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Ethnomusicology in modern classroom: opportunities for using mobile online learning

Etnomusicologia na sala de aula moderna: oportunidades para usar a aprendizagem online móvel

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Abstract: The aim of the study is to identify the possibility of using mobile online technologies for teaching ethnomusicology and to assess their impact on student performance. The research was conducted at the Music College of Zhejiang University, China. The sample consisted of 106 students: 52 students in 2018/2019 academic year and 54 students in 2019/2020 academic year. The majority of students (82.5%) are convinced that this technology should become part of the environment of a modern course of ethnomusicology. The research findings will help to improve policies and strategies to improve technology integration in the ethnomusicology classroom.

Keywords: Ethnomusicology. Mobile learning platforms. Mobile technologies. Pedagogical innovation. Smartphone.

Resumo: O objetivo do estudo é identificar a possibilidade de uso de tecnologias móveis online para o ensino de etnomusicologia e avaliar seu impacto no desempenho dos alunos. A pesquisa foi realizada na

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Faculdade de Música da Universidade de Zhejiang, China. A amostra foi composta por 106 alunos: 52 alunos no ano letivo 2018/2019 e 54 alunos no ano letivo 2019/2020. A maioria dos alunos (82,5%) está convicta de que essa tecnologia deve fazer parte do ambiente de um curso moderno de etnomusicologia. Os resultados da pesquisa ajudarão a melhorar as políticas e estratégias para melhorar a integração da tecnologia na sala de aula de etnomusicologia.

Palavras-chave: Etnomusicologia. Plataformas de aprendizagem móvel. Tecnologias móveis. Inovação pedagógica. Smartphone.

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Introduction

Music is, in fact, the art of expression and communication, one of the common denominators of humanity, uniting people and bringing beauty to life (MILLER; SHAHRIARI, 2016). Requirements for a degree in music education often include one semester of study in world music. The discipline has expanded significantly over the past few decades, with more books, magazine articles, audio recordings and videos being distributed. An increasing number of academic institutes have at least one scientist whom one could reasonably call an ethnomusicologist. More and more students choose world music courses and then pursue these interests at the master's level (COTTRELL, 2010). Many factors influence the music teaching process. Educational standards will always influence the content of instruction, but a music educator has some flexibility to amend a curriculum. Modern students often engage in self-education to learn more, thus, they need guidance from their teacher (CAMPBELL *et al*., 2014).

A music learning model that is traditionally perceived as a "master-apprentice" can create the impression of an environment resilient to technological innovation (GAUNT, 2017). However, the spread of technology in society is a defining feature of the 21st century that has revolutionized the way people work, learn, communicate and spend their free time. Music education is no exception, as there has been a significant rise in the trend of using technology in the modern classroom (SWEENEY *et al*., 2017). Music education has taken a turning point in the new century as technology, including online learning and mobile resources, has become more prevalent in the field (JOHNSON, 2015).

Formalized music education takes place with the help of modern technology - opportunities to study music in online classes are expanding, online programs for a bachelor's or master's degree are becoming more and more popular. Today, the challenge for music education is to provide an interactive learning experience

that provides a deep understanding of music (SASTRE *et al*., 2013). It became inevitable that a teacher who guides a student should keep abreast of technological advances in their field, master and use technology in a classroom, and integrate it into their lessons. The role of a teacher has changed as traditional teaching methods, techniques, and applications have given way to methods, techniques, and applications focused on 21st-century learners (LE ROUX, 2019). Teachers are no longer a source of information; however, they help students access information and manage the learning process (NART, 2016). It is imperative that music teachers are open and proactive about ways in which new technologies can improve and transform traditional educational approaches.

This article examines the use of new educational technologies in the process of professional musical training of students. The study aims to close the gap regarding the use of mobile learning opportunities and the use of online platforms in an ethnomusicology classroom. *The main goal of the study* - to study how effectively smartphones can be introduced and integrated into the modern music educational process. The main goal is achieved by analyzing the attitude of students to the practice of using smartphones in teaching music disciplines, as well as by assessing the impact of the use of mobile learning technology on student performance.

Literature review

Possibilities of using modern information technologies in music education

Over the past decade, technology has achieved tremendous penetration and impact on the educational process (AGBATOGUN, 2013). Research has shown that the use of technology in a music classroom is on the rise today in a growing set of contexts (WEBSTER, 2012). Music education is in a state of flux due to the use of technology to improve learning efficiency and make information more accessible

for music education (MAHARAJ; GILL, 2020). Computers and the Internet further expand the scope of music education. Recent developments in technology have opened up new opportunities for teachers and listeners in fundamental music theories, music history, music literature, music education, and performing arts (ARICI, 2018). This is especially true for the use of Internet resources and multimedia technologies, computer resources, and software (HUANG; CHEN, 2014). Research shows that conventional non-interactive technologies such as slides, PowerPoint presentations, and whiteboards do not facilitate two-way classroom interaction and thus any longer meet the learning and teaching needs of the 21st century (AGBATOGUN, 2013). Millions of educational music videos can be found through online portals such as YouTube and can be actively included in the educational framework (SMART; GREEN, 2017). Countless video clips available online offer tips for learning chords and patterns on piano or guitar (VOLPE *et al*., 2017). Music learning apps and websites may contain educational materials such as information and illustrations, interactive tasks and practices, and dynamic pages created by web communities. There are many pages for learning different instruments, different styles, solos, scales, chords, and playing technique (SONG; CHEN, 2017).

The increased benefits of online learning technologies for development and learning have prompted music educators to rethink the possibilities of learning music online (CRAWFORD, 2013). Online music learning, which can be found on sites such as the Online Academy of Irish Music, BanjoHangout.com, and MusicTheory.net, has become the backbone of informal learning that harnesses the academic student's penchant for music (JOHNSON; HAWLEY, 2017). An example of how students are motivated by online music learning can be demonstrated by the gamification of music in Friend Jam - the platform provides musical skills learning, performance assessment through virtual analysis. Friend Jam instruments are replicas of real instruments, allowing one to improve their acoustic guitar or drum kit skills (EADDY, 2012). It is believed that online technologies can be useful in developing

the skills of selecting scales for improvisation, when studying the invention of instruments, mastering musical notation, teaching the art of orchestral arrangement, etc. (JOHNSON, 2016).

Social media is a communication technology whose use in music education is a relatively new topic of discussion. Social media as a communication tool allows for continuous teacher-student and student-student interaction, improves learning in various educational environments (TESS, 2013), and allows teachers and students to communicate and collaborate outside a classroom (MANCA; RANIERI, 2016).

Challenges for the use of online tools and information and communications technologies (ICTs) in music teaching

It is noted that in a world of rapid technological development, it can be challenging for any teacher to keep pace with the latter. Putting any technology into practice takes time and can be a frustrating experience of trial and error. Teachers are often slow to implement technology in classrooms, mainly due to beliefs and attitudes (AGBATOGUN, 2013). It is found that in a music education classroom, lack of accessibility, technical competence, time, and staff support are the biggest barriers to technology adoption (GALL, 2013). Often, educational institutions adhere to the "just say no" principle when using personal mobile devices at school, be it smartphones or tablets (LANGAN *et al*., 2016). Asynchronous learning is cited as one of the biggest challenges in using online technology in music education (DORFMAN, 2016). Learning music is in many ways an apprenticeship: an educator mentor student, guides and evaluates their success, providing a repertoire that is inspiring and challenging. When technology replaces or enhances learning, the pedagogical approach needs to be adjusted (GILBERT, 2015). The new technology requires deep thinking about how students will interpret pedagogy through a digital platform.

Technology in music education is an added advantage in student learning; however, many researchers believe that it will not completely replace a teacher's role in a music class. The availability of Internet resources may also conflict with their usefulness. While students' access to information is constantly expanding, there is a risk that students will be overwhelmed by choices, distractions, and a lack of structuredness that teacher-led learning can provide (THORGERSEN; ZANDÉN, 2014).

The role of online platforms and mobile technologies in teaching ethnomusicology

Ethnomusicology allows one to better understand the structural foundations of different musical bases, to learn the differences and similarities in national musical instruments, to understand the cultural and religious components of the development of the world's music (ABRIL; GAULT, 2016; ANDERSON; CAMPBELL, 2011). Studying according to the ethnomusicology program affects a person as a whole, gives the necessary variety of experience and knowledge (CAMPBELL *et al*., 2014; MATSUNOBU, 2011).

Technology has been an important tool for teaching musical heritage. Now, via Wi-Fi and cellular data, in combination with cloud storage and streaming music services, a person can access almost any recorded song on the planet at any time and from anywhere where he/she is connected to the Internet. Ethnomusicology in its history has had a special relationship with technology: researchers and educators recognize that the development of this musical field and discipline is closely related to the achievements of the mid-twentieth century, in particular, in sound recording technology (SOLIS, 2017). As interest in the world's musical cultures grew and scholarly participation transformed from laboratory observations to participant-observer paradigms, scientists in ethnomusicology became increasingly aware of the possibilities offered by new

technologies. Over the past two decades, the ethnomusicological discourse has become even more sophisticated in response to the more fragmented and complex global musical landscape. It is important to note the diversity of musical styles that are increasingly spreading around the world, as well as the range of interactions between many of them (COTTRELL, 2010).

There are many informal online opportunities for teaching traditional music of different nations, specific musical styles, or learning to play a musical instrument. An example of an online video-based center for teaching music is the Online Academy of Irish Music. It provides students with the opportunity to learn how to play national musical instruments from instructors who are experts in traditional Irish music (KENNY, 2013). An example of how online music learning takes place through community participation and embraces a national context is the Banjo Hangout, an online learning community that focuses on the banjo instrument. Online lessons are available to participants both through asynchronous videos and through synchronous lessons from online instructors (WALDRON, 2011). The study of world music has expanded significantly due to the use of online resources - the global scale allows students from different parts of the world to study musical heritage in the most remote parts of the globe (MOORE, 2017).

Wireless technologies such as laptops and personal digital devices (tablets, iPads, and other portable devices) are significantly influencing human behavior, and smartphone technology has become ubiquitous (LIM; CHURCHILL, 2016; PARK *et al*., 2012). Mobile learning and its capabilities are directly driven by the characteristics of a smartphone: constant access to the Internet, many downloadable applications, connectivity, and compact size (DUKIC et al., 2015). The use of wireless and mobile technologies in a classroom gives teachers and students unlimited access to information in terms of location and time without compromising the quality of content delivery (WABWOBA *et al*., 2011).

Thus, despite the existing challenges of using online and mobile learning technologies, it should be remembered that they can

allow a teacher to expand the horizons of education, support each student individually, which is not always possible in large classes and with a tight work schedule (YANG *et al*., 2020). It is important to remember that technology does not pose a threat to the role of a music teacher - if used correctly, it can be a valuable asset for teaching practice. Educators should be familiar with current digital platforms and their role in teaching (ALEKSEENKO; RAKICH, 2020).

Materials and methods

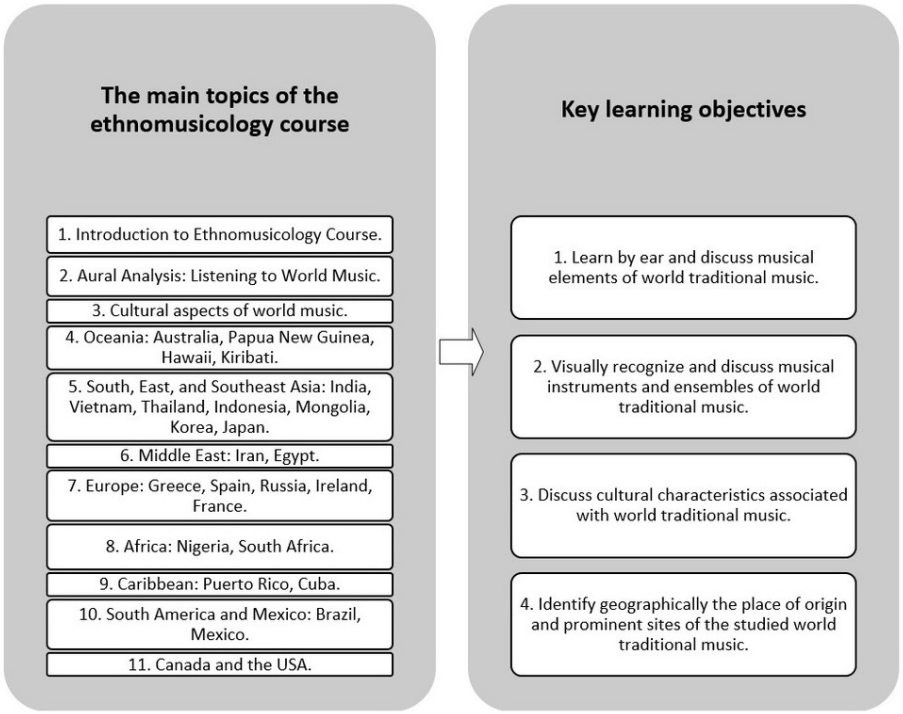
Research design and sample

To determine how beneficial smartphone use can be in today's music classrooms, the study used qualitative and quantitative data collection methods.

The study was conducted on the basis of an ethnomusicology group at the Music College of Zhejiang University. 106 students took part in the experiment: 52 students in 2018/2019 academic year (73% men and 27% women) and 54 students in 2019/2020 academic year (72% men and 28% women).

An ethnomusicology course is assigned to music majors as a compulsory course. The diagram below suggests the main topics of the ethnomusicology course and the skills that students should master by the time of its completion (Fig. 1).

Figure 1 -Diagram of the content and main objectives of the ethnomusicology course



Note: Developed by the author based on the works of Barrett and Webster (2014), Miller and Shahriari (2016), Moore (2017), Rommen and Nettl (2020).

In addition to the aspects directly related to music, including instruments, ensembles, songs, style, some other elements of culture (religion, language, rituals, and customs) are included in the study. The emphasis on the study of topics tied to a specific region remains at the discretion of a course instructor. Since the study of world music is a voluminous field of study, a teacher could choose the topics that were most interesting for students and discuss them in more detail.

In the 2018/19 and 2019/20 academic years, students were offered an experimental course using new technologies in education. The study of ethnomusicology lasts 12 weeks (twice a week for 2 hours). To assess the impact of the components of mobile online learning on performance in the form of the final assessment of students, the sample participants were divided into two groups:

- Experimental group (E) - students enrolled in the course of ethnomusicology using mobile technologies;

- Control group (C) - students enrolled in the course of ethnomusicology in a traditional classroom.

Classes in the experimental group were conducted both in the classroom and online on a mobile learning platform. Students could study using the online platform at any time convenient for them. In the classroom, when studying musical fragments posted on the Internet, students were allowed to use personal mobile devices and headphones that allowed them to better concentrate and immerse themselves in the musical world. Smartphones and tablets could be used to search library resources, read short texts, exchange materials, take notes, take screenshots of a smart board, record oral presentations, and share video and audio files. On the online platform, students were offered links to websites, videos, and essays by specialists and experts, musical samples of instrumental and vocal repertoire, listening guides, blocks of questions, etc. In a classroom, students were encouraged to use mobile technology to get acquainted with short videos (fragments) of world music. On the educational platform, students got acquainted with full-size YouTube videos of world music concerts, demonstrations of professionals in a particular field of ethnic music. These materials provided students with the opportunity to see the performances/instruments in action.

After studying the music of each region taken from the ethnomusicology course, students were suggested to write a short essay on their impressions. Students were also encouraged to demonstrate knowledge of musical concepts in different cultures. A student could choose the culture for the presentation on his/her own, based on his/her personal interests and preferences. In the selected subcategory, students had to explain motivation and show how their personal interests and experience influence musical choice, demonstrate a reaction to music influenced by their own cultural and social experience. The expansion of knowledge about music occurs through not only the transfer of the teacher's knowledge but through presentations by another student. This technique has expanded student engagement.

A discussion club was also organized for students (on an online platform). Students could post links to music videos, leave comments, show reactions, and discuss. A teacher could set a topic for discussion. In this case, a teacher played the role of a coordinator, who directed the discussion process but did not interfere in the discussion. The main methodological techniques of a teacher in the process of working in a classroom and on an online platform of teaching ethnomusicology can be presented as follows (Table 1).

Table 1 - Main components and characteristics of training activities (combined classroom activities, depending on the group)

Component	Activity
Ability to formulate opinions about one's own musical experience and reactions to music	Students share what they know about world music now or what they have encountered in the past (classroom discussion or on a mobile platform)
Knowledge of how music is used in various occasions	Students can demonstrate where they heard a piece of music, what emotions it evokes, what occasion can this music be suitable as musical accompaniment (presentation in a classroom or on a mobile platform)
Forming and expressing personal opinions about musical performance	Students form an opinion on the musical genres that a teacher plays (demonstrates) and share with classmates (essays, posting, class performance)
Exploring selected musical instruments visually and by ear	Play musical instruments in a class, study videos to understand the difference, and explore the appearance
Description of the distinctive characteristics of music from different cultures	Comparison of the characteristics of music of different cultures (essays, posting, speaking in class)
Definition of instruments used in musical ensembles of world music	Demonstration of knowledge of the difference and similarities between local and foreign traditional musical instruments (posting, platform discussion, class presentation)
Performing a musical repertoire, representing a variety of genres and cultures	A repertoire of different styles and forms of music in a student ensemble

Understanding the meaning and value of music, changing under the influence of life experience	A conversation about a personal experience, changes in life, and interests due to acquaintance with world music and culture (publication of posts, discussion, presentation)
Revealing the development of music elements in world musical styles	Comparison of musical elements of national and foreign music (publication of posts, discussion, presentation)

Note: developed by the author (2021)

Research tools

The calculations of variables in the part of the study on mobile learning are based on:

- examining the actual use of smartphones in a classroom;

- a survey of student preferences regarding the use of smartphones in the educational environment.

For the observation checklist, teachers' notes were used to indicate the smartphone functions that the students welcomed and the activities they volunteered to do in a classroom.

An online survey in Google Forms was conducted at the end of the semester to survey students. Expert reviews were used to develop the questionnaire and determine the credibility of the content. The first section covered items to determine why students use smartphones. The second section focused on the effectiveness of a smartphone for academic purposes. In the third section, students had to evaluate the use of smartphones in a modern class of ethnomusicology. The questionnaire consisted of multiple-choice questions, open-ended questions, and Likert scale questions, ranging from complete disagreement to complete agreement: (1) never, (2) rarely, (3) sometimes, (4) often, (5) always.

The survey responses were processed using the STATA software. The R package was used to assess the statistically significant difference in the respondents' answers and to calculate the p-value.

After completing the ethnomusicology course, the study participants underwent a final assessment of their knowledge. The formative grades of the students were also formed. The collected data were analyzed using the SPSS statistical package. The estimation of the deviation of the values from the mean was checked using the standard deviation (Student's t-test). The final assessment and formative assessment during training in the experimental group were checked for correlation using the Pearson coefficient, which showed a positive (r^2=+0.328) and a significant (p=0.008) correlation between the scores of the formative and summarizing assessments in ethnomusicology. For the control group, the Pearson coefficient for formative and summarizing assessments also showed a positive (r^2=+0.178) and a significant (p=0.007) correlation.

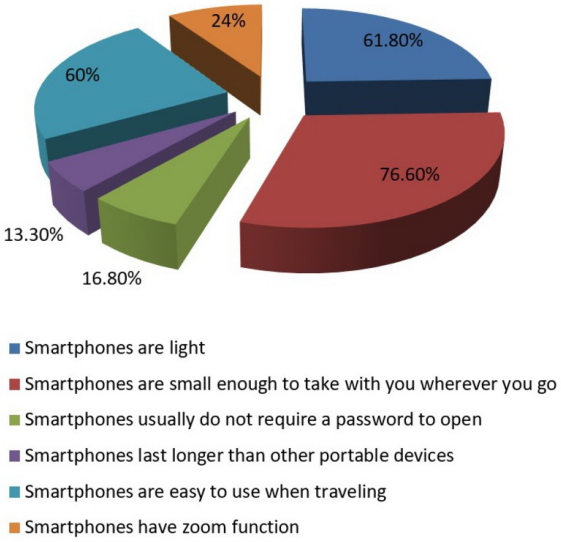
Ethical issues

Consent was obtained from the participants prior to data collection. Participation was voluntary and sample participants could quit at any time. Each participant in the experiment agreed to the collection and use of the data. Information about the personal achievements of each participant is confidential and cannot be disclosed.

Results

The first survey was conducted before the start of the training course to understand how students consider a smartphone to be a convenient and useful tool, whether they consider it as the main tool for learning. The study shows that among the many portable devices available, smartphones have become widespread among students for the following reasons (Fig. 2).

Figure 2 - Reasons why students prefer smartphones to other portable devices

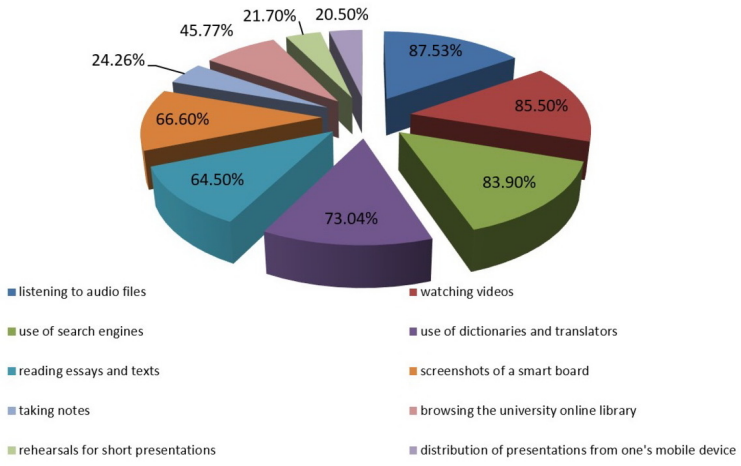


Note: developed by the author (2021).

Students believe smartphones are light (61.8%); they are easy to use when traveling (60%); their small size allows them to be taken with you everywhere (76.6%), due to poor eyesight, students often use the zoom function to better see the smart board from a distance.

The next part of the survey is designed to identify the main actions required to achieve academic goals (Fig. 3).

Figure 3 - Basic smartphone actions used for academic purposes



Note: developed by the author (2021).

Of the six proposed smartphone functions that can facilitate the academic life of music students in a classroom and online, the most popular are "listening to audio files" (87.53%), "watching videos" (85.5%), and "use of search engines" (83.9%).

Further, in terms of popularity, one can single out the functions "using dictionaries and translators" (73.04%), "reading essays and texts" (64.5%), "screenshots of a smart board" (66.6%), "browsing the university online library" (45.77%), "taking notes" (24.26%), "rehearsing short presentations" (21.7%), and "distributing presentations from one's mobile device" (20.5%). Many students found smartphones useful on the way to school, when they can repeat tasks before classes, as well as at home - 1/4 of the students reported that a modern smartphone replaces a laptop or tablet for them even when studying at home.

The students' opinion on whether it is worth using smartphones in a modern class of ethnomusicology was ascertained.

Table 2 - Students' opinions on the advisability of using a smartphone in a modern class of ethnomusicology

I believe that smartphones must be used in a modern class of ethnomusicology		
Yes	82.5%	
No	17.5%	P-value = 0.0000

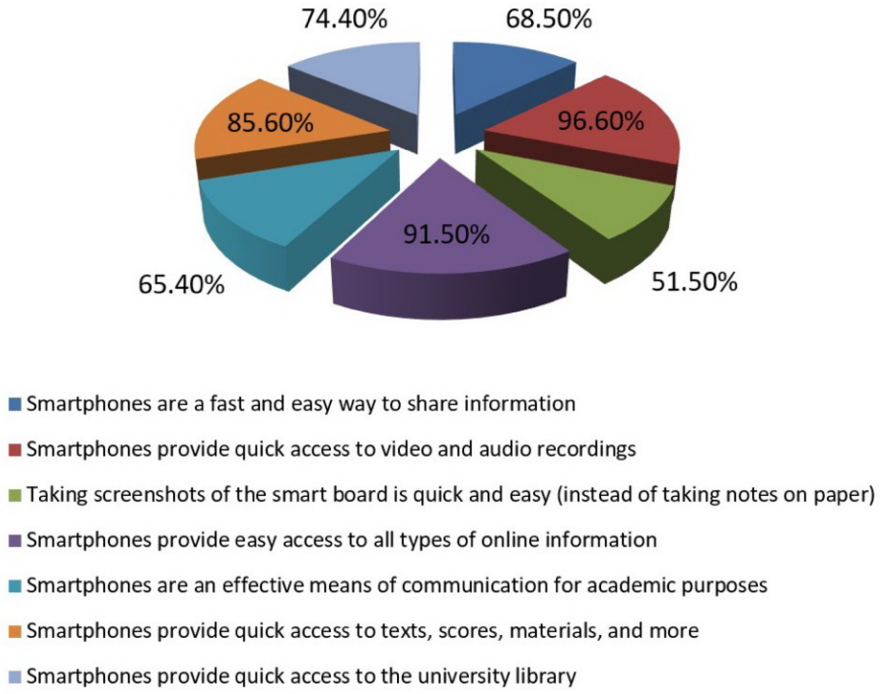
Note: developed by the author (2021).

More than 82.5% of students believe that smartphones should be used in the lessons of a modern course of ethnomusicology. 17.5% of students believe that such an educational innovation is optional. A p-value is calculated to determine the statistically significant difference between the percentage of students who believe smartphones should be used in a modern classroom and those who say they should not be used. A percentage difference will be considered statistically significant with a p-value less than 0.0001. The analysis shows that when comparing the answers

"yes" and "no", the p-value is 0.0000, which indicates a significant difference in the opinions of students on this issue (Table 2).

The reasons were elucidated why the majority of students consider the use of mobile online learning useful in a modern class of ethnomusicology (Fig. 4).

Figure 4 - Reasons by which students explain the need to use smartphones in a modern class of ethnomusicology.



Note: developed by the author (2021).

Among the main reasons that explain the need to use smartphones in a modern class of ethnomusicology, students named: quick access to any video files or audio resources (96.6%), easy access to all types of online information (91.5%), quick access to educational materials, musical notations etc. (85.6%).

After the end of the course, a final assessment of the students' knowledge was carried out. The results for the experimental and control groups of students are shown in Table 3.

Table 3 - Comparison of the final scores in ethnomusicology of the experimental and control groups

Category	Subcategory	Group E (Mean±SD)	Group C (Mean±SD)
Subgroup	group 2018/2019	71.9±16.3	58.1±12.8
	group 2019/2020	62.5±13.8	54.5±13.9

Note: developed by the author (2021).

It is noted that the students of the experimental group showed a higher result both in 2018/2019 and in 2019/2020 academic years.

Further, a comparison of the formative assessment of the progress of the experimental and control groups is carried out (Table 4).

Table 4 - Comparison of the formative assessment of the experimental and control groups

Category	Subcategory	Group A (Mean±SD)	Group B (Mean±SD)
Subgroup	group 2018/2019	61.8±17.7	52.1±10.1
	group 2019/2020	60.8±21.3	46.1±11.8

Note: developed by the author (2021).

Experimental group students in the 2018/19 academic year showed a higher average score in the formative assessment compared to the control group. The same conclusion can be drawn in relation to the experimental and control groups who studied in the class of ethnomusicology in the 2019/20 academic year. The average score of the formative assessment in the experimental group was significantly higher than in the control group.

Discussion

According to the data, formal online music education is currently growing exponentially. It is not a one-size-fits-all solution for niche academic programs, but it can provide flexible learning, collaboration, and supportive learning opportunities for a wide range of students (CRAWFORD, 2013). The study confirms the results of previous work, which proved that students are very positive about such academic opportunities of mobile technologies as taking notes, audio and video recordings, therefore, they can become an integral part of the modern educational institution (TALAM, 2016). The findings on the perception of the use of technology in music education are supported by a study in which a positive attitude towards the use of technology in music education was supported by the technology adoption model (perceived ease of use through perceived usefulness). The results highlight the potential for technology to play a more important role in improving music learning through student-teacher interaction and promoting self-directed learning (WADDELL; WILLIAMON, 2019).

Findings have been confirmed, demonstrating that it is possible to improve the musical knowledge and academic performance of students with the help of new technologies. Some studies claim that ICT-assisted music learning can improve 100% of the learning parameters analyzed. Meta-analysis studies have shown that student assessment scores in blended and online modes are better than traditional face-to-face courses. Today, music educators view technology as learning aids, but data analysis shows that formal online music education has recently begun to grow in popularity (PURVES, 2012). It can be confirmed that teachers should look for new teaching methods and strategies to achieve greater efficiency, and these methods should be closely related to the introduction of ICTs in a classroom (CHAO-FERNANDEZ *et al*., 2017). Educators report increased effectiveness of music lessons, increased visual and auditory learning, and report that lessons are more memorable, more interesting, and fun (GORGORETTI, 2019).

An analysis of how technology has impacted music teaching has shown that technology facilitates lesson development, learning, communication, information, and participation (JUNCO, 2012). Sharing information, discussing, and generating new ideas using online tools and mobile learning have increased learning abilities, have served as a tool for pedagogical innovation and improving the quality of education. The results are consistent with the findings that technology simplifies learning and teaching by offering a variety of strategies and resources (BANSILAL, 2015).

Against the background of a long debate about the difficulties of providing effective music education using ICTs, the questions of how ICTs affect the process of teaching music, the pedagogical approach, and the quality of learning outcomes are relevant and require research. A basic face-to-face course cannot be turned into an online course without considering pedagogy, content organization, and cognitive learning styles (JOHNSON, 2015). Research papers on the use of technology in music education highlight the importance of updating the curriculum for integrating ICTs into the music education curriculum of future teachers. Emphasis is placed on the gaps in the use of technology for self-study and practice. As the technology provides tools that can be used to plan, monitor, and analyze performance, it has great potential to improve the effectiveness of music learning through the use of the principles of deliberate practice through self-directed learning (WILLIAMON *et al*., 2014).

Conclusions

Living in a time when new technologies are ubiquitous in all aspects of life (including education), educators must stay up to date to keep up with these changes and meet the demands of the era. It is believed that teachers should legalize the use of smartphones in a classroom; allowing students to use mobile devices for academic purposes will help better control the situation, facilitate teaching

and learning, and increase interest in a class. The findings can push "old school" teachers to revise negative views on the use of smartphones in a modern music class, lead to changes in the methodology and innovations of music education. The research results demonstrate the actual functions of using smartphones in a modern class of ethnomusicology. The majority of students believe that smartphones facilitate the music learning process, as they make it possible to listen to audio files and watch videos - this thesis was supported by 87.53% and 85.5% of respondents, respectively. They make it possible to use search engines, use dictionaries and translators, accumulate teaching materials from the board, always have access to the resources of a university's online library, take notes, store presentations and repeat them before demonstrating in a classroom. Smartphone features such as taking notes, reading from a screen, taking screenshots of a smart board, and recording oral presentations can help improve learning productivity. Smartphones are widely used as they are lightweight, pocket-sized, and mobile. Connecting to Wi-Fi or mobile Internet allows students to stay connected at all times.

Analysis of the data shows that most students are convinced that technology should be part of a classroom environment. Of the students surveyed, 82.5% expressed unequivocal confidence that this type of education should be in a class of ethnomusicology. The respondents explained this statement by the fact that with the help of mobile learning it is possible to have quick access to any video or audio file anywhere and at any time (96.6% of the surveyed students agree with the thesis). A smartphone provides easy access to all types of online information (91.5%) and educational materials (85.6%). In the process of interviewing students after the end of the course, the motives for choosing a particular musical culture were also clarified. It was revealed that the choice of music by students is primarily influenced by their personal interests, experience, and understanding of musical concepts. Most of the students (79%) chose for in-depth study and presentation the music of a country that they or their acquaintances visited; the music about which a

student watched educational films; or the music of a particular region a student is interested in.

The final assessment of knowledge and the formative assessment of the experimental and control groups showed that the students of the experimental group showed a higher average score in the final and formative assessment compared to the control group both in 2018/19 and in 2019/20 academic years. The average score in the experimental group was significantly higher than in the control group.

The study has several limitations. The results are rather illustrative since the students were from the same institution. The study was limited to the specific context of data collection. Since only one college was selected for this study, it is important to conduct further research to validate the findings and provide a fuller picture of the use of technology in an ethnomusicology classroom.

The research findings will help to improve policies and strategies on technology integration in music education, in particular, in an ethnomusicology classroom. Researchers can use the results as a means of comparing music education practices across educational institutions and identifying ways to maximize the benefits of mobile online innovation for music educators.

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