Exploring the On-line Learning Means to Music Education; Prelude Platform Case Study

Nedelcut Nelida1, Pop Ciprian Gabriel 2
1 Academy of Music Gheorghe Dima /Department of Continuing Education and Distance Learning, Cluj-Napoca, Romania
2 Academy of Music Gheorghe Dima /Department of Continuing Education and Distance Learning, Cluj-Napoca, Romania

Abstract – Music technology has become a recognized subject area in its own right. There is no doubt that technology has become increasingly prevalent in schools all over the world and that there are still many exciting developments in this area on the horizon.

The benefits of using ICT in the educational process reside both in the manifold instruction opportunities it offers and in the transformation of relationships among learners, teachers and the learning equipment.

Inside the European Prelude project, a Music Education Consortium formed by 7 Countries (Greece, Austria, Estonia, UK, Sweden, Spain and Romania) conducted an investigation on the ways of effectively integrating ICT in music education through the creation of a common pool of tools and applications for music education. The Prelude project is designed to address the educational needs by employing up-to-date findings from the fields of music education, computer and web based applications.

Teachers are crucial to the successful use of ICT. They should be required and positively encouraged to assume new roles and responsibilities if ICT is to be effectively applied to enhance teaching and learning quality. Initial teacher education for all teachers should include compulsory ICT training to an adequate level of competences and skills. The main focus for teachers should relate to developing ways of fully and appropriately integrating ICT use into their existing teaching/learning programs and in particular within that, to developing ways of optimizing the level of cognitive/creative challenge involved in the students’ use of ICT and devising appropriate and valid methods for assessing or evaluating student achievements as demonstrated during the course of such use.

There is a consensus that the effective and widespread use of information and communication technology has great potential in enhancing learning opportunities and learning quality.

Index Terms— E-Learning, Electronic platform, ICT in music education, Learning platform

I. INTRODUCTION

On-line learning means to music education has become a widely recognized subject area. There is no doubt that technology has become increasingly prevalent in schools all over the world, and that there are still many exciting developments in this area on the horizon.

Within the on-line course, the asynchronous methodology replaces the face-to-face interaction of the traditional classroom but whether this form of teaching/learning would be capable to enhance the learning process is a new concern among the specialists (Andresen 2009). Instructing in an on-line environment is inherently different from the conventional classroom. Therefore, we should expect that the roles we take on as instructors will change, to some degree, when we deliver an online course and monitor an asynchronous versus live interaction. Coppola (2002) investigated this change and found that the instructor’s role in cognitive, affective, and managerial activities changed in the on-line learning activities.

The benefits of using ICT in the educational process reside both in the manifold instruction opportunities it can offer, and in the transformation of relationships between learners, teachers and the learning equipment.

The use of technologies in music teaching and learning has been a field of research for many years, and the highly interdisciplinary nature of this field is reflected in the diversity of approaches given to the applications of ICT in music. Various surveys (Mills and Murray 2000; Offsted 2004) have reported that teachers find music technology accessible to the curriculum and allows all abilities to music.

ICT was introduced to educational institutions in three stages: firstly, as a well-defined study subject (put into effect in pilot-schools); then, it was integrated into national curricula, finally leading to pupils’ familiarization with ICT (theoretical knowledge) and to ICT use as a teaching/learning tool.

The integration of IT technologies into education leads to major changes in the class of students: they become the essential element of the teaching/learning process, participating actively in this process and turning into self-taught people, with the aim of achieving their full education from a cognitive, social, physical and emotional viewpoint. Thus, the classes become more attractive for children, the teaching method is more flexible and the teacher’s adaptability to the pupils’ requirements is improved.

Within the framework of the European Prelude project, a Music Education Consortium formed by 7 Countries (Greece, Austria, Estonia, UK, Sweden, Spain and Romania) conducted an investigation concerning the ways of effectively integrating ICT in music education, for
creating a common pool of tools and applications. The Prelude project was designed to address the educational needs by employing up-to-date findings from the fields of music education, computer and web-based applications. This article offers some preliminary results on the effectiveness of integration ICT in traditional classroom environment. We monitored the impact of the new approach on students, teachers and on the teaching process.

II. GENERAL DESCRIPTION OF THE PRELUDE PROJECT

The PRELUDE project was financed by the European Commission under the Socrates Programme (Comenius 2.1.). Its aim is to provide training and expertise to music teachers using ICT in their classroom and integrating it into a flexible and pedagogically oriented curriculum. The project was conceived to stimulate the implementation of IT technologies within the teaching/learning process in music education, approaching the teaching staff as a target group, and pupils/students as an interested party.

The project is developed over a period of three years, the main "products" being the following:

a) Creating a platform in the form of web portal for teacher resources (PRELUDE training platform);

b) Editing a guide of good practices of how to use ICT in a learning classroom environment, issued in electronic and classic format, which will be disseminated among all interested people (PRELUDE guide of good practice);

c) Dissemination of our findings (CD containing the guide, as well as the latest edition of the project’s web page - PRELUDE CD-ROM);

III. RESEARCH METHODOLOGY

Our approach was to conduct a preliminary study in order to assess the computer experience and skills in ICT of the teaching staff and pupils involved in the project. This study offered us an image on the inclination of teachers/students to use ICT. The methodological approach consisted of gathering both qualitative, through individual teacher interviews, and quantitative data by the completion of questionnaires by 25 participants in each of the 7 countries. The quantitative and qualitative data were subject to subsequent analysis.

Our data gathering methods was revealed by research using interview and the questionnaire. The following are tools applied the evaluation:

a) Interviews held with the selected teachers. The research questions were focused mainly on the following issues:

- The teachers’ competence in the use of ICT;
- The infrastructure of their class/school;
- Key problems they face in their teaching;
- Methods and tools they actually use and methods and tools they would like to include in teaching activity;
- Expectations they have from in-service training on music teaching;
- Obstacles that could prevent them from including ICT in their teaching.

b) Questionnaire addressed to music teachers of the consortium.

In each country the research group comprised all ages ranges and was carried out in different schools and locations. The main focus of the questionnaire was aimed to identify:

1. The main experiences, aims and attitudes of teachers towards ICT and music education within their own individual working situation.
2. The main national specific training needs and requirements of teachers.
3. The extent to which ICT resources and training are available within each country.
4. The range of ICT resources, with specific reference to music education, available in each country.
5. The basic level of self-efficiency amongst teachers within each country.

c) In order to have a basis of comparison between the different participant countries we created a synoptic table concerning the music education system in the partners' countries. The analysis of the five educational systems made possible the formulation of several conclusions. Thus, we point out that music education has been achieved on two levels: as part of the general education system, within regular schools, and as a branch of the music education applied to all instructional stages, from the pre-school to the higher education system. Based on the information collection and on its analysis we designed the next milestones:

- the Prelude training program
- the Prelude distance learning platform
- evaluation methods to assess the success of the program

IV. THE PRELUDE TRAINING PROGRAMME

The main outcome of the PRELUDE project is the development of a specialized training programme that will affect both the teaching and the learning of music.

The PRELUDE training programme is structured on conventional courses-workshops and on a distance
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learning platform. One could state that the platform constitutes the global approach of the programme and the workshops, the local one. When designing the workshops, each country took into account the specific training needs as these were sketched in a conclusive Needs Analysis Report.

For identifying the training needs of each country, a special survey was designed and answered by an overall total of 175 participants (25 teachers from the seven countries of the consortium).

In implementing our training program we took into account the following:

- Technology has become more and more prevalent in education all over Europe.
- There are multiple benefits by the integration of technology in the educational context.
- Concerning music education, ICT can support teaching and learning in various activities, such as assessment, composition, performance.
- The role of teachers is crucial to the successful use of ICT.
- In all countries there are common barriers that differentiate the use of ICT, and common enablers promoting the use of ICT, respectively.

Regarding the music teachers’ needs, the following conclusions were drawn:

- Despite the different level of hardware and software availability in different countries, most teachers recognize the value of using technology during their lessons.
- Differences between the countries also exist, in terms of how technology could be used.
- Teachers seem to be aware of the broad range of the training needs they require.
- Teachers often use technology as a motivation teaching tool or, simply, they are interested in or like to use it.
- Teachers use a lot the internet and the e-mail, suggesting that an e-learning programme could be an excellent way of training.
- Teachers may have different training needs according to their country; however, all teachers show positive attitudes towards further training on ICT and innovative approaches.

The training needs and confidence level for each technology acquired, reported to the total confidence levels, are as follows:

- Notation packages
- Multi track equipment
- Web storage
- Presentation software
- Photo software.

PRELUDE training programme is spanned into two implementation phases lasting six months each. The first training cycle is scheduled for the period October 2007 – March 2008, and the second training cycle for the period October 2008 – March 2009. Both cycles had overall four modules:

V. THE PRELUDE DISTANCE LEARNING PLATFORM

In relation to the use of ICT in music education, the PRELUDE project represents a paradigm of distance education scheme that aims to use the advantages of Open and Distance Learning (ODL) instruments and techniques, in order to provide:

- Quality in service training to music teachers
- Professional support to trainees
- Testing the reflective feedback on suggested teaching activities
- Formation of groups and communities amongst the participants

For the distance learning training needs of the project, the MOODLE educational software package was chosen. MOODLE (acronym for Modular Object-Oriented Dynamic Learning Environment) is an open source and a free Learning Management System (LMS) for producing and supporting internet-based courses and web sites. The choice of both open-source and free platform, such as MOODLE, for the PRELUDE distance learning environment, was made after having examined and evaluated a set of candidate platforms, both proprietary and free.

Through accessing the PRELUDE platform the trainee becomes able to:

- Search the list of courses available within the site and choose a course to login.
- Have access to materials that are presented in various formats (text, video, audio, link on the web). The type of information exchanged can be in form of a static content, for instance videos, documents, presentations et al.; interactive content like quizzes for self-assessment, assignments and/or exercises and communication-type information like those in forums or chats. The web platform will be constantly enriched with new materials as it is going to be the main project’s application tool both for the trainees, and the trainers.
- Edit or update his/her profile.
- Download teacher assignments, if available.
- Reflect on proposed materials by testing them in real classroom settings and upload their feedback (via the Reflective Feedback area).
- Use the communication facilities (chats, forums, journals) to communicate with teachers or with other trainees.
- Present his/her own questions and answers.
Get informed for events, news or class activities that are of his/her interest (via the News area).

Participate in the assessment of various aspects of the course delivering process, by answering course-wide quizzes, questionnaires or opinion polls, opened by teachers or administrators.

The following figure depicts the data flow and the implementation phases of the PRELUDE project:

The training modules include feedback activities, studying on materials and visits of Internet links proposed by the trainers. Training modules are based on school-centered work. Teachers will have to apply and test the proposed activities in their classrooms and give their feedback from their practical point of view. It is recommended to teachers to feel free to express the difficulties and limitation they encounter during the implementation phase and to request support from the national training supervising institution.

The following figure displays the pre- (and post-test) questionnaire format that each trainee should complete before and after accessing each topic; this way the system could help him/her with the proper action to be chosen (for example whether a trainee can “skip” a topic or keep practicing on it).

VI. EVALUATION OF THE PROGRAMME

The PRELUDE platform is a self-evaluating training programme designed to help teachers to:

- Reflect upon their own teaching and learning methods
- Develop ICT skills

Develop effective strategies to be incorporated into their teaching activities

The framework evaluation will also assist the trainees in monitoring their broader training needs, and in directing their future training requirements. This will be possible through reflecting upon their skills and competencies they have developed during each module.

Trainees are also advised to complete the short pre– and post – component self evaluation measures that they will find at regular intervals. Hopefully, this will help them to decide whether or not they are ready to move on to the next learning component.

Workshops also follow a self- evaluation approach.

By definition, PRELUDE platform adopts a collaborative and exploratory learning style rather than a classic, linear sequence of static material. Thus, the realization of the training programme does not follow a detailed timetable; two of the main principles of the project are the interactivity between the trainees and the trainers and the user-centered approach that is based on teachers’ own needs and own classroom activities.

The Trainees’ Guide and any possible additional components or updates are already or going to be available to teachers on the web platform of the PRELUDE project at www.ea.gr/ep/prelude.

VII. RESULTS

Teachers are crucial to the successful use of ICT in music education. They should be motivated and positively encouraged to assume new roles and responsibilities if ICT is to be effectively applied to enhance teaching and learning quality. Initially, training for all teachers should include compulsory ICT knowledge to an adequate level of competences and skills. The main focus for teachers should relate to developing ways paths for fully and appropriately integrating ICT use into their existing teaching/learning program. Within it especially, they need to develop ways of optimizing the level of cognitive/creative challenge involved in the students’ use of ICT and to provide appropriate and valid methods for assessing and evaluating student achievements, as demonstrated during the course of ICT use.

ICT can be used also as a tool to support teachers’ needs in accomplishing the following tasks:

- improving the lesson design through learning platforms;
- developing tools and resources supporting the creation of a strategic vision for teaching and learning;
- engaging and motivating pupils to access online the learning resources;
- providing opportunities for pupils to learn in a new alternative and challenging way, using a wide range of sources of information and techniques, for supporting critical thinking;
- enhancing both collaborative and individual work;
- providing pupils with access to sources of information relevant to a particular enquiry, by searching websites on the internet;
- helping pupils to investigate musical alternatives by means of sequencers;
- enabling pupils to improve their compositional skills through the use of sequencers;
- helping pupils to review, refine, redraft and modify work in progress;
- assisting pupils to refine their performances and presenting them more effectively.

There is a consensus that the effective and widespread use of information and communication technology has great potential in enhancing the quality of learning opportunities.

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AUTHORS
Nelida Nedelcut is the Head of the Department of Continuing Education and Distance Learning – Academy of Music Gheorghe Dima, I.C. Bratianu street, no. 25, 400079, Cluj-Napoca, Romania, (e-mail: nelidanedelcut@amgd.ro).

Ciprian Gabriel Pop, is the Head of E-Learning Unit of he Department of Continuing Education and Distance Learning – Academy of Music Gheorghe Dima , I.C. Bratianu street, no. 25, 400079, Cluj-Napoca, Romania, (e-mail: ciprian.pop@amgd.ro).

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