Networking Music Education.  
WWW applications in music teacher training:  
a praxial perspective

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Abstract

This text analyses the use of the World Wide Web in music teacher training at the University of Oulu, Finland. Focus is on the practical implementations of the internet in constructing and exploiting open learning environments. It is seen that network environments are suitable especially for studying aural-based and media-related musical practices, such as Afro-American music. The features offered by the WWW in the 1990’s have made it possible to relay musical information interactively. In the future, the network environments may provide user with a musical context of operations independent of time and space. This provided, that the students have acquired sufficient competence in the music instruction and information technology, which delivers a challenge for the technological education in music teacher training. The task for the future is to create humane virtual studying environments which support praxial music education and the constructive development of musical knowledge and skills of the active, self-directed student.

1 Background

1.1 The Second Wave of the information society

According to some instructional and educational technology researchers we are living in the second phase of information society. For educational practices this means, among other things, that communication technology and wide-area network capabilities are about to transform our conceptions of teaching and learning environments. Telecommunication webs and the applications designed to enhance the education procedures can offer teachers invaluable opportunities to construct global learning centres that benefit from the world-wide weblike organization of knowledge. [1] [2]

At the same time there has been a paradigm shift regarding the conceptions of learning and education. The emerged constructivistic viewpoint to learning stresses the role of participants of teaching and learning processes in constructing their own knowledge and life-worlds in sociocultural situations [3]. McLellan [4] sees the recent models and theories, e.g., those of situated cognition [5], mindfulness [6], cognitive spectrum [7], multiple intelligences [8], optimal flow [9] and constructivism in relation to an idea of “being digital” [1]. This implies a conception of open relations between man and technology, which envisions individuals and communities combining their functions and abilities meaningfully and effectively with those of machines in enhancing human life, work and learning.

The anticipation of the emerging second wave of the information society is reflected globally in sociopolitical solutions that target towards regional, national and multinational information strategies. In Finland, the Ministry of Education is presently advocating the coming of the information society by renovating the educational system in relation to the currently constructed information infrastructure. The foremost aim of this strategy is to make the services of information networks available to the whole educational system and to all citizens. The remote areas of national school network are connected to the learning centres of densely populated areas. Networking and telematics thus have the potential of becoming the means for constructing a
heterarchic society where the remote areas are not in the same manner subordinate to physical space and time as earlier. [10] [11] [12] [13]

1.2 The Second Wave of music instruction technology

Information technology is not a new phenomenon in the contemporary music classroom: computer-based MIDI-systems and electronic instruments were introduced to music educators in the mid-1980’s. This could be called the “first wave” of instructional information technology in music education.

However, it should be stressed that the music teacher’s formal training for working in technological environments became commonplace as late as early 1990’s. The first innovators, bringing with their enthusiasm first personal computers into music teaching activities, had to find out practical solutions to emerging problems by themselves, without the guidance and support of computer experts. In many schools personal workstations were centered in computer classes without proper networking capabilities. In mid-90’s it was still not unusual to see music classrooms completely without computing resources, not to mention access to local or wide-area network services. The facilities for music education have usually not been the first ones to be furnished with infrastructures prescribed in governmental information strategies. The current information strategies promise an improvement in this respect.

How can music educators utilize the potentials of the emerging new technology in their practices? In the following we would like to point out some answers and upcoming challenges related to these questions in the light of our recent work with the new information technology and the specific practices of music teacher training at the University of Oulu, Finland.

2 WWW in music teacher training: a case in Oulu, Finland

2.1 The Context

The northern half of Finland can be considered a periphery both in econogeographical and cultural senses. Hierarchic sociopolitical structures, low population density, long distances, low GNP per person, vast unemployment, as well as, regarding music education, the lack of competent music teachers, and the centralization of the skilled musicians and educators in big cities has led to adaptation of national and regional survival strategies which correspond to the ideas of the emerging second wave of information society. [10] [14] [15] [16] [17]

For the purpose of music education in the Finnish remote areas, the Division of Music Education (est. 1993) at the University of Oulu is endowed with the task of training broad-based music educators capable of adapting themselves with the current changes in the society. In research, the principal tasks are to delineate the current and structural problems in the local music education, and to provide the means to solve those issues by implementing the aforementioned philosophy into praxis. [18] [19]

The goals are implemented e.g., through action research, focusing on open learning environments and telematics in music education. Building on multicultural pluralistic and praxial views on music educatorship [20] [21] involves not only traditional Western art music practices, but Afro-American and ethnic musical practices as cornerstones of today’s music education. In the present case, the potentials of the second wave of the instructional technology are evaluated in connection to the praxial approach to constructing music educatorship in the context of Afro-American musics.

2.2 The Case

Afro-American music with its sub-practices offers a functional channel for experimenting the network-based learning in the light of a praxial orientation to music education. The musical practices of Afro-American music are adapted as aural-based and media-related in contexts which are constructed in conjunction with authentic musical practices. Learning of this kind of music practices occurs essentially in practical situations of musical interaction. Therefore the most functional learning-environments for Afro-American musics are also practice-specific, as well as aural- and media-related. [22]

In 1996-97, a research project was launched in order to exploit the application of internet and intranet in the courses dealing with, e.g., music and information technology and Afro-American music. The students of music education used computer workstations within local and wide-area networks as aids in completing a multitude of tasks required in rehearsing, performing, composing, improvising, arranging and constructing knowledge and skills of Afro-American musics. The students were encouraged to explore practical ways of acquiring teaching materials, and to enhance individual learning by
using applicable software and various types of documents designed for supporting the musical actions.

A dedicated WWW server (http://musicedu.oulu.fi) was established for intranet purposes. The internet resources have been directly available to the students at each workstation at the university, as well as in some newly constructed or renovated student housings, giving full access to the public cyberspace. Also, every incoming student was given an account on university servers, thus allowing remote PPP connections.

In the course of the year, electronic mail and WWW were by far the most frequently used internet services. However, email was mostly used for personal communication rather than, e.g., mailing list services. At the same time, the services unavailable via WWW remained less and less used. Telnet services were used mainly for library access.

The internet resources were put in educational use in different ways. The most commonly used resources were hypertext documents, plain text documents, and standard MIDI and audio files. Other applicable resources such as video files and public domain educational software, as well as streamed resources were scarcely used. Nevertheless, this indicates that the networks can provide a resource-based learning environment readily adaptable for music teacher training.

Several aspects can be pointed out regarding the accomplished work concerning Afro-American musical practices and instructional music technology in music teacher education.

1) The internet offers a vast but unstructured array of materials, the copyrights of which are still an unresolved issue.
2) The quality of the applicable resources varies tremendously. Further development of information management is needed for the effective use of the resources.
3) The expanding needs of alternative notation in the form of tabulature for guitar and bass guitar has culminated in forming of ASCII tabulature notation system. At the same time, the present rareness of the common notation interchange file format (NIFF) and the copyright issues limit the use of common practice notation (CPN).
4) Internet and intranet are a convenient avenue for reaching materials for supporting musical skill acquisition in the form of, e.g., Band-in-a-Box documents and other accompaniment resources ("music minus one"). In music educator training these files have proved their usefulness e.g., in practicing Afro-American keyboard skills, band instruments and singing. Online, there have also been examples of keyboard skills courses that exploit these file formats explicitly. The "karaoke"-files, MIDI-files with lyrics, can also be used in accompanying tasks.
5) The WWW offers fruitful possibilities for managing the resources in the manner suitable for local requirements. Intranet can a) provide an open but semi-structured gateway to internet resources, and b) function as a developing environment for curriculum-specific resources, the quality and content of which are tailored for the local needs.

3 Future visions and upcoming tasks

Results so far confirm that network environments are suitable for studying Afro-American musical practices. By establishing diverse listening and practicing possibilities via the easy producing, editing and transmission of information, digital technology can support learning within aural-based music practices. These open and semi-open resource-based learning environments appear to supply constructive learning opportunities for music educatorship.

However, for the future there needs to be a closer collaboration between the music educators, the instructional technology engineers, and the administrative quarters. As indicated elsewhere [23], practical classroom teaching needs of educators and the technology too often do not meet. The indifference presented by engineering towards the needs of the end users only extends the gap and enforces the tech lag. On the other hand, the educators should be more vocal about the problems encountered. The task for the administration is to realize that the investments in technology need enough of human resources in order to promote computer and network literacy in continuing education. This implies a continuing need for developing pedagogy of technology in music teacher education.

Furthermore, these investments are crucial for remote areas, since it seems that only by investing in high technology and telematics those areas can remain populated. Also, the new forms of musical practices emerging in the Net suggest a growing need for information technology literacy in music educatorship of the second wave of information society.
Developing telematic connections and utilizing network applications together with them may very well result in music education partially separated from the classroom environment. The challenge of the future is to create humane virtual studying environments which support praxial music education and the constructive development of musical skills of the active, self-directed student, and to develop pedagogy which allows teachers as well as students to grow into taking full advantage of the network capabilities.

References