



Emergency Remote Teaching in instrumental and vocal lessons in Portugal

Clarissa Foletto¹, Dora Utermohl de Queiroz², Eric Lana³

clarissafoletto@ua.pt

^{1,2,3}Institute of Ethnomusicology – Center for Studies in Music and Dance, Department of Communication and Art, University of Aveiro, Portugal

Abstract

This article reports a study of the processes involved in the sudden adoption of Emergency Remote Teaching during the first lockdown due to the COVID-19 pandemic in Portugal. After interviewing eleven instrumental and vocal teachers of the specialised Portuguese music education system, the results revealed four main themes that were addressed in their perception of the impact of ERT, namely: (i) adaptation process; (ii) strategies; (iii) limitations and (iv) implications. Overall, due to the pandemic situation, teachers focused on students' well-being and tried to build a close relationship through synchronous and asynchronous interactions. Teaching was primarily dependent on the support of parents and the availability of technological resources by students. Teachers concerns were to keep the bond and motivation, find effective ways to evaluate their progress and establish effective communication and interaction with them. The adaptation process also revealed five different groups of strategies adopted by the teachers. Apart from the technical difficulties and limited opportunities to use conventional teaching approaches, teachers recognised that students developed autonomy and self-reflection in instrumental/vocal practise during the first COVID-19 pandemic in Portugal. However, they also agreed that this state was strongly influenced by the lockdown, which led to more opportunities for practise. This format has brought teachers and students closer together and made emotional aspects an important element of the lessons.

Keywords: COVID-19; Specialized artistic education in music; Emergency Remote Teaching; Instrumental and vocal learning.

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1. Introduction

“13th March 2020 - Everything started when I got a call from one of pedagogical directors (on the Friday) before schools started to close. She asked me about my position regarding starting online lessons. I confess that my first response was, if everyone is doing it I'm going to do it too, however I must say that I can't imagine myself teaching cello without touching the student or playing with them.” (Participant teacher)

In March 2020, many instrument and vocal teachers were forced to abruptly switch to a new and fully technology-enabled teaching model due to the global COVID-19 pandemic. Since then, a variety of terminologies have been proposed to define such a model. Some of these terms, namely online and distance learning, have become widely used. However, such a use is not consensual among authors. According to Hodges and his colleagues et al. (2020), it is a mistake to confuse widely studied educational models, such as online or distance learning, with the model adopted in the transition to remote instruction. According to these authors, the learning model adopted in an emergency situation is defined as Emergency Remote Teaching (ERT) (Hodges et al., 2020). The authors also state that online learning is planned and systematized differently from ERT which is adopted temporarily in response to a specific circumstance; i.e., not all students have access to the necessary technical resources and there is no planning of activities or assessment tools.

ERT involves the use of fully remote teaching solutions until the emergency or crisis is over. As soon as the normality is established, face to face classes must return again. The main objective in these circumstances is not to recreate a solid educational ecosystem, but to provide temporary access to education and educational resources in a way that is reliably and quickly available (Hodges et al., 2020). According to the same author, when we understand ERT this way, we can begin to separate it from "online learning".

Although the literature on this topic is emergent, (Aaberg, 2022; Pozo et al., 2022; Schossler, 2021; Biassuti et al., 2022; Oliveira et al., 2023; Daffern et al., 2021), there is still a lack of systematic observation of the impact of ERT on instrumental and vocal lessons, particularly in Portuguese Specialized Music Education. Therefore, this article reports a study on the processes involved in this sudden adoption of ERT during the first lockdown resulting from the COVID-19 pandemic in Portugal.

2. Background

2.1 Instrumental and vocal lessons

Instrumental and vocal lessons are generally based on individual lessons in a master apprenticeship model (Foletto, 2020; Creech and Gaunt, 2012) characterised by a teacher-centred approach. This model, which is still a central activity in Western classical instrumental teaching and learning (Foletto, 2020; Creech and Gaunt, 2012), describes a scenario in which teachers mainly talk, technique is often

emphasised and questioning accounts for a small proportion of lesson time (Burwell, 2012; Creech, 2012; Simones, Schroeder and Rodger, 2015; Zhukov, 2012; Foletto, 2018). Furthermore, these studies emphasize that students' activity in the lessons is mainly about playing (Foletto, 2018). However, this paradigm is starting to change with research implications that are suggesting that instrumental and vocal learning could have a much more impact if their practices are based on student-centered model (López-Íñiguez & Pozo, 2016; Pozo et al., 2022), exploring the students' main interests, identities, creativities and artistic desired outcomes (Dalagna, 2022).

The instrumental and vocal teaching in Portugal is partially articulated with regular teaching and is widely found in Academies and Conservatoires financed or co-financed by the EU and national funds. We have 6 public national conservatoires and around 100 private and cooperative schools. All these schools are based on the Specialized Portuguese Music Education System which is designed for students who want a specialized education with the objective of working in an artistic field or accessing higher artistic education. According to Vasconcelos (2015), "specialized music teaching is a composite, complex and reticular field situated at the crossroads between the worlds of education and training and the worlds of arts and culture" (p. 98). The instrument or vocal course can be taught individually or in a small group of two students. The duration of the lessons usually is 45 minutes per student plus 45 minutes of group lessons. All pedagogical practices known up to the period before the pandemic had been carried out face-to-face.

2.2 Emergency Remote Teaching in music instruction

Before the Covid-19 pandemic, in the music education field, there were works shedding light on the strengths and limitations of online music instrumental lessons and distance performance (Brändström et al., 2011; Davies, 2015; Levinsen et al., 2013; King et al., 2019;). On the other hand, the pandemic disruption brought to light a series of works about this period and the quick adaptations of the teachers (Biasutti et al., 2021; Calderón-Garrido & Gustems-Carnicer, 2021; Encarnação et al., 2021; Gohn, 2020; Hash, 2021). As indicated in the introduction, although some of these works use terminologies such as online learning, e-learning, and others, their results cannot be compared to previous results in online music education. The first studies during the pandemic sought to provide an overview of the ERT during the COVID-19, focusing on aspects such as ways to enable instrumental teaching through video conferencing softwares, positive and negative aspects, and changes in pedagogical approaches from the teachers' perspective (Biasutti et al., 2021; Calderón-Garrido & Gustems-Carnicer, 2021; Encarnação et al., 2021; Gohn, 2020; Hash, 2021). One of the main findings raised by ERT literature in music instruction was the necessity of teachers to adapt their pedagogical approaches used in-person lessons to a new reality mediated by technology (Calderón-Garrido & Gustems-Carnicer, 2021; Biasutti et al., 2021; Gibson, 2021; Aberg, 2022; Daugvilaitė, 2021; Encarnação et al., 2021).

The following adaptations to teaching methods were highlighted: i) spent more

time planning lessons and preparing materials such as recordings (Pike, 2021, Biasutti et al., 2021); ii) went from a teaching method focused on physical modeling to a method focused on verbalization and writing (Biasutti et al., 2021); and iii) used of asynchronous resources to explain concepts or to give for the student a better feedback (Aaberg, 2021; Encarnação et al., 2021; Pike, 2021; Calderón-Garrido & Gustems-Carnicer, 2021).

One point of agreement in many studies is the independence of the students who joined ERT. Related to this, authors state that students became more autonomous because they had to deal with technological devices (Biasutti et al., 2021) and had to do some activities on their own, such as tuning the instrument, an aspect that in face-to-face learning is commonly assumed by the teacher, especially with beginners (Aaberg, 2022). What cannot be ruled out is the negative influence of a global pandemic on teachers' practices. If some teachers have adapted well to this challenging situation, others have not (Pike, 2021). Some studies stated that teachers experienced workload (Aaberg, 2022, Joseph & Lennox, 2021) during the pandemic. Therefore, on the one hand, some teachers noticed their students' progress, on the other hand, some teachers felt that they were just teaching to "keep the students busy" (Biasutti, 2021).

3. Method

Based on a qualitative approach, interviews were used to analyze the teachers' perspectives on the processes involved in the sudden adoption of ERT.

3.1 Participants

A total of eleven instrumental and vocal teachers accepted to take part in this study. The participants were all teachers of conservatoires and academies of music in Portugal. The participants were from various instruments, i.e., Singing (n 1); Percussion (n 1); Viola (n 3); Violin (n 5); and Cello (n 1). They ranged between 26 to 55 years (6 females and 5 males). They have different levels of experience, i.e., less than 5 years (1); 5 to 10 years (3); 11 to 15 years (2); 16 to 20 years (1); 21 to 25 (1); more than 30 years of experience (3).

3.2 Data collection and analysis

Data collection was based on structured and semi-structured interviews collected between the end of March and May 2020 (the first Covid-19 pandemic lockdown). The interviews were conducted in writing (structured) and via Zoom (semi-structured), lasting around 30 minutes. The script for the structured interviews was sent by email to the participants who preferred to answer in writing. The semi-structured interviews were conducted by the first author and were recorded and transcribed verbatim using F5 Transcript software. All the interviews were conducted in Portuguese and only selected segments were later transcribed into English. Before the interviews began, each participant filled in a characterisation form with demographic information such as: age group; gender; instrument taught and years of experience. The interview protocol was focused on topics such as the

process of transition; communication aspects; news strategies and methodologies; lesson structure, evaluation, and the impact of the new modality and technological issues.

The participants responded voluntarily to the interview. They were aware that the data would be collected anonymously and used for research purposes only. All participants received an information leaflet and gave their informed consent before taking part in this study. This research followed the ethical guidelines of the British Educational Research Association - Ethical Guidelines for Educational Research, fourth edition (BERA, 2018).

All the interviews were analysed by all the authors, based on a thematic analysis approach (Braun & Clarke, 2006; Robson, 2011). An inductive method was used, in which themes and codes emerged from the data. The analysis followed five steps: (i) Familiarisation with the data - familiarisation begins during transcription and afterwards all the authors read and re-read the answers and initial ideas were noted down; (ii) Generation of initial codes - all the relevant information was coded across the entire data set. A total of 45 codes emerged; (iii) Searching for and identifying themes - The 45 codes were grouped into potential themes, taking into account repetitions, similarities, differences, linguistic connectors, and theory-related material (Ryan and Bernard, 2000); (iv) Reviewing the themes - checking that the themes are coherent with each other; (v) Constructing thematic networks - a thematic network was created to demonstrate the interaction between the final themes.

4. Findings

Overall, the results reveal four main themes related to the impact of ERT in the specialized Portuguese music education system. They are (i) Adaptation process; (ii) Strategies; (iii) Limitations and (iv) Implications. Figure 1 presents the thematic network with the main themes and their categories.

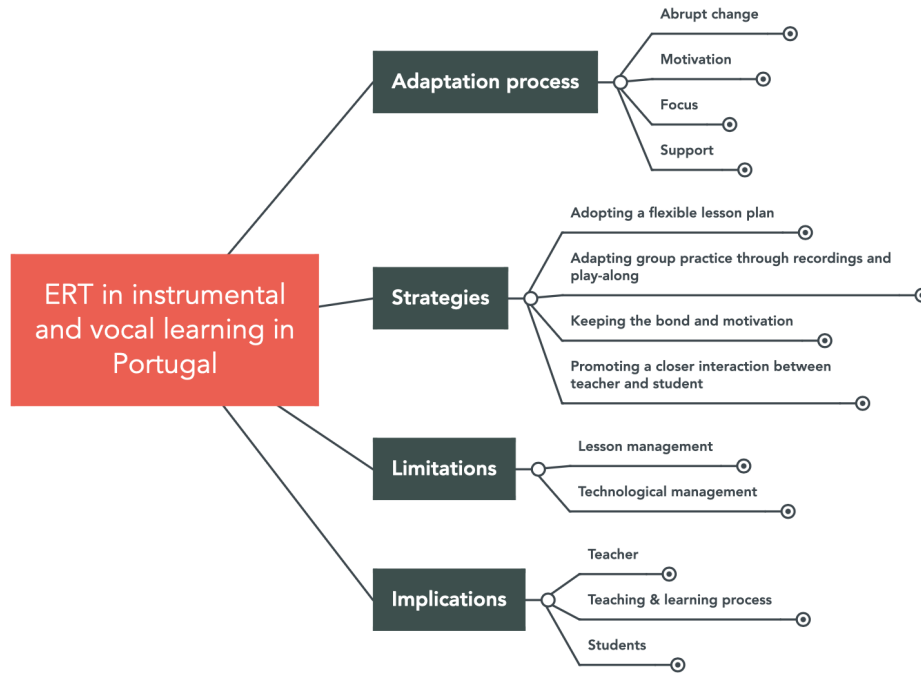


Figure 1. Thematic network

4.1 Adaptation process

The results suggest that adaptation to ERT was influenced by an abrupt change caused by the pandemic, levels of motivation, pedagogical focus, parents' and institutional support.

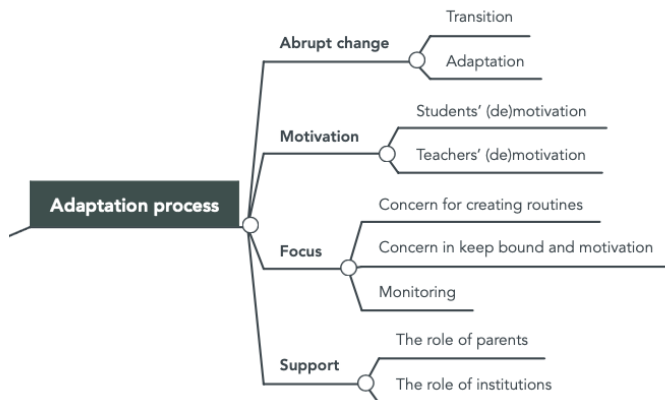


Figure 2. Adaptation process categories and codes

Abrupt change

In the ERT it is natural that the adaptation is considered abrupt, as there is no evidence of a smooth and slow transition. However, in Portugal, we can consider that the first month of the first lockdown (before Easter 2020) was the time when teachers were most affected and had the least support from their institutions. They had to look for and experiment with different communication platforms to deliver synchronous lessons themselves. After Easter, some schools pre-defined some

technological platforms and tools to use.

The transition was quite abrupt. In the space of just 3 days, I organised the lessons for the week of 16-20 March to take place via the digital video call platforms (P13.Q1)

Some teachers were open to the transition. However, they complained much more about the abrupt imposition than the technical challenges. They were also forced to reorganise their lesson plans and those who weren't used to planning felt the need to have a lesson plan.

It has been difficult for me to adapt to this new modality, although some things of technology were already used in that, since before this pandemic. However, the issue of being induced to a new method sometimes requires planning and this issue of the whole surprise that caught us, it has been a little difficult because I still don't, even spending all this time I still. (P8)

Adapting to this new reality has forced us to reorganize the way we teach. (P20)

We have some cases that which asynchronous and synchronous strategies have been used before, and for this reason, the adaptation process seemed to be easier for these teachers:

Ok, so for me personally it wasn't such a big revolution since, for example, let's just give some examples, I already used... I have a library in Dropbox... teaching is integrated teaching within a school and with these students since the 7th grade I try to make them as autonomous as possible. With them, I already used [Google] Classroom, which depending on what the parents want, whether they want to monitor or not, I also add the parents or not (...) that is, I used everything through the classroom and my scores as they are all digitalized it was very easy to share. (P9)

Motivation

If, on the one hand, the abrupt change was a challenge for those who were not technologically literate, or encouraged student autonomy, on the other, the adaptation process was characterised by apprehension and instability, with an impact on teacher and student motivation.

Even with a weak connection, some sadness and prostration are visible in the students' facial (and even body) expressions. There is some difficulty because there is no physical contact, no hug to comfort the students on a less good day. (P.20)

In the beginning, I felt a lack of motivation from them [students]. Lack of motivation, of commitment, of work, of individual practice. It seemed that they were..., you could clearly see that they were lost, they didn't really know what they wanted, they spent weeks without practicing, they always looked like they were on holiday, and I don't really know what happened... Now, recently, they've been working more, they've been working harder, and they've been focusing more, and I think they've managed to get into a rhythm, which shows that it took time to adapt, and they've managed to adapt to it (P.8)

Focus

Because of the pandemic, teachers focused their attention on students' well-being, establishing close relationships through synchronous and asynchronous interactions, trying to keep the bond and students' motivation, and searching for effective ways to monitor their progress and create routines. Participant teacher 20 and 8 talked about this focus.

In the context of the lockdown that everyone is forced to, the lesson is the minimum necessary help that the students need. Therefore, the lesson allows for monitoring the students' work, checking the rhythm of work, and the performance of the proposed tasks, giving the necessary technical and musical support, and motivating the students. (P12)

I try not to create pressure and try to make the singing lessons a time to enjoy the music, decompress, be an escape... (P20)

Support

In addition, the teachers encourage the involvement of parents, inviting them to participate and take on this role in the lessons and in the children's practice.

I am encouraging parents to get involved and do assembly projects with their children. (P2)

The physical presence of parents in class has helped younger children to fulfil tasks related to individual practice. (P12)

As a rule, most parents establish the connection and are present, helping students, in some cases, to tune their instruments. (P13)

The teachers also mentioned the importance of the institutions' support, particularly concerning the technical and pedagogical issues.

One of the schools provided a piano accompanist to make recordings and make them available to the students (P.16)

4.2 Strategies

Data analysis also revealed four different groups of strategies adopted by teachers to adapt to the ERT, namely: adopting a flexible lesson plan; promoting group practice through recordings and play-along; keeping the bond and motivation; and promoting closer interaction between teacher and student. All these strategies and their sub-strategies are possible to visualize in Figure 3:

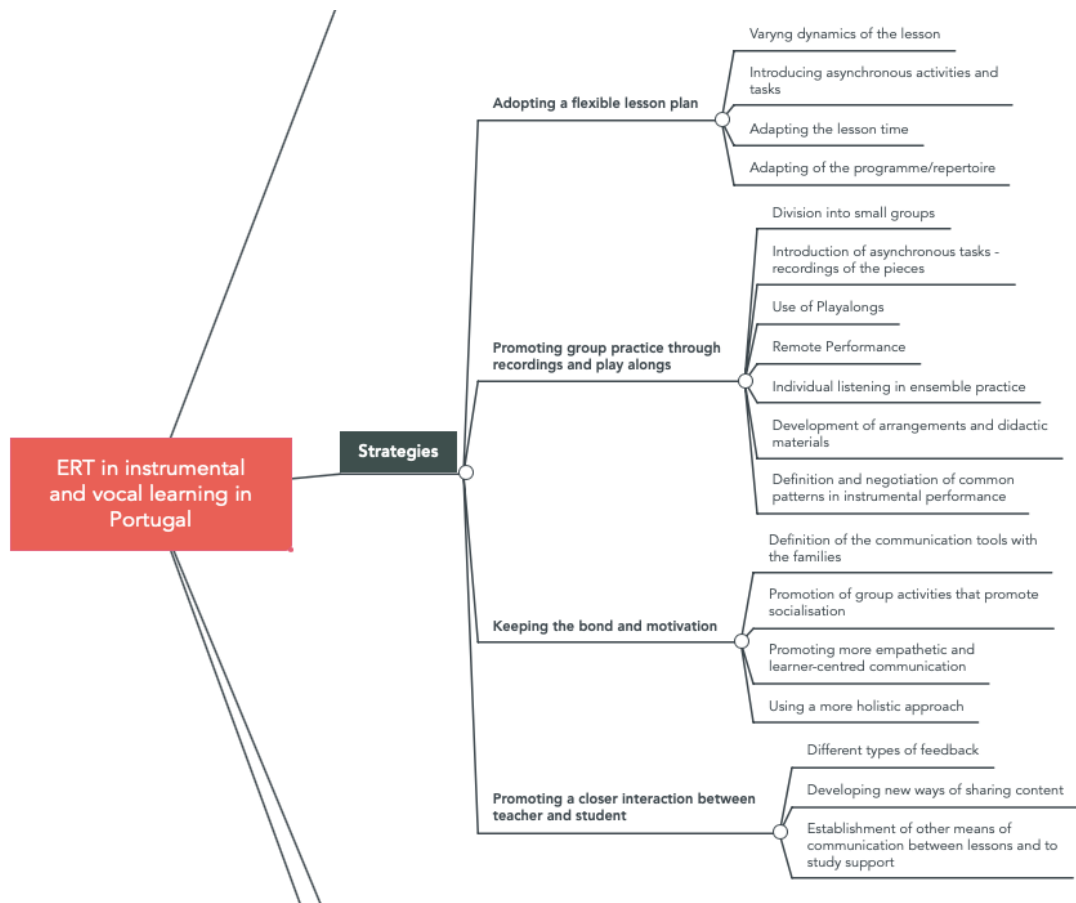


Figure 3. Strategies categories and codes

Adopting a flexible lesson plan

The first group, the adoption of a flexible lesson plan, is related to some changes and adaptations that teachers have had to implement. They have had to vary the dynamics of the lesson, for example by emphasising some aspects that, according to them, are easier to cover online, such as reading skills, or even addressing a more theoretical than practical perspective.

I have put a lot of emphasis on reading skills, to the detriment of performance requirements. (P21)

The lessons are been percussion history, focusing more on the chronological part, of a history, trying to describe a line that could identify the main works, main composers, why some works, and their prominence. (P8)

Or even adapt the lesson for students who don't have their instruments at home, that is the case of the percussion students.

So, the lessons consisted of doing a simulation of what it would be like later when they can play again on their instruments, more or less a real situation. So, we would play on the floor and exercise just in wrist movement (...) and in terms of instruments now what I have done is work, being restricted to one instrument only, which is the instrument they have at home, and that they, let's say so, is the only thing they can play. (P8)

Many teachers are starting to introduce asynchronous activities and tasks into their

class routine, mainly by asking students to record themselves between lessons and then giving some feedback on their performance.

I have been asking all levels of education for recordings with critical reflections. (P21)

Another strategy adopted by some teachers was the adaptation of the lesson time and also the program and the repertoire.

I don't feel it would be useful to have two online lessons, so I've just set up 'one' system where we have a 45-minute online lesson and through Teams, I send them to do a fixed assignment with a due date... (P.2)

Promoting group practice through recordings and play-along

From the eleven teachers interviewed, three of them also give group lessons. To overcome the boundaries of technology, teachers had to divide students into small groups and introduce asynchronous tasks in their group lessons - e.g.. recordings of the pieces. In addition, they have created and used play-along and strategies such as remote performance and individual listening in ensemble practice.

Since it is not possible for the students to play at the same time, the following methodology is being adopted: two weeks of section lessons followed by a Tutti week. In the first week, the 1st and 2nd violins are heard, and also the Flutes; in the second week the 3rd violins and Cellos are heard; in the third week, a Tutti lesson is held. In the weeks when the students do not have their section lesson they must send a video of the piece(s) under study. (P13)

In addition, they have created and used play-along and strategies such as remote performance and individual listening in ensemble practice.

They had to record their practice and pieces and send it to the teacher - even small and easier ones - with audio accompaniment so that the student would not lose the ability to play accompanied. (P26)

As indicated, the impossibility of sound synchronisation in group classes led to a methodological adaptation, with students presenting their work individually to the teacher and classmates. (Q13)

Keeping the bond and motivation

As we could observe before, keeping the bond and motivation was one of the main focuses during ERT. Therefore, the interviewed teachers have also developed some strategies to answer these aspects. One of these strategies was the definition of the communication tools used during the lessons with the student's family, considering each necessity and their limitations.

So, I tried to establish with each student and family the platforms that best served each student (within those that I also knew). In this phase "came into play" WhatsApp, Skype, Zoom, and Hangouts (the latter two were more unknown to me but were quickly assimilated and understood).

They also promoted more group activities to increase students' socialization and

tried to use more empathetic communication.

(P13) The aims of this practice are not only performative but also social so that the pupils maintain a connection with each other and belonging to the class does not fade away. A moment of sharing their experiences in this period of confinement will also be included in the next lessons [in group classes] (P13)

The difficulties felt by the students, forced us to find alternative ways of sharing and interaction between teacher and student narrowing the physical distance and maintaining whenever possible, a close and empathetic relationship. (...) I try to have a closer speech, as well as bring the face closer to the camera, try to involve the student, and make him/her interact more (P.20)

Finally, to keep the bond and motivation some teachers tried to adopt a learner-centered and holistic approach.

I try in every lesson to talk a little at the beginning and end of each lesson to understand how the student feels and what I need to improve to achieve better results with each student. (P26)

I try not to create pressure and try to make singing class a time to enjoy music, decompress, be an escape from the rest of the work (from regular teaching especially), and above all feel pleasure doing something they like and have chosen to learn to improve themselves. (P20)

Promoting a closer interaction between teacher and student

During the interviews, it was possible to observe a concern among teachers to promote closer interaction with the students. Also, some of them recognize that they started to be much closer with the students not only because they were "inside" of their houses, but also because they were all in the same situation, sharing similar concerns and challenges. Some teachers start to talk much more between lessons with their students, establishing other means of communication and using different types of feedback that have not been used before.

On the positive side, there is an increased exchange of messages with students, especially with students making more recordings which allows them to give more feedback on their practice. (P13)

At the end of each class, I give a summary in Teams about what we did in class, and we talk during the week many times, sometimes it's "Good morning teacher," other times it's nothing, but there is more conversation [...] So, the fact that they are in technology all day is that they have, perhaps a more open channel of communication. (P2)

4.3 Limitations

Data revealed two groups of limitations concerning ERT. Teachers identified limitations related to the lesson' and technological' management.

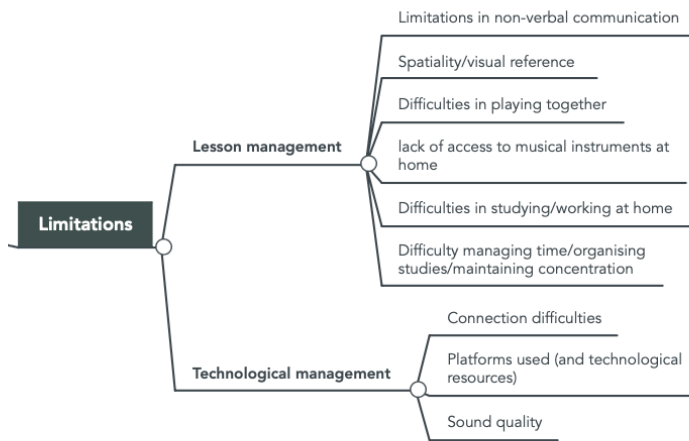


Figure 4. Limitations

We have identified six aspects that refer to limitations in lesson' management, namely: limitations in non-verbal communication; spatiality/visual reference; difficulties in playing together; lack of access to musical instruments at home; difficulties in practising at home; and difficulty managing time (organising practice and maintaining concentration).

Some limitations of non-verbal communication include the impossibility of touching the student, modelling them, especially with beginners who need further corrections in their posture.

So, the fact that I can't touch the student, I can't go there and adjust, I can't use my touch, their touch to be able to correct, they feel my hand, they feel with which part, which finger, which part of the finger I'm talking about, that's actually negative...(P5)

Issues of a physical nature (e.g., using the wrist, being more flexible, not pushing, etc.) are more difficult to overcome for younger students who need more sensory help, whereas older students react more easily to an intellectual cue or explanation. (P12)

In addition, the limitations to using physical modelling have taken teachers to use much more verbal communication. With beginning students, teachers had more difficulties explaining new concepts, and they felt the impact of this on their learning.

Beginners did not develop as much as if it had been face-to-face classes as they often did not understand new concepts or had difficulties and it took us longer to achieve goals. (P26)

Teachers also mentioned the difficulty in capturing the image of the student's entire body and the consequent teacher's need to correct the student's position in relation to the camera.

Getting them framed on screen is a challenge sometimes for them to understand, for example in one class I took a screenshot, then at the end of the piece, I said... "OK, now you're going to get camera-centered, Are you seeing it on the screen? Are you seeing your image? Are you seeing your whole

viola? Are you seeing the tip of the bow and the bead of the bow? Now you're in the right place. I took another screenshot and sent him a picture of the two so he would be aware, of why I had to have him in a certain place. But you can use that later, When you're on stage, you must know where to position yourself, right? (P2)

The percussion teacher reported that their students have felt a lack of access to musical instruments at home.

I think another difficulty that is evident is the question of the availability of instruments that we no longer have, and they start to have the instruments that they have at home just at their disposal. (P8)

All teachers identified some difficulties in working from home and also talked about the reality of their students in the practice sessions.

For me it's completely impossible being able to start teaching at 8:15 in the morning which is my reality. I can't do that because of the neighbors and because I have a small child who doesn't wake up so early sometimes. Then I also have to respect this nap time that oscillates between two and four, lost 2h of work and then also because I cannot stay until 8:30 at night because I do not want to say, in family terms, it is completely unthinkable. (P9)

It's really difficult to organize and manage the time at home with the issue of sometimes having several people using computers, and they have to do this, or have to go to different rooms (P8)

From the students' side, I can see that not all of them have the best conditions at home for the lessons but it is something that I have to adapt to and try that the student gets the best possible results according to all the limitations that are imposed on him/her. (P16)

The teachers felt also that some students, mainly the older ones, were not so comfortable with synchronous lessons mainly because of their overexposure. Some had shame about their houses or their families, others were concerned about their image on the screen in synchronous moments or video recordings.

Many students are notoriously more embarrassed and nervous, not only because of all the preparation process before the lesson (turning on computers, zoom's, placing computer and micros in correct positions, placing in an area where there is good internet signal, etc.), but also because they are playing "for a computer" and often being recorded. As this is a new situation, it always leaves the student in a state of alert and stress - even if unconsciously - which leads to greater tension, worse posture and greater discomfort when playing. (P26)

Managing technologies

Teachers reported some limitations related to managing technologies, which include connection difficulties; platforms used (and technological resources), and sound quality. In general, teachers had to create and search strategies to face

these limitations.

For example, with young children, there is no way to replace the handling of the child's hands. The alternative is to focus on what is possible to control or help from a distance. Demonstrating the sound you want to make without even hearing the sound the student is making is no substitute (P12)

4.4 Implications

The last emergent theme from data analysis is the implications, and concerns aspects related to the teacher, student, and teaching-learning process.

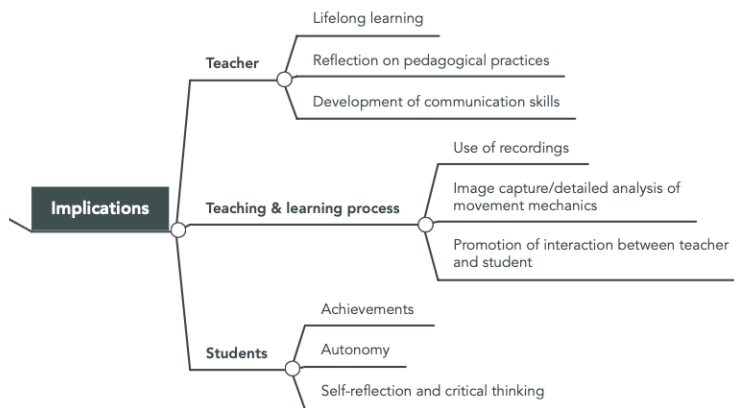


Figure 5. Implications

Apart from the technical difficulties and reduced possibilities to use conventional teaching approaches (e.g., physical modelling), teachers recognized that during the first pandemic lockdown in Portugal, students developed autonomy, self-reflection, and critical thinking in instrumental/vocal practice. However, they also agreed this condition was strongly influenced by the lockdown, resulting in more opportunities to practice.

Curiously, I feel that my students are doing more productive work now. It also seems to me that their critical thinking skills and autonomy are increasing. For example, when I asked them to send me a video, most of them told me that they had to record it several times because they didn't like the final result. (P16)

[...] with the regular requests to record the practice, these students increased their achievement as they contacted the practice more often than before. (P20)

Despite the daily tasks for the regular school, students who demonstrate greater intrinsic motivation for instrumental practice have shown greater evolution because they consequently have more free time or find in their instrument an escape from the boredom of their daily lives at home. (P13)

Teachers identified some benefits of capturing images for detailed analysis of movement. They also assumed that would continue using recordings in their lessons. Teachers also agree that this experience promoted the interaction between students and them. The participants agreed that with the ERT they

developed their communication skills, pedagogical practices, and their awareness of lifelong learning.

Also, the fact that the lessons do not allow a detailed exploration, has allowed students greater freedom in their performance. It is an interesting aspect to consider in my teaching practice. (P13)

5. Discussion and conclusions

The abrupt change in teachers' practice during the first lockdown was the main topic explored in this article which reported a study on the processes involved in the sudden adoption of ERT resulting from the COVID-19 pandemic in Portugal. The adoption of this new teaching model, totally mediated by technology, was not a choice, it was an imposition on Portuguese Specialized Artistic Education in Music, as has happened with other schools around the world. However, there was scarce information about the transition from face-to-face teaching to a ERT model on instrumental and vocal lessons. Based on this gap, we interviewed eleven Portuguese instrumental and vocal teachers to explore their perspectives on this transition to the ERT. Based on a thematic analysis we found some features of the adaptation process, a set of teachers' strategies to overcome the challenges, and some limitations and implications of this modality.

The results here reported suggested that Portuguese teachers were creative, flexible and demonstrated an enormous capacity to adapt and react to new and difficult situations, developing new teaching strategies and practices. This was also evident when comparing the limitations pointed out and the strategies developed. These results are in line with the findings of Encarnação et al. (2021) in their research into the adaptation to the ERT modality of generalist music teachers of music education and specialised music teachers of musical training (*formação musical*) in Portugal. In addition, we noticed that teachers familiarized to using technological tools that promote self-regulation in students' practice (e.g. digital diaries to monitor practice, recordings, interclass communication and asynchronous communication tools) felt a less abrupt transition to ERT. Teachers stated that the act of recording pieces, etudes, or exercises allowed students to develop new skills, such as self-evaluation, self-reflection, and competences that made them more autonomous during musical practice.

The technological challenges faced by teachers are also well documented not only in work in the field of ERT (Biasutti et al., 2021; Aaberg, 2022), but also in research on online music education (Dammers, 2009; Brändström et al., 2012), where teachers who used home internet connections also felt it impossible to play along with the student. On the other hand, in studies using software that allows for reduced latency and has a technological structure specially designed for online classes, the results are completely different, as participants report fewer limitations and an experience very similar to interactions in face-to-face classes (Davies, 2015; Riley et al., 2016).

A point of agreement in many studies is the students' independence that came

together with ERT. Related to this, teachers stated that students became more autonomous because they needed to deal with technological devices (Biassuti et al., 2021). Teachers sought support from parents to monitor music practice and manage this electronic devices. This strategy was also described by Oliveira et al. (2021) for the musical improvement of Portuguese instrument students learning online during the pandemic.

A key contribution of this study is the identification of strategies that facilitate the understanding of ERT in instrument and vocal lessons during the first lockdown. These strategies revealed a flexible approach concerning the lesson plan, format, communication and repertoire, . The main focus in this period was on pedagogical actions that could maintain the bond, students' motivation, and a closer interaction between teacher and student. The use of these strategies may reveal that there is still room to foster students' main interests, identities, creativities and artistic voices in instrumental and vocal lessons (López-Íñiguez & Pozo, 2016; Pozo et al., 2022; Dalagna, 2022). The needs of the first lockdown led the teachers to adopt a student-centred approach and this aspect could be maintained in face-to-face classes.

However, it is necessary to mention some limitations of this study, namely the number of participants and the limited classes of instruments and the two formats of interview. Teachers from other classes beyond singing, percussion and strings could have been heard. They could have brought different perspectives and challenges. In addition, the two formats of interview could have affected the results of the teacher who participated in the structured interviews in comparison with the information given by the teachers that were involved in an oral conversation. Future research can analyze the impact of ERT over time in Portuguese specialized artistic education in music. What practices have remained? How have Portuguese teachers changed the way they teach? What we have learnt from ERT?

Apart from the results presented here, it is important to highlight that online teaching needs to be something well-planned and organized in a manner where all participants have access to quality technologies resources, and methodologies to use in a format that students need to be very autonomous. Different from what happened during the lockdown, where ERT was imposed on teachers and students.

Even though ERT has imposed substantial limits on making music, and most of the results presented here are probably self-evident, the modality, as an answer to the COVID-19 pandemic, has brought teachers and students closer together, making emotional aspects an important element of teaching once teachers adopted an empathetic attitude towards students, mainly due to the uncertainty they were going through due the pandemic. This was somehow an antagonistic experience: physical distance disturbed the lessons but, at the same time, promoted a deeper emotional connection between students and teachers.

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