of school the posts were about. The dataset was then prepared for both the quantitative and qualitative analysis.

The quantitative data was analysed with the help of an assistant, Oliver Pahmp, who also helped clean up the data. For this the software package, 'R' was used in combination with LibreOffice, Google Sheets, and Excel. Since only the main post and not the comments were coded (they were useful in the coding of the main post and were considered a part of that post), the total amount of posts was too small to test for correlations between many categories. However, hypotheses generated through the manual coding were tested and are hence presented in this article in cautious terms such as 'the data indicates … ' to avoid generalising based on too little data. Therefore, the analysis is both qualitative and quantitative since we use qualitative reading and verification to understand and contextualise the conclusions constructed through the statistical analysis. The quantitative findings are also supported and elaborated on by selected posts and conversations that we strategically chose to understand the data more fully. Importantly, we do not conduct an in-depth qualitative analysis of all the relevant posts in this article. While such an article would probably be of great interest, it would require the article at hand to be comprehensible and to give context. Therefore, we have attempted to balance the need for an overview and presentation of the data with sufficient qualitatively based reflections to make the article relevant and interesting to read.

Ethical considerations

Doing research on online material requires ethical considerations (Zimmer and Kinder-Kurlanda 2017), even in cases where the information is publicly available. The content was not originally created to be researched, and since all participants in research should be informed and participate voluntarily, this is problematic. Zimmer and Kinder-Kurlanda (2017) suggest that researchers can only strive for an ethically-informed research practice instead of pursuing the notion that there can actually be any ethical research in the social age. Some argue that this is no different from studying newspaper articles or television-shows, while others argue that online content, at least in social media, can be considered semi-private (e.g. Coughlan and Perryman 2015). In this case, the Facebook group is available to members only, so it is even more problematic. In order to solve this, we posted a message in the group on 31 March 2020 where we informed members about the study and the ethics of research and told them that anyone who had questions or objections should contact us. We received no objections, one cheering comment and 59 likes in the form of a thumbs-up or heart. Our comment may have been missed by some members who authored studied posts or comments; however, considering the amount of data, the fact that everything is anonymised, and that the group consists of 6,992 members, the chance that very private information would become a part of this study is minimal from the start. Further, since we went through every post manually in the coding process, any post that contains private or sensitive information would have been removed from the dataset, yet no such posts were found.

According to the Swedish Research Council (2017), a research project has to be reviewed by an ethics review board if certain conditions exist. The Swedish Research Council has divided the requirements for ethical review into two categories: The first category concerns mainly medical

science, which does not apply to this study. The second category could be applied to pedagogical research.[6] After conferring with researchers from the Media and Communication departments in our universities, we concluded that our study did not meet the requirements for an external ethical review.

Results

Despite having the first confirmed case of COVID-19 in Sweden already on 31 January 2020, the first post in the Facebook group mentioning 'corona' or 'COVID-19' was posted on 5 March. It was a post about how to clean guitars and keyboards. Such a post could have been posted even before the pandemic, but in the comments, 'corona' is mentioned. Therefore, we decided to analyse all data within a two-month period from 5 March to 5 May. A possible explanation for the seemingly late response to the new situation by the profession could be that Sweden's health authorities initially claimed that the pandemic would probably not affect Sweden; moreover, as one of few other European countries, Sweden did not shut down any part of society until early March (Pierre 2020).

The Swedish approach in strategies and working conditions during the pandemic is quite clear in the posts, which typically ask for things like 'I am searching for lesson plans for outdoor activities' (Post from 17 March). Other examples include, 'Hey, let's create inspiration for our pupils? Do you have any suggestions for home tasks for year 3-4? Preferably the kind that I can also do with the children in school' (Post from 17 March) or 'OK, new times for music ed … What are your experiences of JamKazam?' (Post from 17 March) or the first post about COVID-19: 'What do you use to clean guitars and keyboards' (Post from 5 March).[7]

From a total of 2,701 posts (from 15 January to the day of the scraping), there were 950 posts in the selected time span (i.e. 5 March to 5 May). Of these, we identified 303 posts of relevance in the manual coding. Accordingly, around a third of the posts in this time span was related to the pandemic somehow. The posts that were not considered relevant or dealing with the pandemic had topics that are discussed in this group all the time, such as how to assess a certain instrument, how to teach something in the music classroom, or a tip on a music teacher vacancy. We identified the relevant posts by reading them one by one and guesstimating whether these would be there if it had not been for the pandemic. We encountered some dilemmas in this. All posts about cloud-based software were labelled as relevant, but if we look at posts from before the pandemic, such questions and tips were raised even then.

Engagement and distribution

The activity in the group increased significantly in the beginning of the pandemic. In February, before the pandemic, the average number of posts per day was 6.2. In March–April, this increased to an average of 15.6 posts per day. Thereafter, the number of posts per day dropped somewhat, but it was still higher than the level before the pandemic (11.9 posts per day). The distribution of posts in the two months can be seen in Figure 1, which shows a peak towards the end of March.

We assume that this increase in posts in the first two months of the pandemic was because of the disruption in routine: music teachers, who often work without music teacher colleagues at their school, suddenly needed a collegium for support in order to find solutions to their new working conditions. The vast majority of posts in the whole dataset were first author posts, that is, not shared or just a picture (1,832 posts). This indicates that this Facebook group functions as a channel for genuine conversation between professionals, not just a channel for sharing links or posting funny memes. We will come back to this later in the article when we discuss the comments.

The manual coding of the material identified the following types of posts: *asking question*, *sharing material*, *asking for material*, *letting off steam*, sharing *funny links*, *sharing inspiration*, *complaining*, and *advertising* (Table 1).

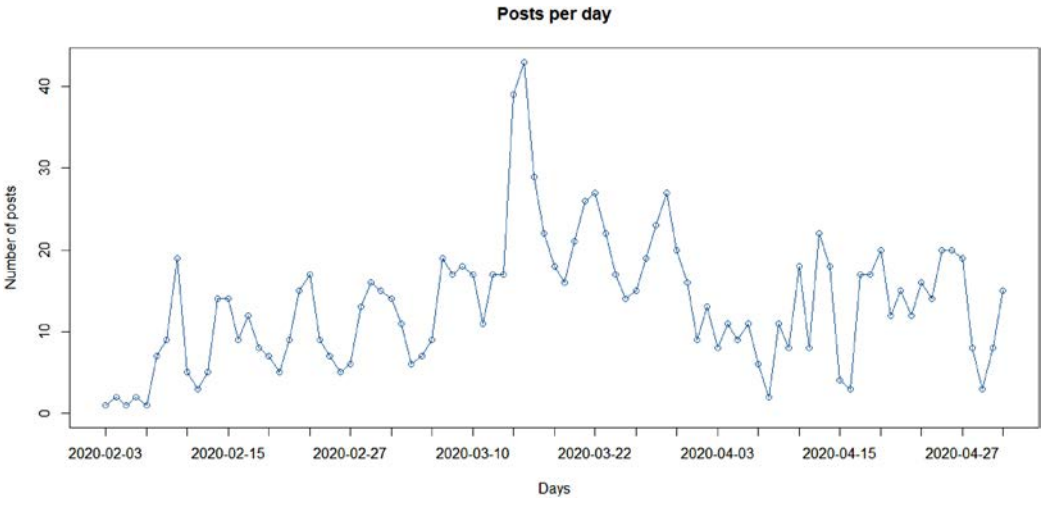

Figure 1. Number of top posts in March and April 2020.

Table 1. Types of posts.

Type of post	Number of posts coded
Asking questions	98
Sharing material	96
Asking for material	24
Letting off steam	21
Sharing Funny links	16
Sharing inspiration	11
Complaining	8
Advertising	7

Regarding the distribution of posts, we searched for significant patterns regarding gender and posting, testing whether either men or women were more inclined to post in the group and whether this changed in the pandemic. The distribution of main posts in the group mirrors the gender distribution in the group fairly accurately: 65% (615 posts) of the posts in the period were written by women and the rest (335 posts) by men.

We were curious about how many of the posts were written by different persons, that is, whether there were just a handful of people who represented to the majority of posters. Among the 950 posts in the studied period, there were 523 unique posters. Most posters in the studied period posted just one or a few posts, and only a few members posted quite frequently, as can be seen in Figure 2.

The figure shows that most people posted once or twice and that there is only one member who posted more than fifteen times in the period. We have not done the same analysis on the comments for two main reasons: First, the data from the UFS scraper made the comments unsuitable for quantitative analysis. Second, our aim with the article was not to categorise the comments but to get an insight into how the group functioned as a community to solve issues caused by the pandemic; therefore, we decided to concentrate on the main posts in the quantitative analysis.

Nevertheless, the data we have collected on comments gives some insight into the collegiality of the group. Posts with text/photos that are not a shared link or similar received the most responses, with an average of 12.2 answers per post. Posts labelled with a certain feeling received 11.8 answers per post, uploaded files received 6.5 answers per post, links received 4.9 responses per post, and posts or links shared from other groups received ~2 responses per post. This shows that the chance of getting an answer to a post is high. In other words, there is little chance of investing time and

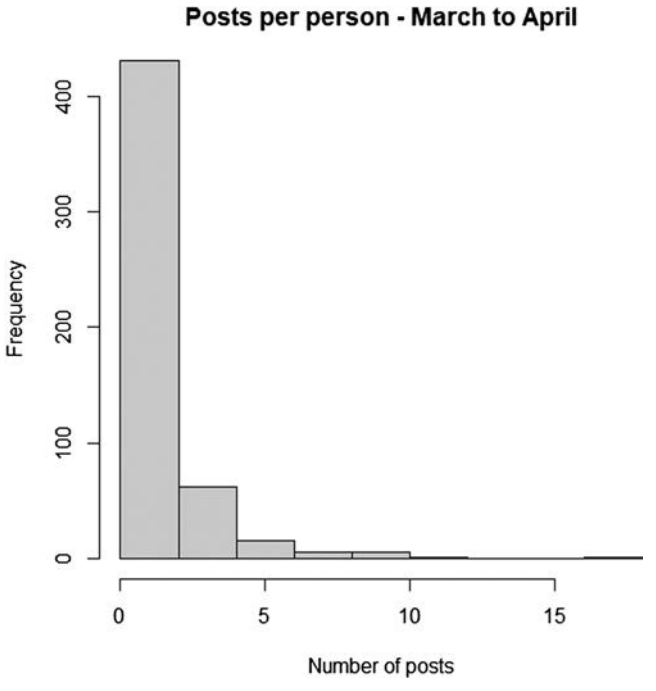

Figure 2. Number of main posts per author in March and April.

effort in posting to the group and receive nothing in return. The post that received the most comments in the complete dataset received 184 comments (this was outside the time frame we decided to analyse).

Content of the posts during the COVID-19 pandemic

The members of the Facebook group use the group to discuss, ask questions, share educational material and tips, let off steam, and so on. Because of the design of this study, all posts somehow deal with the COVID-19 pandemic, and the vast majority somehow deal with music teaching and learning: a few posts link to official recommendations for society during the pandemic, but almost always in combination with a question concretely connecting this to music teaching and learning. The conversations are initiated by the teachers for the teachers. During the inductive coding, we identified 27 different categories for describing content in the posts. These are listed by frequency in Table 2.

One post can belong to several categories, so the sum of the number of posts in the right column is more than the sum of the coded posts. For example, there were many posts coded with both *software* and *cloud based*, which are the two most frequent categories after *distance education*. Those posts about software that were not coded with *cloud based* were either coded with *GarageBand* (which we decided to have as a category for locally installed GarageBand-like software – i.e. digital audio workstations [DAWs]) or coded as generic questions, tips or opinions on software.

Distance education is the most frequent category even though most music teachers in Sweden still worked physically in the music classroom. This has several possible explanations: Since we decided to study only the first two months of the pandemic, whether schools were going to close was still an open question in Sweden, and the teachers describe a need to plan ahead. Further, since the Swedish recommendations involved staying home if showing the slightest symptoms, teachers sometimes had to teach from home or do hybrid teaching, where they combined distance

Table 2. Number of posts per coded analytical unit in March and April.

Category	Instances
Distance education[a]	108
Software	98
Cloud based	79
Infection	65
Singing	54
Lesson plans	53
Music creation/composition	39
Music theory	39
Analogue instruments	36
Technical (pre)conditions	35
Instructional material (film/PowerPoints etc)	35
Musical performance	27
Working conditions for music teachers	23
School decision-making	18
Teaching aids (commercially available)	16
GarageBand	14
Ensemble (playing/singing)	11
Assessment	9
Movement (dance etc)	7
Other	7
Frame factors	4
Meeting	4
Mixed online/offline teaching	3
Free in the pandemic	3
Law	2
Admin	1

Note: [a]The term *distance education* is here used in its broad meaning and involves what is sometimes called *remote education* and even *mixed learning*. What is important here is the physical distance between teacher and student and the use of technical solutions in the teaching. Both synchronous and asynchronous teaching are included.

teaching with teaching in the classroom. Finally, this category may be frequent because of how we coded the material: post that we interpreted as asking for or tips about tools that could be used for distance learning were coded with *distance*. Surprisingly, *infection* is only the fourth most common category. We interpret this as an indication that the music teachers in this group are pragmatic professionals who, when necessary, search for workable solutions to make music teaching work.

The impression we get from looking at the posts in the aforementioned categories is that they are mostly of the type *asking questions* or *sharing material*. There are not many with just complaints (eight posts are labelled *complaining*). The posts combining *software* and *cloud based* dealt with different challenges and topics, but many posts discussed online DAWs, particularly BandLab and SoundTrap. There are numerous software solutions that are asked about and tipped about, but the two aforementioned solutions are significantly more common than any other software package. To understand why, one needs to know the history of the Facebook group and the features of these programmes. SoundTrap is a Swedish company, and schools are its primary customer base. It has developed an educational package and announced this previously in the group through the Make Music Matter conference and school project, where participating teachers acquired free access to the whole educational package. Therefore, SoundTrap was already established in the group when the pandemic started, and its features were tailored to the hybrid form of distance education because it allowed students to work from home and in the classroom. Students could cooperate in the process of creating music; they could record, programme, mix music, and communicate within the software about their creative processes. SoundTrap also worked through the web-browser or as an app, so as long as the students had access to any kind of internet-connected device, they could participate.[8] All the while, the teacher could monitor and influence the process. BandLab has very similar features, but for 'free',[9] so it has been adapted as the go-to software for some

teachers in the group. When the pandemic struck, those teachers became eager advocates for the software, and they created and shared tutorials for many of its relevant features. Typical posts about the two softwares were as follows:

> Becomes more and more impressed by Bandlab. Just now we are programming midi. Made a tutorial video that the students can follow themselves and learn from. So much fun to see the students becoming music producers! (Post sharing a video, from 10 March)

> I want to start a project in Soundtrap with my year 8. We have earlier made drop-tunes. Does anyone have a lesson plan/task ready to share? ☺ I am out of ideas. (Post from 9 March)

Thus, the posts show both sharing and asking in a friendly tone. The second post received three responses with links to two tutorials[10] – one of them using BandLab but pointing out that the software is similar so the tasks are transferable. Most posts dealt with the practicalities of using these programmes, but there were other discussions that evoked a discussion, such as the following comment on a BandLab tutorial: 'Bandlab was unfortunately not accepted in our municipality due to GDPR[11]' (Response to post from 17 March). As discussed elsewhere (e.g. Thorgersen 2020), making use of commercial social media in a compulsory school setting is problematic both ethically and judicially. This comment, along with some others, that a software is not accepted judicially is not met with much understanding by the group members. The teachers (based on our observations) are pragmatically searching for solutions, and these programmes are well suited to the task and seemingly free to use, so why do the bureaucrats complicate matters? It is beyond the scope of this article to go further into this question than to point out that there is a tension here between the teachers' needs for working solutions and the ethical and judicial implications of exposing students and students' data to commercial actors outside national control on a mandatory basis.

Singing is the category that follows in terms of frequency (see Table 2). Towards the end of the studied period, reports came in the media about singing as a contributor in spreading the disease.

> How has your school discussed singing in group in Corona-times at your schools? Is it just business as usual? Or, do you think that there is an increased risk because the students stand close and spit consonants (like)? How do you reason? (Post from 5 May)

This post received 32 responses that varied from 'We do as we usually do' to 'We have cancelled the singing and playing and work with theory instead' or 'In our school we have decided to only sing outside'. This thread introduced the first discussions about different ways of spreading the infection, and *aerosols* are mentioned as a factor. At that point, the evidence for spread through aerosol was not established scientifically, but early results indicated that it was a factor and some of these teachers were very well-informed. Hence, the Facebook group functioned as a space to share important information within the profession by the professionals. However, a few comments showed less concern: 'Corona-hysteria!' was the response from one participant. Others pointed out that children fought and hugged on breaks anyway, so why bother trying to keep them safe in lessons, after which some pointed out that it was not only the pupils that could be infected but also the teacher. This is only one example of a thread that kicks off the discussion among the music teachers in the studied period; however, it is a typical one.

Lesson plans was also a frequent topic, and posts in this category are either of the type *asking questions*, *asking for material* or *sharing material.* The shared lesson plans are sometimes posted as just text, but more often, the teachers attach a PDF, a Word file, or a PowerPoint file. Sometimes they refer to webpages or blogs made by music teachers for music teachers – such as Musikrum Rickard (Music Room Rickard, https://musikrumrickard.blogspot.com),[12] which is the most common (mentioned 18 times in the analysed data). The posts include all kinds of material, but as we can see from the content categories (Table 2), the categories *singing*, *music creation/composition*, *music theory* and *analogue instruments* are the most common – both in general posts and in those asking for or sharing lesson plans.

In the category *music theory*, we have included posts addressing all parts of musicology, such as music history, music sociology and so on.

> The students work in pairs. They choose a song that has influenced music history and then make a 15–20 minute podcast where they discuss the content of the song such as: lyrics, structure, musicians etc. Then they discuss how the song influenced music history and how they believe that it will keep on influencing history. They finish off by discussing how they think the song would have been received if it was released today. (Comment to post asking for tips from 30 April)

We also included in this category lesson plans for working with analogue instruments, such as the following for drum-kit:

> Task: rehearse an accompaniment in four-four with a fill, film it and mail me. Love the creativity! ☺ (Post from 3 April)

Many of the posts deal with what students are supposed to learn, such as the examples in the above two posts. This also applies to the posts under most other categories, such as the posts about *assessment* and *performance*, both of which increased the closer we got to summer break and the traditional summer concerts. The teachers are inclined to solve any problems, and they identified the problems of recording a summer concert and streaming it early and used the group to solve them.

However, some posts are different. We have two content categories that directly deal with teachers' working conditions: *technical (pre)conditions*, *school decision-making* and *working conditions for music teachers.* Some of the posts involved questions about whether schools should close, about how headmasters' decisions affect teaching and about how to prevent spreading the disease. Such topics and posts received plenty of answers:

> In these contagious times all I see online is corona and its consequences. I thought I would ease the mood somewhat and share some glimpses of joy from our wonderful students. Last year I had a student in year four who was wondering about the lyrics in an English hip-hop tune. I offered my services to help. And was interpreter: But - no way you can do this! You are super old, like 80! (Thanks! / Just turned 50 😂😂) So - what's your best? (Post from 31 March)

Like a regular staff room, this group has space for more informal conversations like the one above. This is an example of how the teachers seek professional support as well as informal chats regarding all aspects of their work as music teachers. Here, stories that everyone can recognise and laugh about are shared, building a sense of 'we music teachers'. As Table 3 shows, these are also the post categories that receive the most comments.

Before wrapping up this article, we will present which post content categories receive the most responses.

Table 3 shows that although the posts concerning the foundations of music teaching are not the highest in frequency, they receive the most response. This could be another indication that the teachers use the group primarily for support in their educational planning; it could also mean that they are worried and engaged in questions concerning their own working conditions.

Discussion – the music teacher profession at stake

The title of this article (A pandemic as the mother of invention? Collegial online collaboration to cope with the COVID-19 pandemic) attempts to summarise some of our study findings. The first part is a paraphrase of the proverb 'Necessity is the mother of invention', which exists in both Swedish and English. In this study, it refers to how a crisis has pushed teachers back to square one and made them revaluate their teaching strategies, their content and their own praxis theory (Lauvås and Handal 2000).[13] Music teachers needed to revisit and reconsider their own teaching, which was most often locally constructed for each school's preconditions. Since Swedish music teachers are used to creating their own teaching resources, we assume that many were competent in

Table 3. Total main posts per category with mean number of comments to main post organised by category.

Category	mean number of comments	total main posts in category
Distance education	8.04	108
Software	8.28	98
Cloud based	7.29	79
Infection	11.55	65
Singing	7.20	54
Lesson plans	8.81	53
Music creation/composition	7.41	39
Music theory	8.31	39
Analogue instruments	9.39	36
Technical (pre)conditions	10.6	35
Instructional material (film/PowerPoints etc)	6.57	35
Musical performance	13.70	27
Working conditions for music teachers	19.43	23
School decision-making	18.22	18
Teaching aids (commercially available)	11.25	16
GarageBand™	7.43	14
Ensemble (playing/singing)	6.55	11
Assessment	17.55	9
Movement (dance etc)	6.28	7
Other	8.71	7
Frame factors	6.25	4
Meeting	4.75	4
Mixed online/offline teaching	12	3
Free in the pandemic	8	3
Law	17	2

developing methods and content in order to fulfil the demands of the syllabus. However, during the pandemic, the speed by which the new material had to be developed, in combination with the extraordinary conditions under which the teaching had to be performed, made the sharing of material, tips, and ideas in the Facebook group essential to cope in the crisis, which is also in accordance with the stated purpose of the Facebook group. The teachers in the studied group repeatedly express this in their search for plans that will work. They are intent on facilitating student learning; at the same time, they express that they are somewhat lost. This need for collegial support in order to succeed with cloud-based resources is also recognised in Mars, Brännström, and Brännström (2017). Although the focus amongst the teachers in the current study seems to be not on developing the teaching but on just managing to implement it. Some of the posts indicate that the teachers are out of ideas and that they need others to help them do their job. In normal cases, this would be unusual since these are (at least often) experienced and competent teachers who have clear ideas about how to teach their students in the best way possible. The situation in Sweden during the pandemic has pushed the music teachers to reconsider and go back to basics – to make teaching and learning work in new circumstances. Thus, despite the extreme situation, the teachers are still focused on following the syllabus in Lgr11 (Skolverket 2019). The music teachers in Zandén and Ferm Thorgersen's (2015) study managed to implement Lgr11 within a year, which would be 2012. Now in 2020, music teachers face the complex task of not only staying true to the syllabus – and, for example, managing to teach students how to compose music creatively (Mars 2015) – but also coping with the many challenges posed by COVID-19. The results of our study clearly show the need for the Facebook group – for a professional community with whom to brainstorm, share thoughts, and find support.

We have already stated that there is a strong collegiality among the music teachers in the group, that the purpose of the group is to discuss pedagogical issues with colleagues, and that this is looked after by a group of administrators. Having investigated deeper to see the nuances of this collegiality, we can see it comes in different types: One kind of collegiality (represented by several of our identified categories) is to seek support on a view or opinion; another is to seek help in solving an educational problem; a third, and related, is to share and spread good educational

plans and ideas within the profession; and a fourth is to seek support regarding working conditions. There is also a fifth type, a meta feature of collegiality, which is to be a part of co-constructing a professional discourse – to be a part of the group *music teachers in Sweden*. Since music teachers in Sweden are usually solitary in a school or even in a municipality, the Facebook group Musiklärarna may be necessary for and the only source of collegial support. As opposed to the worry expressed in Bergviken-Rensfeldt, Hillman, and Selwyn (2018) about a possible 'diminished professionalism and expertise of teachers' (248) as a long-term danger, we rather find tendencies of increased professionalism in the Biesta's (2017) sense of democratisation and self-regulation. The act of seeking out and trying to obediently accomplish the task of fulfilling the externally defined demands of curricula and school leadership can be interpreted as an act of deprofessionalisation in bending to neo-liberal ideals; however, the knowledge development within the studied group is best understood as a genuine act of relational professional development for the profession from within the profession. It is simultaneously subversive resistance to authority and obedience towards the same.

There are several aspects of this collegiality that we have not investigated, such as how the members in the group who do not post or comment are involved with the group. In the two-month period we investigated, the group had over 6,000 members, but only around ten percent of these initiated threads by posting a new thread. In the posts we have studied, we see a high level of pragmatism – of intent on doing a good job and on solving problems. The level of consensus in the group is seemingly high despite the presence of some counter-voices in the comments, such as the one about 'corona-hysteria' in the thread about singing. As previously mentioned, the group is heavily moderated to avoid breaking any laws or going against governing policies; therefore, an interesting question is whether this also reinforces the feeling of consensus in the group. However, we do *not* believe that people in this group feel censored or that the group has a low threshold for getting involved. Swedes are generally consensus seeking (e.g. Andersson 2009) and avoid conflicts, and if we regard this Facebook group as a part of building a professional identity, then avoiding conflicts and seeking consensus could be a necessary component of building a well-functioning group. If we draw a parallel between this group and the Swedish government in the studied period, Swedish politicians from different parties (who usually publicly disagree on most issues) had a truce where they all stood behind the Swedish COVID-19 strategy. The studied Facebook group adapted to the new situation, so it is not certain that the sense of consensus would be as prominent if we had studied the group in any other period.

The new normal?

Music teachers, students, and other relevant parties have all experienced and learnt new approaches to musical learning during the pandemic – learning that will influence the new normal. What we have shown in this study is how this Facebook group has been important in developing such competences in the crisis. To further investigate how the crisis evolves into the future – to reach the new normal – we believe it would be interesting to follow up on this Facebook group in a year's time and make a longitudinal study to track the changes. To quote Dylan (1964), 'you better start swimmin' or you'll sink like a stone / For the times, they are a-changin''.

Notes

1. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Digital_economy_and_society_statistics_-_households_and_individuals
2. https://makemusicmatter.se and https://lnu.se/en/meet-linnaeus-university/conferences/make-music-matter
3. UFS is an open-source Python script that was free to use and change at the time of writing the article. Later this has become a subscription based service. https://github.com/harismuneer/Ultimate-Facebook-Scraper
4. Oliver Pahmp is a Master of Science in Statistics.

5. This was done on the basis of the names. In some cases, the names were foreign, unfamiliar or possible for both sexes, so we manually checked their Facebook profiles. This means that we have not recorded any transgender persons, so there might be minor errors in the coding.
6. A research project shall also be reviewed if it (B) entails the handling of sensitive personal data according to Section 13 of the Personal Data Act (SFS 1998:204), including information on race, ethnic origin, political views or religious conviction, or personal data according to Section 21 of the Personal Data Act, including information on judgements in criminal cases. Condition (B) thus means that all research dealing with sensitive personal data shall be ethically reviewed, regardless of how the data has been collected and whether or not the researcher has obtained the participants' consent. (The Swedish Research Council 2017, 30–31).
7. All text in the group was in Swedish and translated by the two authors of this article.
8. As already stated, 96% of the population in Sweden had internet access in 2019.
9. We put 'free' in quotation marks because of the vibrant discussion about what 'free' on the internet really means. Free services such as Google, Facebook etc. usually earn money through either advertisement or collecting and selling user data – or a combination of both. In the case of BandLab, it is the outcome of a Singaporean heir to money, Kuok Meng Ru, starting a company and buying into music companies of different kinds (Shazni 2016). In the end-user license agreement, BandLab states that it provides data for advertisers but that the site in itself contains no adverts.
10. http://musikkung.blogspot.com/p/mmm.html and https://youtu.be/yOPgrLLJNAc
11. The General Data Protection Regulation Law in the European Union about data protection (https://www.datainspektionen.se)
12. Musikrum Rickard was a free blog at the time but has later been sold to a commercial company called Musikoteket.
13. *Praxis theory* is a concept that describes how every individual teacher constructs their own ideas and ideals for what is considered important in their teaching profession based on their personal experiences, knowledge and values.

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Provide short biographical notes on all contributors here if the journal requires them.

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