What role does music technology play in music education?

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INTRODUCTION

Nowadays we are surrounded by technology. It has become part of our lives, both in personal and in the work environment, but, nevertheless, this extremely valuable resource has not be fully implemented and exploited in education yet. This is much more surprising with regards to the music field which has always been at the avant-garde with regards to research and developing of new technologies and instruments.

The aim of this essay is to reflect upon the role that music technology might have in music schools and explore which benefits might bring as a new tool to develop curriculum and as an innovative and powerful instrument for self-learning musicians.

RESEARCH METHODOLOGY

"It is worth repeating the truism that research methods should be chosen based on the specific task at hand [...] if you're concerned with exploring people's life histories or everyday behaviour, then qualitative methods may be favoured" (Silverman, 2010, p. 9-10)

The research method used in this research is mostly based upon secondary data collection method to gather all the information relevant to the subject in discussion. All the books, journals and on-line articles used during the research can be found in the reference list at the end of this document. The research undertaken for this paper was limited due to the difficulty of finding up to date resources. Most of the published data on this very current topic refer to texts older than five years ago that, in the digital world, correspond to an era.

Other limitations included the available time frame and budget. In future should time and funds be available to deepen the topic in discussion with further research and primary data collection in primary and secondary schools through surveys, interviews and case studies.

RESEARCH FINDINGS

Several writers and studies (Robinson 2006; Ofsted report 2009; Johnston 2011) claim that music education in schools could contribute very successfully to pupils' personal development as well as musical development. Furthermore students who attend music courses in primary and secondary schools usually achieve higher grades in GCSE and A-levels than those who don't. As pointed out by Robinson (2006) music and creativity should have a higher recognition in education systems. The question is: what benefits can the use of technology bring to the teaching and learning processes?

When discussing technology in music education, Himonides and Purves (2010) suggest starting by defining the word 'technology' "which is broadly and commonly used but is always loosely defined". It may refer to something deeply connected to devices such as keyboards or audio and MIDI controllers (Rudolph, 2004), electronic music, sound engineering or acoustics but, throughout this essay, this term identifies a broader concept that can help us understanding and enhance the teaching and learning experience with music.

The National Curriculum for England advocates the use of technology across schools subjects and ages as a tool to retrieve and exchange information and as an aid to develop ideas and enhance pupils' work but, as reported in the latest report by the Office for Standards in Education (Ofsted, 2009), the use of music technology has been "insufficient and inadequate" in more than a half of the music classrooms analysed in primary and secondary schools.

Hu (2011) suggests that one of the main reasons lies in the lack of resources in schools and, furthermore, in out-dated equipment: the problem is that technology is still very expensive and its evolution is growing so rapidly that constant updates are required. Some administrators are not willing to invest on technology with the limited resources at their disposal and those who do so, usually rely on external consultants.

> "Teachers need to feel comfortable with technological tools before they will actually use them" (Bauer et al., 2003, p. 291).

Another reason is that the technological knowledge of the teachers, which is usually lower than the pupils', discourages them to adopt these new tools in the classroom because they are afraid of not being able to anticipate and avoid problems that may arise. Apple's 2003 project "Apple Classroom of Tomorrow" (cited by Bauer et al. 2003, p.291) shows that there are five stages in the process of adoption of technology-based instructional procedures: at the entry stage, teachers are concerned with managing a technology-oriented classroom and struggle with the control of students in this environment; the adoption stage comes when they begin to use technology to support traditional instruction. After that, they move to the adaptation stage and teachers begin to use technology into regular classroom activities to simplify management and affect student learning more easily and efficiently. At the final stages, appropriation and invention, teachers no longer have classroom management concerns and technology is integrated seamlessly into instruction.

> "More research must focus on alternative ways to provide effective professional development for our current and future educators" (Schrum, 2001, p. 88)

One example of good integration of technology in music is provided by Johnston's experience (2011). He decided to use Apple's iPad as a learning tool in his music classes: by deploying one device to each students he has succeed in involving all the students of his class in the music lesson. When discussing the use of technology in the classrooms, Johnston (2011) points out that he strongly believes that using technology in the classrooms improves overall learning engagement and students are more motivated because they are enjoying learning by using these devices.

This was a first attempt to actively use tablets in schools but, as reported by Hu (2011), more schools are embracing them and are considering providing iPads to all the students not just for music classrooms.

Outside the classroom, students may also have access to a variety of resources unimaginable a few years ago: nowadays it could suggested that the challenge is no more to find new reference materials but to choose and estimate which one is more useful.

> "If we don't teach our students how to find trustworthy computer resources, and how to learn from these, then we are not preparing them for real life, or for 'lifelong learning', or for progression on to their next course." (Petty, 2009, p. 391)

Bulik and Hanor (2000) as cited by Hiemstra (2009, p. 3) suggest that for self-learners musicians, websites and free services like YouTube have become a reference point for their learning. They are more engaged and motivated to find subjects and topics they prefer to deepen and, also, they are completely free to manage their time.

Some teachers have embraced this new revolution and have built their own on-line schools to reach a wider audience (Marsden, 2010). Justin Sandercoe, for example, could be seen as one of the most influential guitar teachers in history: in 2006 he opened his YouTube channel and started uploading video of guitar lessons for free. After five year, in September 2011 his channel had reached 100 Million views and 20'000 unique visitors a day on his website. As reported by him in an interview to the Independent (Marsden, 2010), he can make a living from voluntary donations alone and keep giving free lessons. Another example could be famous jazz guitarist Martin Taylor who has built his "Guitar Academy" on-line to reach students from every part of the world even when he is touring. Through his website he publishes video lessons and replies to students' video giving them comments and advices; he just requires a laptop with a webcam and a broadband connection.

CONCLUSIONS

By taking these examples by account it could be argued that the 'technology revolution' in education is just at the beginning.

As suggested by Hu (2011) and Johnston (2011) chalkboards will probably be completely replaced by computers and tablets in the next few years.

The goal for teachers and, more in general, for schools is to embrace this revolution and develop new teaching methods that fully exploit all these new resources. It could be also suggested that administrators must understand the importance of investing in teacher's training before or soon after buying new equipment because, otherwise, may be that the find they have wasted money. As pointed out by this paper, self-learner musicians can already exploit a wide number of resources and tools at their disposal to develop their music skills but, nonetheless, this number is growing constantly.

In the future, without the limitation of time and funds encountered during this research and when more up-to-date publications will become available on this subject, it will be possible to expand this essay with further opinions, interviews and in-depth case studies.

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