MUSIC LEARNING AND THE USE OF DICT IN A COMMUNITY OF PRACTICE: A RESEARCH IN A COMMUNITY CHOIR

A APRENDIZAGEM MUSICAL E O USO DAS TDIC EM UMA COMUNIDADE DE PRÁTICA: UMA PESQUISA EM UM CORAL COMUNITÁRIO

EL APRENDIZAJE MUSICAL Y EL USO DE LA TDIC EN UNA COMUNIDAD DE PRÁCTICA: UNA INVESTIGACIÓN EN UN CORO COMUNITARIO

Eldom SOARES
University of Brasilia (UnB)
e-mail: maestroeldom@gmail.com

Paulo Roberto Affonso MARINS
University of Brasilia (UnB)
e-mail: marins@unb.br

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How to refer to this article

ABSTRACT: The general objective of this research was to analyze the use of Digital Information and Communication Technologies (DICT) in musical learning in a community choir, being this choir understood as a "Community of Practice". As specific objectives, this research sought to understand the characteristics of a Community of Practice and to analyze the contribution of DICT in the process of choral preparation for a concert. The method adopted was Action-Research, in which several actions were proposed and executed to solve issues related to the rehearsal process of the choir. Three theoretical perspectives were used to analyze the data: Situated Learning, Communities of Practice (COP), and the "Flipped Classroom" methodology. In the end, the name "Expanded Rehearsal" is proposed for the rehearsal methodology developed based on applying the principles of the "Flipped Classroom" in choral practice.

KEYWORDS: DICT. Community of practice. Flipped classroom.

RESUMO: O objetivo geral desta pesquisa foi analisar a utilização das Tecnologias Digitais de Informação e Comunicação (TDIC) na aprendizagem musical em um coral comunitário, sendo este coral chamado por Comunidade de Prática Como objetivos específicos, esta pesquisa compreendeu as características de uma Comunidade de Prática, bem como analisar a contribuição das TDIC no processo de preparação coral para um concerto. O método adotado foi a Pesquisa-Ação, na qual diversas ações foram propostas e executadas com vistas à resolução de questões pertinentes ao processo de ensaio do referido coral. Para analisar os dados, trabalhou-se sob a ótica de três perspectivas teóricas: a Aprendizagem Situada, as Comunidades de Prática (COP) e a metodologia "Sala de Aula Invertida". Ao fim, é proposto o nome de "Ensaio Expandido" para o tipo de metodologia de ensaio que foi desenvolvida, baseada na aplicação dos princípios da "Sala de Aula Invertida", na prática, coral.

PALAVRAS-CHAVE TDIC. Comunidades de prática. Sala de aula invertida.

RESUMEN: El objetivo general de esta investigación fue analizar el uso de las Tecnologías Digitales de la Información y la Comunicación (TDIC) en el aprendizaje musical en un coro comunitario, entendiendo este coro como una Comunidad de Práctica. Como objetivos específicos, esta investigación pretendía comprender las características de una Comunidad de Práctica, así como analizar la contribución de las TDIC en el proceso de preparación coral para un concierto. El método adoptado fue la de Investigación-Acción, en la que se propusieron y ejecutaron varias acciones para resolver cuestiones relacionadas con el proceso de ensayo del coro. Para el análisis de los datos se utilizaron tres perspectivas teóricas: el Aprendizaje Situado, las Comunidades de Práctica (COP) y la metodología del "Aula Invertida". Al final, se propone el nombre de "Ensayo Expandido" para el tipo de metodología de ensayo que se desarrolló, basado en la aplicación de los principios del "Aula Invertida" en la práctica coral.

PALABRAS CLAVE: TDIC. Comunidad de Práctica. Aula Invertida.

Introduction

The first author of this article has been a choral conductor for over 20 years. In 2018, he began his work as conductor of the Coral Ad Infinitum (CAINF), a community choir initially formed through the creation of a group of people through the Whatsapp[1] application. Since its creation, the Choir Ad Infinitum has been very open to the possibilities of using Digital Information and Communication Technologies (ICT) and to every kind of activity that would facilitate learning and musical performance. We also understand that musical education was immersed within the scope of choral practice - essentially a collaborative practice. Oliveira (2011) has a similar thought and explains to us:

> Choral singing, the fact that it is a collective artistic activity, becomes a social body in which musical education is made possible by its act together. In rehearsals, integration is not only part of the singing routine but can also be an important means of musical education (OLIVEIRA, 2011, p. 1, our translation).

The initial focus of this work was to analyze how the so-called rehearsal kits[2] and video recordings of rehearsals could collaborate in individualizing the learning of an amateur choir member. How could face-to-face rehearsal be more fruitful and pleasurable for all voices simultaneously? How could we compensate for an inevitable absence of a choir member from an important rehearsal? How could we prevent what was worked on in one rehearsal from being lost before we could have the next rehearsal? All of this could cause a sense of wasted time, cause many dropouts, and an unwillingness to participate in all of a choir's rehearsals. ICT could help us in these aspects. Gohn (2010, p. 121, our translation) explains that:

> The so-called "social software", that is, those that allow interactions between users, with the exchange of images and personal messages, have been studied to bring students and teachers together in web-based courses (for example, JOYCE AND BROWN, 2009; in the specific case of music, SLAVUO, 2008; GOHN, 2008a). The use of blogs, wikis, and podcasts, other online media that can be open to the participation of music learners has also been the focus of investigations (RUTHMANN, 2007; GOHN, 2008b, our translation). Distance education undoubtedly benefits from the opportunities for synchronous and asynchronous communications that have emerged with the various websites that exist in the "computational cloud". In addition to providing exchanges of educational content, this software enables socialization among the participants of a given group, who share different aspects of their lives and feel the "presence" of their peers and masters. Both in courses conducted essentially online, and in those in which the Internet is

[1] Whatsapp is an instant messaging and voice and video calling application for smartphones. With it, you can share text messages, images, videos, and document files in formats such as PDF or Word.

[2] Recorded material in audio or video form is available for choir members to study at home.

used to complement face-to-face activities, interaction in electronic networks can strengthen the sense of belonging to the group.

For the present research, some aspects highlighted by Gohn (2010) were fundamental: the ICT as a complement to face-to-face activities and the interaction in strengthening the feeling of belonging to the group, which we understand to be crucial for learning. Regarding the complement to face-to-face activities, we will arrive at a proposed rehearsal methodology with the use of ICT, which we call Expanded Rehearsal, inspired by the Inverted Classroom methodology as presented by Bergmann and Sams (2016), becoming this methodology one of our theoretical perspectives; about the importance of interaction and the feeling of belonging to the group - factors increased with the use of ICT - we arrive at the other two theoretical perspectives with whom we dialog: Situated Learning (LAVE; WENGER, 1991) and Communities of Practice (WENGER, 1998).

Since its creation, CAINF has shown itself to be a group with great openness to new possibilities arising from digital technologies, and therefore we understood that it would be very appropriate to make it the locus of our research. Because the questions focused especially on learning and not teaching music, we considered it indispensable to understand these questions from the choir members' point of view. Moreover, considering the need to understand learning from the point of view of all participants, and as we were proposing the use of new technologies in choral practice, we understood that action research would be the most appropriate method to achieve the general and specific objectives of this research, which are presented below.

The general objective of this research was to analyze the use of Digital Information and Communication Technologies (ICT) in musical learning in a community choral practice. It is important to clarify that we do not want to emphasize only the analysis of the use of ICTs. It will be necessary to analyze and understand what kind of learning we are talking about (and for this, we will approach situated learning[3]) and what community choral practice this is (and for this, we will dwell on demonstrating the characteristics of the Communities of Practice in the Ad Infinitum Choir). These clarifications lead us to our specific goals.

One of the specific objectives of this research was to characterize CAINF as a Community of Practice (COP), demonstrating the presence in CAINF of several characteristics presented in the literature that addresses this theme, especially in the texts by Lave and Wenger (1991), Wenger (1998) and Wenger, Mc Dermott and Snyder (2002). Thus, we intended to

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[3] According to Lave and Wenger (1991), situated learning is characterized as inseparable from the social practice in which it occurs.

demonstrate that precisely because CAINF is a COP, Situated Learning, in this case, musical learning, is made possible.

As a second specific objective, we intended to analyze how ICT, in the participants' understanding, can contribute to choral practice, specifically in two aspects:

1 – In a choral rehearsal methodology (Expanded Rehearsal), especially in introducing a new song in the repertoire of this specific amateur choir, optimizing the rehearsal time, and consolidating what was worked during the rehearsals.

2 - How ICTs can contribute to the interaction between the choir participants to favor their musical learning.

Literature

Aspects such as the use of ICT in practice, choir, music education and choral singing, and music and communities of practice were considered in the literature review of this article. We bring the most relevant texts for this research below.

Torres' (2008) dissertation "Canja de viola: a community of musical practice in Curitiba" is a case study that addresses a weekly meeting of violators that has taken place in Curitiba since 1986 in which Situated Learning (LAVE; WENGER, 1991) is observed and also the phenomenon known as enculturation[4]. Some aspects of musical learning are presented in a context that involves amateur beginners to highly experienced professionals in guitar musical learning from the perspective of learning in communities of practice. The author especially works on the issues of learning, identity, and community, which we also address in the present research. Through this dissertation, we also learned about Russell's (2002;2006) work on Communities of Music Practice, from which Torres (2008) brings some quotes to present the characteristics of a Community of Practice. We re-present this quote here with the characteristics of COPs as a starting point, but we will dwell more deeply on these characteristics in the specific chapter on the theoretical perspective of COPs:

> Meaning, practice, community, and identity are key concepts in Wenger's (1998) theory. Meaning refers to our experience of life and the world and practice, to our shared historical and social resources. Community refers to

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[4] The concept of musical enculturation refers to the acquisition of musical skills and knowledge through immersion in the everyday music and musical practices of a social context. Almost everyone in any social context is musically enculturated. This cannot be avoided because we cannot close our ears and consequently come into contact with the music around us, not only by choice but by default. It is useful to conceive of three main ways in which we engage directly with music: playing (including singing), composting (including improvising), and listening (including listening) (GREEN, 2000, p. 2 apud TORRES, 2008, p. 86, our translation).

the social formations in which our initiatives are defined as worthy of pursuit, and our participation is recognizable as competence. Identity has to do with various modes of learning that create personal stories for us in our communities. 'Practice' - characterized by mutual engagement, joint ventures, and shared repertoire - is the source of community coherence (RUSSELL, 2002, p. 2-3 apud TORRES, 2008, p. 30, our translation).

The dissertation by Guariente (2010), which also brings in its research object the choral singing under the perspective of Communities of Practice, used as a method for the Case Study and also brought us many aspects that served as a starting point for the present research, following the suggestion of the author herself that when concluding her dissertation tells us:

I note that the study on the community of practice of the CEIC Choir brought important data for understanding the concepts and elements described by Wenger (1998) and Lave and Wenger (1991). The recognition of the constitution of the community - the domain, the community, and the practice - and the observation of the characteristic processes of this practice, the interests shared by the group (shared practice), the construction of learning relationships (situated learning) and the levels of participation of the group members, were processes that guided the analyses in this text and grounded the observation of the empirical field. Therefore, it remains to suggest that further investigations should be conducted, in other contexts, with other groups, to deepen and verify the significant contribution that the concept of community of practice brings to the understanding of teaching, learning, and aesthetic experience situations experienced in different community groups of musical practice (GUARIENTE, 2010, p. 112-113, our translation).

Guariente's (2010) research did not focus on using ICT in choral practice in these communities of practice. At a given moment, Guariente (2010) considers an e-mail that the choir conductor sent to the choir members to value the act of a component of the group that had performed a service of great value for the whole group. This e-mail was important for the strengthening of interpersonal bonds in the group, but there needs to be a highlight and not even the intention of researching the importance of the use of ICT in choral practice, which for us, in the present research, was the constant focus.

Besides these dissertations, among the various articles on communities of practice that we found, we want to bring the article by Mendes and Urbina (2015) – "Análise Sobre a Produção Acadêmica Brasileira em Comunidades de Prática" - in which the authors make a search in several areas (administration, education, engineering, nursing, information science, among others, but do not present any of the dissertations that we presented above that involve the area of music) and demonstrate an increase in the use of this concept at the same time they analyze how the concept of communities of practice is changing over time, and its use is being shaped by the interests of each area of scientific knowledge. In their analysis, the authors made

an overview of the publications between 2005 and 2013, reaching 26 publications. In this analysis, they point out a conceptual polysemy about what communities of practice are. When addressing the evolution of the concept from its first appearance in Lave and Wenger (1991) until Wenger *et al.* (2002), they conclude that:

> It is noted a lack of clarity in the concept of communities of practice, in the sense that the term is ambiguous since it assumes more than one meaning and one possibility of interpretation, which is a common feature of new concepts, which evolve unfolding in variations that, with maturity, tend to convergence and oneness. This evolutionary process of the concept is reflected in the conceptual variations discussed above, which, however, are supported by the concept's existence in placing limits on its appropriations (MENDES; URBINA, 2015, p. 323, our translation).

Naturally, we perform interpretations of the concepts according to our area of study and apply them in our research and practices. Uzuner, Hayes, and Shea (2017), in their article "A Critical Review of the Use of Wenger's Community of Practice (COP) Theoretical Framework in Online and Blended Learning Research, 2000 – 2014", which under a narrower focus, that of online or hybrid education, analyzes the use of the concept of communities of practice in various areas, highlight that:

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> Most textbooks and articles on the major research methods remind us that theory influences the types of questions (or hypotheses) that researchers generate and, consequently, influences the answers obtained from those questions. For example, the following quote from Kilbourn (2006, p. 545) attests to this view: A fundamental assumption for any academic research is that the phenomena (data) we wish to understand are filtered through a point of view (a theoretical perspective) - that is, it is assumed that there is no such thing as value-free or unbiased or a correct interpretation of an event. Interpretations are always filtered through one or more lenses or theoretical perspectives we have to "see"; reality is nothing we find under a rock (UZUNER; HAYES; SHEA, 2017, p. 210, our translation).

These works served as a basis for understanding the theoretical perspective on POC and also as an incentive to apply these concepts in a more appropriate way to the specific context of music education that we assume through the practice of the Ad Infinintum Choir.

By studying the research presented in this literature review, we strengthen with academic bases our understanding of the musical education that exists in choral practice. We also strengthen our understanding of the importance of the social context in which this practice is inserted. And we understand, by studying, for example, Pequini's (2016) thesis, that in the current context, Digital Information and Communication Technologies assume a role of relevance in people's daily lives, and this role of relevance should not differ in the teaching and

learning processes. As we presented, the choral practice has already been approached from the theoretical perspective of Communities of Practice, but the approaches should have considered the importance that today the ICTs have for the construction and strengthening of these communities. This aspect we wanted to bring as an addition through our research, envisioning an exponential growth of the use of ICT in educational processes, especially in music education, in choral practice.

The Method

As previously mentioned, the method adopted was Action Research, in which several actions were proposed and executed to solve issues pertinent to CAINF's rehearsal process. The research analyzed the use of ICT in musical learning in the choir practice above. Another aspect focused on was how ICT can contribute to the implementation of a rehearsal methodology that provides better use of the time in the rehearsal room for musical practice, thanks to the preparation of the choir members for that rehearsal. This proposal fits into the hybrid education methodologies in which we intend to make the student the protagonist of his learning. In the flipped classroom (BERGMANN; SAMS, 2016), several resources (texts, audio, videos, games, animations, etc.) are used so that the student learns the lesson content in his own time and at his own pace at home, before working on that same content in the classroom. In a way, this idea is already applied in several amateur choirs, but we did not find any developed research involving the flipped classroom and the practices developed in choral practice. In the Book "Flipped Classroom", the authors Bergmann and Sams (2016) cite cases of the application of the flipped classroom in foreign language classes, mathematics, science classes, humanities, and physical education but do not report any case applied to music classes. As theoretical perspectives, we used the concept and characteristics addressed by Wenger (1998) about Communities of Practice and Lave and Wenger (1991) about Situated Learning and Legitimized Peripheral Participation. Also, from a theoretical perspective, we used the principles of the Flipped Classroom by Bergmann and Sams (2016).

ccording to Thiollent (1986, p. 56, our translation), "a hypothesis is simply defined as an assumption formulated by the researcher regarding possible solutions to a problem posed in the research, primarily at the observational level". For our research, we worked with the following hypotheses:

1 - The use of TDIC favors the development of the musical practice that occurs in CAINF:

a) As a resource for creating and disseminating materials that will be used in the Inverted Classroom methodology.

b) As a means of promoting good interactions among the choir members, favoring learning, strengthening identity, the sense of belonging, motivation for the tasks of the proposed activities, and sharing information.

2 - The Ad Infinitum Choir (CAINF) is a community of practice.

We can recognize the characteristics of Communities of Practice found in CAINF: Identity, interaction among members (face-to-face and virtual), and sharing of common experiences when members develop the same activity. The observation will also show us that in the characteristic processes of this choral practice, we will perceive the interests shared by the group (shared practice) and the construction of learning relations (situated learning) in different levels of participation of CAINF members.

3. There is musical learning through the choral practice of CAINF.

Always consider the way Lave and Wenger (1991) think of learning: a process of participation in communities of practice and not simply as individuals' reception and accumulation of information and factual knowledge. In the theoretical contextualization, we then addressed situated learning that occurs through initially peripheral participation that gradually assumes greater mastery and engagement.

We did not conduct a workshop with the research participants in the strict manner as Thiollente (1986), one of the action research theorists, describes. However, we performed the following actions and considered that even though we did not hold meetings solely for this purpose, we effectively achieved the purpose of the seminar as thought by Thiollente (1986):

a) We presented to the participants during some rehearsals and in Whatsapp messages the research we were developing and the actions we were proposing to carry out.

b) We obtained constant feedback through the Whatsapp group interactions and the face-to-face conversations we had regarding the results of the proposed actions.

c) This feedback generated new actions in rehearsals of new works and the recognition by the participants of the value of the actions to solve the problems.

We obtained most of our data through the conversations and interactions of the Whatsapp group of the Ad Infinitum Choir. We evidenced in our analyses the importance of Whatsapp interactions for learning. Most of the research material we obtained by constantly recording the activities through the conversations and reports in the Whatsapp group of the Ad Infinitum Choir, our main source of field recording, were the conversations held in the

Whatsapp group of the Ad Infinitum Choir. We were using the "export conversation" feature available by the Whatsapp application and converting the conversations to be edited in a text editing program. In a little over a year since the creation of the group, over 700 pages of text from the conversations have been generated. Not included in the count of these pages were any of the numerous audio, image, and video files sent to the group.

We analyzed and interpreted the conversations to highlight the ones we consider most relevant to characterize CAINF as a Community of Practice, the importance of ICTs for the learning that occurs in this community under this view, and also under the view of the "flipped classroom" methodology.

The Data

CAINF was invited to present Villa-Lobos' Chôros 10 in the 40th-anniversary concert of the Symphony Orchestra of the Teatro Nacional Cláudio Santoro in Brasília-DF. We present below the main ways the ICTs came in to contribute to the musical learning of the choir members of the groups involved in the work and other more traditional rehearsal options to ensure musical learning. The following list is far from reaching all the possibilities of using DTIC in choral practice, not least because DTs are growing exponentially, and it would be impossible, even superficially, to experience all the possibilities. We present below the nine actions that we carried out with CAINF to reach "Chôros 10":

1 – Rehearsal kit

First, a rehearsal kit was recorded without voice, only the piano and organ sound. In fact, we chose to rewrite all the voices in a music notation program for greater rhythmic accuracy of the rehearsal kit and then convert the file to midi[5]. Then, the file was sent to the CAINF Whatsapp group. The biggest concern was to establish a rhythmic precision given the various polyrhythms that the music presented.

2 – Recording the rehearsals and making them available on the Youtube platform.

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[5] Midi is short for Musical Instrument Digital Interface - a physical and logical interconnection standard that enables the communication between electronic musical instruments, computers, and other related devices.

The recording of two rehearsals in the final stage of preparation was made available: the first[6] lasted 1 hour, 19 minutes, and 20 seconds.

A second[7] rehearsalwith the presence of a television crew that came to make a report on the choir's preparation and the orchestra's anniversary, lasted 1 hour and 55 minutes.

3 - Rehearsals of suits.

Por iniciativa dos próprios coralistas, cada naipe acabou criando um grupo de *Whatsapp* aonde trocam informações específicas.

4 – Specific rehearsals of vocal technique by suit.

5 - Send YouTube video links with complete recordings of Chôros 10 with the suggestion that everyone watch them get an idea of the entire work.

6 – Sharing diverse information about the work "Chôros 10" and the original melody used by Villa Lobos that was composed by Catulo da Paixão Cearense with poetry by Anacleto de Medeiros.

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7. Send a video with tips, corrections, and alerts for all suits separately.

8. Video[8] of the choir participating in the first rehearsal with the orchestra.

We proposed to CAINF, in this last action, that the use of ICT could support the whole choir rehearsal process. Before starting rehearsals, the initial information was sent to the choir members so they could practice according to their learning pace. As we recorded the in-person rehearsals, the choir members could review what was rehearsed. We also edited the videos and excluded moments that we considered unnecessary for the learning of the choir participants. At the same time, we were learning how to do better rehearsals with less time wasted. We then sent this edited rehearsal to the choir members to review at home to answer questions or to

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[6] The essay is available em: https://www.youtube.com/watch?v=IduiX7HrOfk&list=UUJfcji9vuhVrj_XBgN6i1uA&index=5. Access: 10 Jan. 2022.

[7] Available at: https://www.youtube.com/watch?v=NDEnQGl80cE&index=2&list=UUJfcji9vuhVrj_XBgN6i1uA

[8] Available at: https://www.youtube.com/watch?v=Fobc2aaLEi8&list=UUJfcji9vuhVrj_XBgN6i1uA&index=1. Access: 10 Jan. 2022.

strengthen a piece of information to transform it into effective knowledge or a skill positively experienced.

The Results

Next, we will analyze the use of the recorded videos to help learn the word "Chôros 10" by Villa Lobos. We will use statistical data from Youtube. We had 75 views of this video, with an average of 14 minutes and 50 seconds. The retention rate for this video was 18.7%, which was higher than other pieces we have worked on with the same choir. When the choir members were asked to comment on the videos and their relation to the preparation of "Chôros 10," we could confirm, compared with the retention rate data from Youtube, the preference for edited videos or videos that bring specific moments from the previous rehearsal and seek to address specific problems that they often realize exist, but do not know exactly how to solve. Finally, let's look at some comments that show the convergence with the Youtube data:

> Hints with quick resolutions for persistent problems in individual study. (Maria, choral singer from CAINF).
>
> I could improve on what I was not doing well, listen to it, and correct it. (João, CAINF's choralist).
>
> The videos were very objective and solved doubts concerning my group's melody. (Pedro, choralist from CAINF).
>
> It was great because it allowed the conductor to point out our greatest difficulties and make the necessary observations. If it weren't for this resource, there wouldn't be time. Instead, it worked as an extension of the class, increasing our time of almost direct contact with the conductor. (Ana, CAINF chorus girl).

Suppose we add up the total number of minutes spent by the choir singers watching all the videos posted (including the ones we didn't get to comment on here). In that case, 1984 minutes, equivalent to over 33 hours, were added to the face-to-face rehearsal time. Of course, we are not evaluating here the quality of this time, but the constant contact with a piece of music can have its value, at least in terms of the important familiarization with it. And we are talking about a post-rehearsal time without considering the time invested in studying the rehearsal kits used before and after a face-to-face rehearsal. We call it "Expanded Rehearsal" because it starts before the in-person rehearsal and extends after the in-person rehearsal. This perception of the extension of the rehearsal could also be perceived in the choir members' speech. So let's look at some of them:

> I take the rehearsal home. (Maria, CAINF choralist).

> Any study tool is valid, but when access to these tools is in our hands through a cell phone, notebook, or computer, we can optimize our study time, and we are open to depending on a suitable place and time. (João, CAINF choralist).

> The videos are useful for us to observe our mistakes (aiming at not repeating them) and follow the group's evolution. (Pedro, CAINF choralist).

> Excellent resources for those who have little knowledge of reading scores. I wouldn't be able to participate in the Ad Infinitum events without these resources (Ana, CAINF's choralist).

> These resources optimize the use of the rehearsals because they allow individualized leveling. And they generate excitement to try the training sessions as a whole. (Paulo, CAINF's choralist).

> The media resources are essential to complete the rehearsals. However, one does not replace the other, they complement each other (Joana, choralist from CAINF).

We observe that these statements - extracted from the choir members' accounts - characterize, in their language, our conception of an "Expanded Essay". The way we broke some space/time barriers with the use of ICT was fundamental for learning the work. We also observed that, in this process, the choir singers who participated in the proposed activities, besides the rehearsal, acquired a greater intimacy with the work, which consequently generated greater security in their participation, greater motivation, and greater identification with the group, which was united around that undertaking. Finally, the rehearsal is expanded as it begins before the first face-to-face meeting and extends beyond it; it takes place at home, in the car, in the rehearsal room, in a hotel room, or wherever the choralist is.

> The notion of learning space goes beyond the limits of the concept of space/place. With the emergence of the "network society", new digital and virtual learning spaces are being established through the access and creative use of new communication and information technologies. As a result, new relationships with knowledge are being established in a hybrid process between man and machine, weaving complex webs of relationships with the world (SANTOS, 2004, p. 428, our translation).

Thinking about this issue, we sent the following question to the choir members: What was most important for your musical learning, in practice, a choir of Ad Infinitum? 74.2% answered that it was the in-person rehearsal, while 25.8% answered that it was the use of the rehearsal kits and videos. We then decided to understand this question better and find

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explanations for this result. In the comments of the choir members, it was then that we could find a plausible explanation for this question. A very active participant in the group wrote:

> The rehearsal kits are fundamental for those who expect to improve themselves. If we all studied through the kits, the rehearsals would help the conductor mold the music his way (Maria, CAINF's choir member).

For this choir member, the process consists of having the rehearsal kits and the in-person rehearsals in equal importance. In this action proposed to the Ad Infinitum Choir, the use of ICTs was well characterized and understood by most participants. According to our understanding, the comments below demonstrate that most of the choir participants understood the action-research proposal very well. Let's see:

> I listen during traffic while driving, and I learn a lot, when little at the very least, we familiarize ourselves with the piece or fix the pronunciation, cuts, and duration, but something always remains, and this all while you are stuck in a traffic jam, it would be impossible without these media. (Pedro, choralist of CAINF).

> Especially with regard to individual studies, the use of social media was fundamental. My audition about others and with others would not be effective without these resources. (Ana, CAINF's choralist).

> The rehearsal kits support individual learning outside the rehearsals (Paulo, CAINF's choir member).

> My performance wouldn't be the same without the rehearsal kits and videos. I used these resources very often to study at home in all programs. However, it is worth mentioning that the use of videos and kits individually does not replace the essential in-person rehearsal for choral practice (João, CAINF's choir member).

We noticed that 90.3% of the choralists who participated in the research believe that they would not have the same musical learning they had while participating in CAINF without using ICT in the various forms and that these were used.

Final considerations

In this research, we proposed actions that involved the use of ICT in the practice of an amateur choir. We understand this choir as a Community of Practice where learning occurs mainly thanks to legitimate peripheral participation, which according to Lave and Wenger (1991), is the one in which the novice participant stops being peripheral to assume a more central role in a COP. The actions with ICTs served both to propitiate learning and to strengthen

the characteristics of a COP in CAINF. Finally, we wanted to demonstrate the main characteristics of a COP through the perception of the participants and their interactions that were intense through ICT.

We wanted to highlight the importance of allowing people with no experience in choral practice to have the opportunity to live and practice together with more experienced people. In this kind of open learning environment, everyone can learn something, and ICT can reduce the differences between beginners and more experienced ones. For example, a less experienced choir member can listen to a "rehearsal kit" as many times as necessary and in the tempo that suits them best, and thus arrive at a rehearsal knowing their part in conditions of repertoire mastery similar to the experienced choir member who may not even need to study a certain song because they already know it.

Legitimate peripheral participation is how Lave and Wenger (1991) found to analyze learning in a social context that primarily involves practice. This participation only occurs thanks to the existence of communities of practice.

Upon being invited to engage in a venture, the early CAINF participants had no idea they would be starting a COP, but the desire for musical learning was probably already present in each of their minds. The acceptance of the other was negotiated and acquired a meaning befitting this community being created and becoming part of its identity.

| **15**

The context that involved the participation in CAINF strongly brought the use of ICTs, and without them, the creation, practice, and maintenance of the group would have been much more expensive in terms of time, and with little flexibility in terms of space, since the ICTs the choirboys could access the rehearsal at any time and place they wanted.

The rehearsal, in this experience, proved to be the most important moment of any choral community. The actions we developed in the research could be expanded, and the practice could also happen beyond (before and after) the face-to-face rehearsal moments.

In practice, the choral of CAINF, the domain for which everyone came together, can be translated into practical actions: singing in tune your voice in consonance with the other voices. It also understands the gesture and language used by those in front of the group, responding correctly to the gesture or directions expressed for a musical interpretation. Finally, there are many skills involved in the framework of activities that the participants of a choir should develop, and for some of these skills, the ICTs were of great help to the CAINF choir members.

We tried to demonstrate in the course of this research that the dynamics of the Expanded Rehearsal made it possible for the choir members to enjoy the rehearsal more, that they had

pleasant moments of practice, and that the time invested in the joint venture was worthwhile, leaving the participants with a sense of accomplishment, according to the testimonies described above.

We were also interested in knowing how the ICTs contributed to the participants' wholeheartedness. When we talk about intimacy, we refer to how people relate to each other. Without this interaction, we cannot talk about communities of practice. For example, in the article "Virtual learning communities: new learning dynamics require new forms of evaluation", Araujo and Lucena Filho (2005) demonstrate the importance of interactions between participants in virtual communities for developing an environment more conducive to learning. The authors emphasize how ICTs are transforming the way individuals interact in society and point out that:

> For Peters (2003), communicative competence should be emphasized in future pedagogical settings. "This will be especially important in computerized learning environments, as communications will be compressed, accelerated, and globalized because many new types of virtual communications will be offered that contribute to the generation and acquisition of knowledge." It is expected that the production of knowledge can be the result of a collective process, as, for example, in communities of knowledge construction (ARAUJO; LUCENA FILHO, 2005, p. 330, our translation).

We could observe constant messages in the WhatsApp group that contributed to the creation of an environment conducive to learning: phrases of motivation, sharing of videos or inspiring songs, prayer requests, thanks, appointments of meetings and get-togethers, compliments, life experiences, testimonials from people about the choir presentations. When asked whether the interactions in the Whatsapp group, especially among choir members, had contributed to musical learning, 77.4% of the choir members responded affirmatively.

Providentially, this research engaged with these themes of expanding (of rehearsal through the use of ICTs) and decreasing distances (between people, between them and learning, between people and meaningful practices, between the periphery and fuller participation) that occur thanks to the existence of Communities of Practice. And the most providential thing was that all this had as research locus a choir called to expand Ad Infinitium.

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ABOUT THE AUTHORS

Eldom SOARES

Universidade de Brasília (UnB), Brasília – DF – Brasil. Master's degree of Music.

Paulo Roberto Affonso MARINS

Universidade de Brasília (UnB), Brasília – DF – Brasil. Associate Professor in the Department of Music. Doctoral degree in Music/Sound Recording (UNIS/Grã-Bretanha).

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