

A Review on online learning and Emergency remote teaching in Music Education courses

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Abstract – This paper considers review of changes to music industry education in the digital era and evaluates the current level of technology use within the music industry curriculum as a result of a survey on student perception. Since analysis of the collected data revealed a need to enhance the curriculum with computing and information technology competences, these propose and discuss novel courses that would facilitate students' acquisition of digital knowledge and skills. These additionally provide comments on the possible enrichment of existing courses with material on digital technologies applications. The information in this study is aimed not only at music industry educators but also at instructors in other disciplines willing to make their students aware of the latest technological trends.

Keywords- Music Education, Technology, Music Technologies.

I. INTRODUCTION

In an era of advancing science and technology, digital media have an important place in the teaching process. Modern technology has changed the way and quality of life, but the situation in schools has remained the same. There are very few schools that are equipped with modern teaching aids which include digital media, which enhance the very process of learning and teaching. One of the ways to achieve this is through the use of cognitive tools for building knowledge, whereby students are given an opportunity to be creators, through their own interpretation and organization of knowledge. In this paper, the term digital media refers to all types of information in a digital format, including computer-generated text, graphics and animation, as well as photographs, animation, sound and video.

The mode of communication between students and digital media is simple and straightforward and can be accomplished in various ways (practicing, teaching, dialogue, information search, simulation, educational games, problem solving). The communication model used in teaching is perhaps the most important segment that largely determines the outcome and effectiveness of the process. The combination of text, sound, images and animations ensures student's motivation for learning about the basics of musical literacy through the use of digital media.

Technology and education are branches of science in their own right and they have different theories and techniques but they are used together to improve quality in learning and teaching environments. This use reveals a new discipline, namely education technology [1]. Today, both information content and technological developments are rapidly changing and spreading. These formations

naturally affect learning-teaching styles [2]. The development of technology affects both the structure of the education system and the learning-teaching activities. In order to make progress in education, the use of technology in educational activities is very important [3].

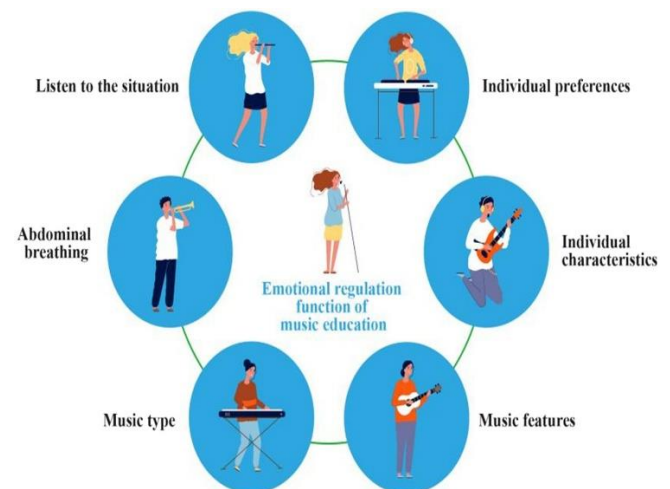


Fig.1 Process of Music Education.

II. CHALLENGES

Music industry (sometimes referred to as music business) is a relatively new discipline offered by higher education institutions at baccalaureate level. Students majoring in this program come from different backgrounds, with a wide variety of intentions in terms of how they will employ their degree. For example, among these students will be found musicians, music producers, those seeking to run a venue, prospective artist managers, live sound engineers, event promoters, publicists, copywriters, journalists, booking agents, social media managers, and those seeking to own or work for a record label. Music

industry is a relatively rare program, offered to date by only a few higher education institutions. For example, at one of the largest university systems in the United States—the State University of New York (SUNY)—only two campuses of 64 offer it at the baccalaureate level—SUNY Fredonia and SUNY Oneonta. In the digital era, educators face specific challenges [4]. The job market requires graduates to possess contemporary technological skills to be applied in professional activities. Hence, the curriculum needs to be constantly updated to keep up with technological developments. One approach is to rely on studies of the trends in the programs and their findings about recommended competencies and courses.

This analysis could be applied to popular disciplines like mathematics, life sciences, journalism, and others, which are offered at a large number of universities and for which many studies have been conducted (see, e.g., [1–3]). Sometimes, professional organizations develop detailed documents with curricular recommendations [4,5]. However, this is not the case with music industry, and we assumed a different approach. For this case study, a survey among the music industry students at JU Cultural Clubs & Technical Communities -JECRC University, Jaipur - India was conducted. The study revealed that students perceived a need to acquire knowledge and skills in digital technologies.

Depending on the problem sentence, the sub-problems are handled as;

1. How do music education students benefit from music technology in their studies and individual studies of field education courses?
2. How do music education students benefit from software-based music technology in their daily lives?
3. How do music education students benefit from hardware music technology in their daily lives?

III. RESEARCH MOTIVATION OF REMOTE TEACHING

In the Works; motivation, is highlighted as the necessity of information age, new teaching techniques, and the necessity of using technology in education [6]. Dissemination and implementation of educational innovations are largely dependent on the adoption of these innovations by teachers. For this reason, Information Communication Technology not only helps students to get information faster and easier during their education process, but also provides richer learning environments [7].

Sustainable development includes social well-being, which depends on education. Information technology has emerged to spread shared knowledge and is a primary driving force behind education reforms. The introduction of new technology-assisted learning tools such as mobile devices, smartboards, MOOCs, tablets, laptops, simulations, dynamic visualizations, and virtual

laboratories have altered education in schools and institutions. The Internet of Things (IoT) is proven to be one of the most cost-effective methods of educating young brains. It is also a robust mechanism for integrating a world-class learning experience for everybody [1], [2], [3]. Educational technology businesses are continually attempting to create novel solutions to expand access to education for individuals who cannot obtain adequate educational facilities. Social media as a learning tool has come a long way. Large numbers of teachers and students use social media as an essential element of the overall e-learning experience. It is a critical venue for exchanging information about crucial topics these days. Aside from the ability to communicate information anywhere, at any time, social media sites are also a fantastic source of producing networking possibilities to establish social activities and possibly new jobs [4,5].

Traditional classroom instructions fall short of providing an immediate learning environment, faster evaluations, and more engagement. In contrast, digital learning tools and technology fill this void. Some of the efficiencies such technologies provide are simply unrivalled by traditional learning methodologies. With smartphones and other wireless technology devices becoming popular among the general public, it only makes sense that schools and educational institutions make efficient use of them by putting technology in the classroom. Indeed, today's technology's adaptability and non-intrusive character make learning more appealing to the next generation. However, it may be a formidable technique to manage initially since traditional instructors are hesitant to include contemporary technology and gadgets in school, viewing them as a distraction rather than an intelligent learning aid [6,7]. An online classroom calendar, where we may display class schedules, assignment schedules, field excursions, speaker events, examinations schedules, or semester breaks, will help students plan accordingly. Student response systems, such as smartphones and clicker devices, provide a quick and easy technique for teachers to determine students' learning of the presented content quickly and whether more explanation is required [8,9].

IV. PURPOSE OF THE STUDY

To investigate the needs of music industry students with regard to knowledge and skills in digital technologies, and to enhance the curriculum respectively, a survey was developed and administered. More specifically, the purpose of the study was to ascertain what proficiencies in digital technology students have received from the music industry curriculum, what competencies they perceive as important for the music industry and what experiences contributed to their level of perceived skills and knowledge. We hypothesize that a disconnect may exist between which skills/knowledge are perceived as important and the perceived competency in those

skills/knowledge obtained from curriculum-based experiences. The research questions to guide the study are:

- (1) What particular courses have students experienced that are designated to provide digital skills/knowledge that may relate to the music industry?
- (2) What are students' perceived levels of digital skills/knowledge with regard to common digital competencies in the music industry?
- (3) What digital skills/knowledge do students perceive as being most important to the music industry?
- (4) For those digital skills/knowledge in which students feel competent, where do they perceive the source of that competency?

V. LITERATURE REVIEW

Jing Wei et al. [1]Primary or secondary music directors, college or collaborative music directors, and music educators are trained in music education. Students in music education research and develop new methods for teaching and learning music. Through peer-reviewed publications and instruction at the University of Music for music teachers, students in the field of music conduct their research. Using artificial intelligence in the classroom is a challenge because music is an available domain that requires students and teachers to innovate and solve problems. In this paper, Music Education and Teaching based on AI (MET-AI) techniques are increasingly comprehensive with modern science and technology, enhancing music education.

The use of artificial intelligence in music education breached the conventional paradigm of music education, particularly electronic music and innovative music software in private colleges, which has significantly enhanced the standard of teaching music and the teaching model for music education. The experimental results show us that the network teaching platform Music Major should be continuously improved based on artificial intelligence technologies. AI can make more optimized environments and professional music classes so that teachers and students can make the most of this and ensure smooth improvement in the network's teaching model. The MET-AI scores students' learning outcome rate of 95.2%, an efficiency ratio of 98.1%, the mean square error rate of 17.9%, accuracy ratio of 95.3%, teaching performance analysis ratio of 90.7%, the false-positive rate of 18.6%, true positive rate 95.7% and flexibility ratio of 92,1%.

Xuejing Hanet al. [2]With the popularization of conceptual teaching methods such as quality education and comprehensive education in schools, China has invested more energy in art education. Especially the vocal music education of art education, under this background, its music education management has entered a new stage. Through a series of means to make teaching more scientific and standardized. Music teachers are of high importance in the traditional meaning teaching mode, and

most of them teach in person. The traditional teaching mode has a single way and the content is lack of change. In a very short time, teaching will lead to poor information transmission. As a product of the information age, network teaching platform has gradually become a new way for people to obtain knowledge.

Scott E. Grapinet al. [3]Content area teachers need specialized knowledge about language to teach a growing population of multilingual learners (MLs). This includes knowledge of English language development standards and how they can be applied to classroom instruction in each teacher's content area. Traditionally, the preparation of pre-service teachers (PSTs) for teaching MLs has revolved around core content areas (e.g., science, math). However, MLs' learning takes places across a range of settings in K-12 schools, including in non-core content areas (e.g., music, art). This study investigated how music PSTs made sense of language, as represented in the latest English language development standards in U.S. K-12 education, by making connections to music. It also investigated how PSTs envisioned using the standards in their future music classrooms with MLs. Findings highlight the need to adopt an asset-based view of non-core PSTs as bringing rich disciplinary knowledge and experiences to their preparation for teaching MLs.

Sofyan Sauriet al. [4]Music is an art that can be used for education and da'wah. Through music, Islamic values through poetry can play an essential role as a medium of entertainment, da'wah, and media for building the character of students in Islamic boarding schools. This study aims to analyze music learning activities in Islamic boarding schools as a medium for forming students' character towards the generation of InsanKamil through learning marawis, tambourine, qasidah, and nasyid. The method used in this research is qualitative with a descriptive analysis approach. Data sources were dug up by interviewing techniques from seven Islamic boarding schools in West Java.

Seyi E. Ogunsile et al. [5]Pretest-posttest quasi-experimental nonequivalent group design. Students from 2 of the selected schools (n=37 and n=35) received nutrition education using conventional classroom instruction and HES, whereas the other 2 (n=30 and n=31) received theirs using conventional classroom instruction only. The use of HES may be an effective way of improving adolescents' healthy eating knowledge, attitude, and practice. However, testing culturally appropriate HES in more diverse audiences is warranted.

Qing Yanget al. [6]The cloud music teaching learning and development of students and the lack of demand for mobile learning resource platform, this article focuses on the design and implementation of a mobile classroom in the cloud computing platform, a detailed analysis from four aspects: the background significance, platform design, architecture and main cloud technology

application, the proposed system Flexible expansion module option information during transport and through the expansion towards the outside Prime work Mongo Pitty incorporate mapping. And previous system music teaching database work not load to cloud so to implementation Description of management. Music sharing and social functioning, communication across cultural boundaries between the language and the People, and through the development of neural networks, it has been upgraded from the choice of music discovery mode music cloud database under traditional record player mode. In this study, the social needs of the user's choice of music based on emotion net facilitate cloud music reviews for the dataset.

Doruk Enguret al. [7]Music Education is among Higher Education programs which accept their students according to their aptitude test scores. The aptitude tests are designed and applied specifically by the institution itself according to the specific needs and expectations of its education policy. Therefore, test contents, test formats, degree of difficulty and assessment criteria may vary accordingly. It is crucial for institutions to evaluate their test and examine its validity and reliability and they have to make the necessary changes when needed in order to sustain a better selection procedure. In accordance with this objective, this paper is an attempt to determine the reliability of the Musical Aptitude Test carried out by Music Education Department of Uludag University in 2013.

Asta Rauduvaite et al. [8]Challenges of changing society presuppose the situation of music education, which requires a closer interaction between music culture and education that encourages learners to remain in contact with music environment approximate to school learners, to employ possibilities provided by popular music to expand exposure to music education and personality becoming. The article discusses opportunities of music education improvement integrating popular music and using innovative methods of personal meaning and emotional imitation in the context of theories of pedagogical thought. On the basis of the research results, the links of school learners' musical activities and formation of value-based attitudes as well as opportunities of improvement in contemporary school are discussed.

R. Erol Demirbatiret al. [9]In Turkey, BA degree Music education programs accept students according to their Musical Aptitude Test scores in addition to the Transition to Higher Education Examination (YGS) scores due to the fact that music requires special talent. Musical Aptitude tests are prepared and applied by the Music Departments of universities.

AynurElhan Nayiret al. [10]The concepts of modality and tonality which are often confused with each other have indubitable importance in music education. Unlike the concept of tonality which indicates the pitch of the sounds,

modality is used in different cultures music as well as in western music culture. In case, Tetrachords systems which constitute the basis of modes also constitute the major stones of tonality. Opposing to hard and strict rules of Western music, makam Tetrachords in eastern music do not remain in the same place, and further show differences as descending and ascending scales. Apart from that tonic (durak) and dominant (guclu) called mayeistinat in Azerbaijan has always come to the fore. Therefore, all compared scales on the base of these important pitches are handled music differently in every culture. In this study, firstly, tonal music modes and their combination methods are examined, and secondly it is aimed to compare the modal music of Azerbaijan and Turkey according to their scales, but also this study examines their importance in the music education system. This study is important to light the way for students in their educational process and also provide the opportunities to compare the examples of folk music with western music.

Ayhan Helvac et al. [11]The pre-school period when the brain is developed the most rapidly forms a strong ground for the cognitive, language, motor, social and emotional development of the child. Therefore, children grow very quickly especially in their first six years of life which is named as the pre-school period and in these development areas, they become complete in every respect with an amazing speed. Thus, this will result in having the child achieve his/her own potential and be a productive member of the society. Education is the head of the most effective processes in shaping, directing, changing and developing individuals and societies. Contemporary education is carried out by being organized within a framework which includes the three general subject areas named as science, art and technique. As for music education, it forms one of the most important branches of fine arts education as an education of art having vocalic and auditory qualities. It has a significant place within pre-school education. In this context, the pre-school education program lastly prepared in 2013 in Turkey was studied and a content assessment was made directed towards music education in this research.

Barbara Sicherl Kajolet al. [12]The purpose of the study was to find out the extent to which Slovenian general education teachers follow the principles of a balanced music objectives planning in the prevailing affective, psychomotor and cognitive domains. The research sample involves 372 Slovenian student and current general education teachers who, working in pairs, prepared 186 lesson plans for music education. The research results showed that the majority of the musical objectives planned in this study, pertained to the psychomotor domain, followed by the cognitive objectives and by the least represented objectives of the affective domain.

Boukhatem Naderaet al. [13] Teaching and learning English as a second or foreign language has not been easy either for teachers or for learners. Teachers face problems

while teaching it while learners face difficulties while learning it. Many factors contribute to these problems and difficulties and lack of motivation on the part of learners or demotivated learners is one of the most common problems faced by the teachers which affects both teachers and learners in negative way. Motivated learners are a dream of every EFL teachers but it is hardly realized.

Ji-Hye Lee et al. [14]This case study examines the types and effectiveness of music-based program used by Samsung Group for executive education. The author designed and taught music-based program to newly promoted managers, assistant directors, and directors at Samsung for seven years (2004–2010), analyzed the program, and obtained the following results. (1) Music-based program content was used increasingly in emotional intelligence education courses for executives. (2) In music-based program, video lectures and recital-and-interpretation lectures generated better educational performance among trainees than did general lectures. (3) Participants responded more favorably to recital-and-interpretation lectures than to video lectures. (4) In the recital-and-interpretation lectures, preferences for music genres (classical, popular, local, etc.) and instrumental compositions of classical music (strings, winds, etc.) varied depending on trainees' positions and occupations. Finally, the study presents hypotheses on improving the emotional intelligence of executives and improving organizational performance through music-based program.

Deniz Tuncer et al. [15]Measures or bars in music are beats grouped into larger units. This uniting can be taught in a short time theoretically, however; in performance, perception of time notion has an active part to sense music. This sense can be learnt by using different implementations. In this paper, in the context of measuring beats, music examples which were prepared anacrusis form and emphasize the last beat of the measure will be presented to examine.

VI. CONCLUSIONS

Initially, digital technologies were viewed as an adversary of the music industry, and there were many disputes over copyright and illegal downloads. In the last few years, however, this trend changed, and now streaming services are widely used by professional musicians to spread their music. Hence, digital technologies play an important role in music industry professional preparation, and students must stay up to date with them. The research hypothesis was that the students in music industry do not acquire all the necessary technological competencies during their studies. A survey was conducted, which supported this hypothesis while answering a number of research questions regarding the perceived preparation of the students and the knowledge and skills they have to develop.

There is no single system universally integrating all the elements that are necessary for a music industry professional. Therefore, it is recommended that software addressing specific needs is introduced into the appropriate course. This introduction will provide the curriculum-specific instruction and real-life experience that will best prepare music industry graduates for the myriad of possible professions.

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