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## A comparative analysis of conservatories and departments of music education in terms of the place of technology use in their music education

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### Abstract

Today, the importance and necessity of technology use is an undisputable matter. Thanks to this, it has become possible to advance in education. Educational/instructional technologies (computer-aided teaching, material development etc.) and music technologies (sound recording, tonmeister etc.) are separate disciplines. The aim of this study is not to investigate only one of the above fields and then make inferences. However, what comes to the mind first when it comes to music, education and technology are the ones above. Therefore, these concepts will be explained in order to prevent a potential incomprehensibility and to lay the scientific foundations of the study. Advanced technologies are used effectively in music and music education, as they are in all other fields. If a music educator is unaware of useful technological facilities, it is necessary to look for such facilities in the environment in which s/he is active and especially in the educational environment. An educator can use something in her teaching activities to the extent she knows and comprehends it. For this reason, in terms of the relationship between music, education and technology; an education on using technology should be provided on the issues of educational environments (schools, courses etc.) and education systems (curricula etc.). Thus, the main purpose of this study is not to define the extent to which music educators use technology, but to determine the extent to which music education programs include this education and to underline the necessity of using them effectively. To this end, the universe of the study consists of conservatories and departments of music education in Turkey. These programs will be compared, courses in these programs aimed at teaching technology use in music education will be examined, and findings will be interpreted.

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**Keywords:** Conservatories, Departments of Music Education, Music Education and Technology Use.

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## 1. Introduction

The advance of technology has rendered necessary its effective and functional utilization in arts, in general, and in the field of music, in particular. It is possible to train undergraduate students in technology and thus to enable them to effectively use it. Today, there exist vast technological opportunities that can be used in music education.

In the process of preparation of the Master's thesis entitled "Analysis of Technology Use by Music Educators in Music Education", which I supervised in 2009, music educators' knowledge levels in music technologies were examined (Beşer, 2010). It was observed that teachers and academics, including professors of conservatories, did not have sufficient knowledge of using technology in music education.

If a music educator is unaware of useful technological facilities, it is necessary to look for such facilities in the environment in which she is active and especially in the educational environment. An educator or an artist can use something in her teaching activities to the extent she knows and comprehends it. For this reason, the relationship between music, education and technology is addressed here with respect to curricula and teaching plans. With this approach, the main purpose of the study is not to define the extent to which music educators use technology, but to determine the extent to which music education programs include this education and to underline the necessity of using them effectively. **In this study that I am presenting, the importance of adequately using technology in music education will be emphasized and the extent to which curricula include relevant courses will be determined.**

According to Engler, technology is an integral component of education. When education is seen as a web of communication between teachers, students and the environment; it then becomes clear that instructional technologies play a significant role in defining these relationships (Engler, 1972:62, <http://uretim.meb.gov.tr/egitekhaber/s92/yazarlar.htm>, 18 Haziran 2013, saat: 14.00).

Contemporary education is aimed at training individuals in the most appropriate and advanced manner as a balanced unity by considering their physical, mental and intellectual aspects. More importantly, it is aimed at a total improvement. The main function of contemporary education is forming modern societies that consist of modern individuals, as required by the contemporary life. For this reason, an education system that will reach all segments of the society and contemporary methods are needed. Due to changing programs and approaches, it is observed that the expected/desired level of success cannot be achieved. Components of a desired education are endearing music to the individual and endowing her with a perspective to differentiate between good music and bad music. In order to achieve them, it is necessary to utilize advanced methods and technology.

A total development will be accomplished in music education when problems pertaining to planning, programs and methods are overcome.

Benjamin Bloom, in his book that has been translated to dozens of languages, underlines the importance of planned education: A society, which needs a high number of individuals with diverse skills, cannot stick to methods of obtaining these skills only through selection. Such a society has to develop these skills early on and to take the necessary steps to provide a planned education aimed at these skills for long times. For these reasons, societies, which desire to have members who are capable of solving complex problems, keeping up with rapidly changing conditions, verbally communicating at advanced levels, and rapidly learning complex and new ideas; have to implement a planned and programmed education in order to be able to facilitate the development of these skills from early childhood and to improve them in school years (Bloom, 1998:251-252)

Since the opening of Music Teachers' School (Mûsiki Muallim Mektebi) in 1924, music-teaching curriculum has undergone numerous changes. The Ministry of National Education's view of music curricula along with potential changes has influenced the model of training music teachers. Main issues in music education can be juxtaposed as follows:

- Professional qualifications of the music teacher,
- Inadequacy of music class hours,
  - Regulation of the music curricula,
  - Insufficiency in music instruments and materials,
  - Insufficiency of reference books and repertoires,
  - Inability to effectively utilize contemporary methods and technology.

In my opinion, the most important one among these issues is the one that pertains to the utilization of contemporary methods and technology in music education. Technological materials and highly-developed devices fill classrooms, but there exists a lack of skilled educators and experts who are capable of using them.

## **2. Technology Use in Music Education**

### 2.1. Technology, Educational Technology, Instructional Technology

Technology is humans' control over nature by means of science.

Technology is the control of a group, which is technically effective both in concrete and experimental terms, over the rest of the unity (people, events, machines etc.) by means of an organizational hierarchy (Mc. Dermott, 1981:142, <http://uretim.meb.gov.tr/egitekhaber/s92/yazarlar.htm>, 18 Haziran 2013, saat: 14.10)

#### Educational Technology

Education is the process of developing behaviors and talents, and acquiring knowledge, skills and attitudes. Technology, in very general, can be defined as forming functional structures required to have control over nature by using acquired skills (Alkan, 1998:16).

Given these meanings of these sub-concepts; educational technology then could be defined as the functional structuring of learning or teaching processes by using relevant knowledge and skills with the purpose of holding control over education in general, and the learning situation in particular. In other words, it is the act of designing, executing, evaluating and improving learning-teaching processes. (Alkan, 1998:17)

### Instructional Technology

Instructional technology is a technological concept, which is based on the idea that teaching is a sub-dimension of education and on the consideration of unique aspects of certain teaching disciplines. This term refers to a systematic approach that comprises all of designing, executing, assessing and developing teaching-learning processes in line with certain special objectives, by simultaneously using human and non-human resources, with the purpose of forming effective learning arrangements pertaining to relevant disciplines. (Alkan: 19)

Instructional technology is the branch of science, which examines the analyzing, designing, developing, execution and evaluation of processes and instruments that could be used in organizational, designed and curriculed environments for the purpose of enhancing “desired learning”( <http://tr.wikipedia.org>, 19.06.2013, 17:58)

### 2.2. Musical Technology and Technology Use in Music Education

The term “musical technology” generally refers to all technological issues dealing with the art of music. More specifically, it refers to the act of executing activities such as playing, recording, composing, storing and performing by means of electronic instruments and computer software. (<http://tr.wikipedia.org>, 19.06.2013, 18:04)

Technology use in music education, on the other hand, refers to the execution of the above-mentioned activities for educational purposes. It is receiving the support of technological devices in the process of acquiring concepts and behaviors related to the science of music.

In today’s conditions, in fact, all educators are expected to have a certain idea about all these fields. They are supposed to be useful to themselves and to their environments by using educational, instructional and musical technologies to certain extents. Ample opportunities in the form of materials, hardware and software that serve the above purpose are available today.

What might be the Technological Devices that can be used in Music Education? (Beşer, 2010:31-59)

Reflection Devices (Overhead Projector, Slide Projector, Opaque Projector, Film Strip Projector, Video Projector [Barcovision], Datash ow [Lcd Panel], Conference Projector),

Devices used to Record and Play Video and Audio (Record Player, Cassette Player, Music Player, External Speaker, Television, Radio, Video Player, VCD Player, DVD Player, Video Camera, Voice Recorder),

Devices used in Music Education (Metronome, Tuner, Smart/Interactive Music Board, Computer, Midi Keyboard, Electronic Keyboard, Digital Piano, Synthesizer, Sampler),

Computer Software (Operating System, Web Browser, Office Applications, Programming Software, Web Design, Programming and Database Software, Picture and Graphic Software, Video Playing and Slide Software, Music Education Software, Note Writing Software, Voice Recording and Processing Software, Music Production Software) and other technological data (experimental instruments, mobile devices and software [iPhone, educational devices and toys, walkable piano, portable music instruments, foldable drum etc.]. Examples are the following: Foldable Piano, iPhone, walkable piano and other samples (Beşer, 2010: 58-59)

How these instruments/materials should/could be used in music education is a subject of another and more extensive study. For this reason, this issue will be addressed briefly in the “suggestions” section.

What this study actually desires to emphasize is a planned inclusion of these materials in programs with the aim of endowing candidates with knowledge and experience.

### 3. How should Today’s Music Education be?

Music (*lat.* Musica, *gr.* Musike, *fr.* Musique, *ita.* Musica, *tur.* Muzik, *ger.* Musik, *ar.* Musîkî) is the art of expressing ideas and imaginations in mono- or poly-phony (Sözer, 1996: 490)

Music is a universal language, a means of communication, and an important step of education that has been strengthening the unity of societies since the beginning of humanity (Ergöz, 2007: 7).

Music is among the essential sources of life for human beings. A person, who is nourished with adequate and correct music, is likely to have a healthier and more quality structure of thinking and feeling. In general, people who live with music emerge more prominent in societies in terms of a higher quality worldview and skills such as problem-solving. In this respect, individuals with higher music awareness, and societies composed of such individuals, are unlikely to fail in other segments of life (Beşer, 2010:5).

We need to train individuals who know about and effectively utilize technology in order to popularize music across the society and to provide a better education.

Education is the process of deliberately forming desired behaviors in an individual’s life. (Ertürk, 1982:12)

Music education, on the other hand, is the process of endowing the individual with musical concepts and behaviors, and rendering her more competent in a planned manner.

Here, what is referred to is a planned education that serves for a certain purpose. We should reflect our objectives and targets in our programs. It might become possible to obtain better results if programs are revised in this manner.

A contemporary music educator should be someone, who is knowledgeable about all subjects related to music, is capable of playing an instrument competently, has technical and historical knowledge of Turkish and world music, is capable of analyzing, and is capable of combining all her knowledge with the latest teaching techniques and technological facilities.

The common point of programs in schools that aim to train music educators is putting more emphasis on area instruments. Candidates are trained in these programs to enable them to play an instrument competently. However, what is more important for a music educator is learning the extent to which she should use contemporary methods and technology while teaching music than learning how to play an instrument.

It is observed that all teaching programs, including the latest one that was presented with the name of restructuration as if it was going to bring positive changes, are based on area instruments. It could be seen that the only area course that is given throughout the entire duration of education is on area instruments in all teaching programs. This shows that the main aim of all programs is to endow the pre-service teacher with the ability to play an instrument. We would be more realistic if we used the time spent for teaching how to play an instrument, a skill which teachers rarely use in their professional lives, for training music teachers who have a lot to talk about issues pertaining to music. Do music teachers cover all dimensions of music in their classes? If the answer to this question was “yes”, then we would now be able to state that we have attained a good level in general music education (Sevgi, 2003:67).

The title “music educator” does not only refer to the person who supervises in-school music courses and various music activities anymore. A music educator is now perceived as a professional who can be employed in numerous professional fields; such as instrument/sound teacher of individuals at all ages in or out of school; music expert of mass communication media (radio, TV, movie, recording studio etc.); music manager or counselor of institutions of musical therapy, large companies, tourism firms or big hotels; music expert of culture-tourism bureaucracy (gallery, museum, festival etc.); and so forth. She cannot, naturally, be expected to have acquired all skills that render her competent in all of these fields. What is meant here is that music education has long exceeded the boundaries of schools or music classes, and that music education is needed in all these fields. For the formation of the individual’s cultural/artistic sense is possible only if the act of including music in her life is performed with an educational care, which can only be shown by people who amalgamated musical skills with a pedagogical approach. (Okuy, 2007)

For all these reasons, music educators should be individuals who are versatile, and capable of keeping up with contemporary methods and technological devices, so that she can be a guide to new generations.

In the final declaration of 9<sup>th</sup> National Music Education Symposium held in Marmara University, the emphasis was on the inclusion of musical technologies and programs and on departments of musical engineering. “In Turkey, the number of Faculties of Fine Arts has increased and the programs they offer have diversified. These schools should train only intermediary professionals who are experts on musical technologies. If conservatories will keep training instrument teachers, these teachers should be trained in teaching methods and instrument pedagogy. Finally, music education must be widened, it should be divided into branches, and Music Faculties or Music Universities should be established by bringing together departments on teaching, performing, musicology, musical engineering, conducting, composing etc.” (Filiz Kamacıoğlu, [www.muzed.org.tr](http://www.muzed.org.tr), 20.06.2013, 15:45)

#### **4. Findings and Interpretation**

In this section, departments’ curricula will be examined, differences will be addressed, and evaluations will be provided. It will be tried to determine the numbers of classes on technology use in music education offered in the existing programs.

##### **Scope**

**Universe:** Departments of Music Education and State Conservatories in Turkey.

**Sample:** A curriculum and a teaching plan from each of the following schools: Gazi University Faculty of Education Department of Music Education, Istanbul Technical University (ITU) Turkish Music State Conservatory (TMSC), Gaziantep University TMSC, and Sakarya University State Conservatory.

#### **Data Collection Method and Instruments**

Since 1998, faculties of education have been offering education according to a common plan, as required by the Council of Higher Education in Turkey (YÖK). In the study, eight-year teaching plans of Gazi University Faculty of Education Department of Music Education and State Conservatories constituted the sample. While some of these teaching plans were accessed online, some others were obtained directly from school managements, and then they were subjected to analysis.

##### **4.1. Examination of Eight-Semester Curricula of Faculties of Education**

Music departments of faculties of education are educational institutions that train music teachers. The candidate receives a quality training in the field of teaching. There exist 22 music departments of faculties of education in Turkey. Each year, these programs admit 30-60 students.

With the Decision (04.11.1997 - 97.39.2761) of the Council of Higher Education (YÖK), the process of restructuring faculties of education has started, and within this framework, the revised teacher training programs were put into effect in the 1998-1999 Academic year. In the restructuration efforts, programs of faculties of education that train teachers for elementary schools were restructured in a way that will meet the requirements of the eight-year continuous education (<http://www.meb.gov.tr>, 18.06.2013, 13:48).

This year, on the other hand, YÖK decided to cancel admitting candidates to faculties of education due to the high number of unemployed teachers.

The following findings were obtained after an analysis on the 8-Semester Curriculum of Gazi University Department of Music Teaching. ([www.guzelsanatlar.gazi.edu.tr](http://www.guzelsanatlar.gazi.edu.tr), 18.06.2013, 14:14)

##### **Assessment:**

In the curriculum, the obligatory course “Computer Use in Music” is given in the 1<sup>st</sup> and 2<sup>nd</sup> semesters with a total of 4 credits, and the obligatory courses “Computer I” and “Computer II” are given in the 3<sup>rd</sup> and 4<sup>th</sup> semesters with a total of 6 credits. Moreover, the elective course “Electronic Keyboard Training” is offered with 1 credit. While the total number of credits is 240, the number of credits of courses related to technology use is 11.

##### **4.2. Examination of Eight-Semester Curricula of State Conservatories**

State Conservatories are institutions that mostly train artists and musical scientists, mainly focusing on the artistic aspects of music. For this reason, more emphasis is placed in their programs on instrument training, sound training or theoretical training. In Turkey, there exist nearly 30 state conservatories (<http://tr.wikipedia.org>, 18.06.2013, 16:53) in different cities. While some of them focus on Turkish music, some other focus on Western music. Every year, 20-50 students enroll each of in these programs.

The Department of Music Technologies, on the other hand, was established for the first time in ITU TMSC, and today several conservatories in Turkey have this department. However, the lack of professors is an obstacle in front of opening such departments and admitting students.

#### 4.2.1. Curriculum of Sakarya University State Conservatory

Sakarya University (SAU) State Conservatory (SC) has four different departments: Basic Sciences, Turkish Music, Turkish Folk Dances and Music Technologies. While the former three are currently operating, the Department of Music Technologies does not admit students at the moment due to the lack of professors.

The 8-Year Curriculum of SAU SC Department of Basic Sciences ([www.dk.sakarya.edu.tr](http://www.dk.sakarya.edu.tr), 19 Haziran 2013, saat 16:00) was examined, and the following findings were obtained.

##### Assessment:

In the program, the course “Music Technologies” is given in the first semester with 3 credits. While the total number of credits is 240, the number of credits of the course related to technology use is 3.

#### 4.2.2. Semester Curriculum of ITU TMSC Department of Basic Sciences Division of Music Theory

Under ITU TMSC; a total of eight departments operate: Basic Sciences, Music Theory, Vocal Training, Musical Technologies, Composition, Musicology, Musicology (English), Instruments, and Turkish Folk Dances. In this study, the curriculum of the Department of Music Theory, which was revised in 2010-2011, is addressed.

It was noted above that the first Department of Music Technologies was opened in this school.

The 8-Year Curriculum of ITU TMSC Department of Basic Sciences Division of Music Theory ([http://www.tmdk.itu.edu.tr/epTeb\\_tur.pdf](http://www.tmdk.itu.edu.tr/epTeb_tur.pdf) , 18.06.2013, 14:21) was examined, and the following findings were obtained.

##### Assessment:

In the program, the obligatory course “Computer” is given in the first semester with one credit. Total number of credits in the program is 151; however, there is no obligatory course related to technology use in music.

#### 4.2.3. Curriculum of Gaziantep University TMSC Department of Basic Sciences Division of Turkish Classical Music

Gaziantep University TMSC have the Departments of Basic Sciences, Vocal Training, Turkish Folk Dances and Musicology.

The 8-Year Curriculum of Gaziantep University TMSC Department of Basic Sciences Division of Turkish Classical Music ([www.gantep.edu.tr](http://www.gantep.edu.tr), 19 Haziran 2013 saat 16:10) was examined, and the following findings were obtained.



Assessment:

In the program, the obligatory course “Computerized Note Writing” is given in the 7<sup>th</sup> and 8<sup>th</sup> semesters with a total of 4 credits. While the number of total credits in the program is 168, the number of credits of courses related to technology use in music is 4.

#### 4.3. Comparison of the Programs

**Table 1. Comparison of the Programs**

Courses	Faculty of Education	ITU TMSC Music Theory	SAU SC	GAU TMSC
“Technology Use in Music” Course	10(4.1%)	1 (0.6%)	3 (1.25%)	4 (2.3%)
Total Credits	240	151	240	168

Assessment:

The percentages of courses related to technology use in music in curricula are the following: 4.1% in the Faculty of Education Department of Music, 0.6% in ITU TMSC Department of Music Theory, 1.25% in SAU SC Department of Basic Sciences, 2.3% in GAU TMSC Department of Basic Sciences. While all these percentages are low, it is seen that the percentage in the Faculty of Education is higher than in the other departments. Since not all departments included elective courses, they were not included in the analysis.

It was also observed in general reviews conducted on the internet that the number of courses on technology use in music is inadequate, and even some schools do not offer any such course at all.

The conservatories addressed here have similar programs, which is why they were selected.

## 5. Conclusion

The comparison of the programs suggest that these programs differ with respect to the coverage of technology use in music in courses offered. It is noteworthy that the number of such courses is low in all of these departments. The finding that the faculty of education has slightly higher percentage of such courses might have stemmed from the fact that the number of such practices has increased in the past ten years.

Suggestions

1. The necessity and benefits of music education at all age levels is clear today. Contemporary methods and technological devices could be used in order to popularize this education and render it more effective. In this respect, curricula may include courses on the use of technological devices in music education.

2. Elective courses should be included in curricula so that attentions of interested students can be attracted.

3. We still have departments of music technologies, which have been shut down or cannot admit students due to lack of professors. Training professors for these departments may be possible this way.

4. A lack of methods and reference books in music education is widely acknowledged. It is possible by benefiting from the facilities provided by technology to produce note books, solfeggio methods and playing methods. Mentioning here only the famous Finale software will give an idea on this matter. This note writing software is updated every year. It is possible to provide a faster and better education by including such software in our educational methods.

5. It is possible today to support printed publications visually by CDs and DVDs. For this purpose, voice recording studios and computer software might be used.

Benefiting from contemporary technologies and including these subjects in curricula both in music education and resource production will be a contemporary approach.

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