THE AWARENESS AND PROFICIENCY OF TUTORS IN USING SOFTWARE PROGRAMMES FOR MUSIC EDUCATION AT METHODIST COLLEGE OF EDUCATION, AKIM ODA

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ABSTRACT: *The establishment of an ultra-modern ICT laboratory at the Methodist College of Education, Akim Oda has propelled the need to introduce music students to computer and software programmes in music education. However, to make recommendations for the realization of this vision, this study considered the awareness and proficiency of the tutors in computer and software programmes in music education. This descriptive study described the views of music tutors about their awareness and proficiency in computer and software programmes. The results from this study disclosed that three out of the four music tutors at the Methodist College of Education, Akim Oda are strongly aware of computer software programmes for music education and are proficient in Finale and Perfect Ear software programmes. The study recommended that the college should organise workshops for the music tutors to be trained in software programmes for music creation and education, such as EarMaster, Auralia, Piano Teacher.*

KEYWORDS: Ultra-modern, Credible, Awareness, Proficiency.

INTRODUCTION

Using computers and software programmes for teaching has become common in various educational settings. Numerous studies have shown how computers may be utilised to enhance and promote learning in both elementary and tertiary educational systems (Albion, 1996; Bhebhe & Maphosa, 2016; Karaca et al., 2013; Liu et al., 1998). According to Lu (2014), computers and software programmes are widely used for human life to be more productive. According to Hartley and Tait (1986), developments in computer technology are also enabling the creation of software programmes that can provide students with more informed guidance and assistance in controlling their learning. Computers and software programmes have grown to be a significant component of numerous spheres of our society, transforming entire enterprises and enhancing work processes. In the sphere of education, computers and software programmes have emerged as a very useful instrument or tool that enhances teaching and learning. The music industry is not an exception in this sense. Digital audio workstations (DAWs), music notation software, virtual instruments, music theory and ear training tools, music learning applications, composition and arrangement software, and music analysis and research tools are some examples of software programme specifications that have evolved into extremely useful instruments or tools to enhance teaching and learning in the field of music and music education.

The capacity of these computer application software programmes to both generate and support a fully engaged and interactive teaching and learning environment has led to its increasing prevalence in various institutions. With this background, the significance and goal of establishing a computer laboratory at Methodist College of Education, Akim Oda for music educational purposes has not been realised in music education. It is acknowledged that music educators can improve student academic attainment and change the way they teach music by utilising computer application software programmes (Ayesu et al., 2021).

According to Mawusi and Klutse (2020), music educators may not be fully aware of the potential and effectiveness of using computers for the dissemination of information and the development of skills in music education. Considering the potential of software programmes in music education, it is problematic to realise how music tutors at Methodist College of Education, Akim Oda neglect the use of computers and software programmes in music education. To resolve the uncertainty and to know the aptitude of music tutors concerning software programmes for music education, this study aimed to describe the awareness and proficiency of tutors at Methodist College of Education, Akim Oda and made recommendations which led to the use of software programmes for music education. This descriptive study revealed the level of awareness of computer and software programmes for music education among the tutors as well as their challenges and concerns. Also, the study disclosed the proficiency of the tutors in using these technologies. Based on these findings, the study made significant recommendations to enable tutors at Methodist College of Education, Akim Oda regarding the computer and software programmes in music education.

LITERATURE

The goal of this study was to describe tutors' awareness and proficiency in using software programmes in music at Methodist College of Education, Akim Oda. This section is a review of the related literature concerning the study. The literature reviewed in this section includes (a) Computer Applications in Education (b) Computer Application Software in Music Education (c) Teachers' Awareness and Proficiency of Computer Technologies.

Computer Applications in Education

According to Kurland and Kurland (1987), computers are being used with increased frequency and success in schools at all grade levels and all subject areas, as well as for special education, adult literacy programmes, college instruction, and training in industry and in the military. This highlights that computers are widely used and successful in various educational contexts, including schools, special education, college instruction, and industry and military training. This versatility extends to music education, where computers can cater to students of all ages and abilities, making it more inclusive. Moreover, computers are valuable for training individuals by simulating real-world scenarios for practical skill development. In essence, computers are effective tools in education, including music education, making learning more accessible and versatile across different settings. Also, Merrill et al. (1992) postulated that computers in education are designed to help teachers use computer technology to increase the efficiency and effectiveness of the educational process. This underscores the purpose of computers in education as tools designed to assist teachers in enhancing the efficiency and effectiveness of the educational process. This also highlights that computers are not just about introducing technology into classrooms but leveraging it strategically to enhance the teaching and learning process, ultimately benefiting both teachers and students.

Computers in schools are necessary for teaching our future generation of computer engineers, programmers, and computer users (Egbert, 1963). This statement emphasises the necessity of computers in schools for educating future generations of computer engineers, programmers, and computer users. This aligns with the importance of using computer applications for educational purposes, as suggested by Kurland and Kurland (1987) and Merrill et al. (1992). Methodist College of Education, Akim Oda recognises the prospects in computer technologies and encourages tutors in various subject areas to introduce learners to the use of computer and software programmes.

Therefore, the inability of the music tutors to introduce learners to computer and software programmes in music education raises concerns about the tutors' awareness and proficiency. Hence, this study was instituted to consider the awareness and proficiency of music tutors in computer and software programmes for music education.

Computer Applications Software in Music Education

Xiang (2022) discussed the practical role of computer music software platforms in music teaching, including data exchange and intelligent monitoring. Also, according to Stevens (1991), computer application software plays a vital role in facilitating diverse aspects of music learning and instruction. These applications encompass a wide range of functionalities, from music composition and notation to interactive learning tools and data-driven feedback mechanisms. The continuous evolution of such software platforms aligns with the evolving

landscape of music education, enabling educators to provide more tailored and interactive experiences for students. Nart (2016) further emphasized the importance of teachers following technological developments in their field and integrating software into music education, as there is a lot of software available that can provide an effective and efficient education process for both teachers and learners.

Maba (2020) also asserted that utilising computer technologies and software applications especially in the areas of music perception to promote creativity and knowledge contributes to an increase in students' positive attitude towards the course by enriching the context of the course. This assertion of Maba (2020) about the use of computer technologies and software applications in music education, particularly in the area of music perception, highlights the potential benefits of technology in promoting creativity and knowledge among music students. By incorporating software that helps students develop their musical perception skills, educators can enrich the context of music courses. This enrichment can lead to a more positive attitude among students toward the course, as they can experience music in a more interactive and immersive way. Moreover, technology can provide students with tools for deeper exploration and analysis of musical concepts. Today, there is much software not only to make music but also to provide and improve music education and teaching. Software—aiming to teach harmony, solfege, ear training and music theories together with programmes supporting music creation such as composition, editing and note writing programmes—provides great benefits to music students and educators.

This review underscores the significance of computer application software in music education, and for that matter describes the urgency of using the computer and software programmes in music education. In this regard, this study—with the focus of inclining tutors in Methodist College of Education, Akim Oda to the use of computer and software programmes for music education—considered their awareness and proficiency in using these technologies and made significant recommendations which led to the effective use of these technologies.

Teachers' Awareness of Computer Application Software in Music Education

Ng (2015) postulated that educators need to be aware of the types of technology that are available for teaching and learning and their enabling capabilities. Ng (2015) emphasised technology awareness which closely aligns with the core premise of this study, which centres on educators' awareness and proficiency in utilising computer application software within the domain of music education. Awareness serves as the foundational requirement for effectively integrating such software into music education. Moreover, Ng's notion extends to the need for educators to recognise the enabling capabilities of music education software, emphasizing the importance of understanding how these tools can enhance music instruction, fostering creativity and practical skill development. Ying-chen and Kinzie (2000) also asserted that teachers must have positive computer attitudes and feel self-efficacious in using computer technologies to model effective computer use for their students. Ying-chen and Kinzie (2000) assertion emphasized a fundamental aspect of technology integration in education, emphasizing the pivotal role of teachers' attitudes and self-efficacy in using computer technologies, suggesting that teachers' attitudes and proficiency are essential in the attempt to inculcate computer and software technologies in music education.

Moreover, the concept of self-efficacy in computer use highlights the importance of teachers feeling confident and capable of utilising technology effectively. In a broader educational context, this translates to teachers being proficient users of technology and serving as role models for their students, ultimately contributing to the successful integration of technology tools for enhanced learning outcomes. In the context of Methodist College of Education, Akim Oda, the significance of tutors' awareness and proficiency concerning computer application software in music education becomes imperative. The insights derived from the assertions of Ng (2015), and Ying-chen and Kinzie (2000) can be contextualised to highlight the unique educational landscape of Methodist College of Education, Akim Oda while also revealing a notable research gap. Methodist College of Education, Akim Oda, like many educational institutions, relies on educators who possess a deep understanding of available technology tools, including computer application software for music education. Ng's (2015) emphasis on technology awareness aligns with the school's commitment to providing modern and effective music instruction. However, a potential gap emerges in determining the extent of awareness among tutors at Methodist College of Education, Akim Oda. Therefore, it is essential to investigate the awareness and proficiency of tutors toward integrating computer application software into music education.

METHODOLOGY

The study utilised descriptive research design of the qualitative paradigm of research to detail the awareness status as well as the proficiency of use of computers in the Methodist College of Education. The descriptive research design. Manjunatha (2019) defined descriptive research as a research design describing the characteristics of the population or phenomenon being studied. Thus, this design focuses more on the "what" of the research subject rather than the "why" of the research subject. This design enabled the study to find out the extent to which teachers are aware of computer applications for music education as well as their proficiency in these technologies. The population for this study was music tutors at Methodist College of Education, Akim Oda. Casteel and Bridier (2021) postulated that the population comprises individuals, dyads, groups, organisations, or other entities one seeks to understand and to whom or to which the study results may be generalised or transferred, and is the principal group about which the research is concerned.

The study used purposive sampling technique to select all the four music tutors at Methodist College of Education, Akim Oda. The researchers used this sampling technique in selecting all the tutors for the study as the study was after their composite views and knowledge of the issue under investigation (Kuranchie, 2021). In the case of this study, interviews were used as the data collection instrument. Angrosino (2007) postulated that interview is the process of directing a conversation to collect information. Kuranchie (2021) also revealed that the interview represents a direct attempt to obtain reliable and valid measures of insights, perspectives, beliefs, characteristics, behaviours, feelings and attitudes in the form of verbal responses from respondents. The researchers explained the objectives of the study to the participants and scheduled an appointment with them. The interviews were conducted at the ICT laboratory at Methodist College of Education, Akim Oda. The open-ended questions compelled the respondents to sincerely submit their views concerning the awareness and proficiency in using computer and software programmes in music education. Notepad and pen

were used to record the views of the respondents. Thematic analysis was also used to analyse the data. The responses were organised into themes and the views of the respondents were described under the themes generated. Braun and Clarke (2006) opined that thematic analysis is a method for identifying, analysing and reporting patterns (themes) within the data. It minimally organises and describes one's data set in (rich) detail.

DISCUSSION OF FINDINGS

In this section, the study presents the key findings and insights derived from the interviews conducted, shedding light on music teachers' awareness and proficiency of computer applications for music education. The results were organised into themes structured inductively and deductively from the objective of the study and the data collected.

Teachers' Awareness of Software Programmes in Music Education

This section presents interview findings structured around themes derived from the objective of the study and collected data. It provides insights that unveil the level of awareness of music tutors regarding computer application software in music education. To accurately depict the teachers' awareness, the following themes were created, each shedding light on different perspectives of their awareness.

Level of Awareness

Three out of the four music tutors exhibited a strong awareness of the use of computer software in music education. These tutors described three categories of computer software programmes that can be used in music education. They disclosed their awareness of music notation software programmes, music production software programmes and software programmes for music education. One of them had this to say:

During my studies in the Department of Music Education, Winneba, I became aware of Perfect Ear software programme, finale notation software programme and Cubase 5 software programme however I only practised with finale notation software programme.

Concerning notation software programmes, they clearly described the use of Finale and Sibelius in scoring music and also described its efficiency compared to the pen-and-paper paradigm. As postulated by Watson (2006) notation software programmes offer greater opportunities for compositional exploration and experimentation and that the ability to work dually with Western notation and with pure "sound" was creatively advantageous. It was made clear that when students are introduced to notation software programmes they are able to easily explore and refine their music compositional ideas. After disclosing their awareness to music notation software programmes, one of them stated:

I also practised with finale 2012(notation software programme) during my degree programme in music, but I was very passionate about Cubase 5 (digital audio workstation) because I wanted to learn how to record my own songs.

With regards to music production software programmes, these tutors disclosed their awareness and described how the Steinberg Cubase 5 digital audio workstations can be used in creating

music but they could not vividly describe the setup, procedures and the other software items needed in creating music with Cubase 5 DAW. For instance, one of them said:

During our time in school, the instructor demonstrated using Cubase 5 but we never had the opportunity to practice with it.

Young, (2003) postulated that, the design of computer-based learning environments has undergone a paradigm shift; moving students away from instruction that was considered to promote technical rationality grounded in objectivism, to the application of computers to create cognitive tools utilized in constructivist environments. Therefore, without the opportunity to practice with the necessary computer facilities, retaining knowledge in computer software programmes for music production without hands-on practice may be challenging. With the aspect of music education, these three tutors sincerely disclosed that they know about Perfect Ear Application which helps with aural skills. One of the tutors recounted his encounter with someone using Perfect Ear Application and stated:

I saw someone using the Perfect Ear Application to develop his aural skills and it was interesting as the person was learning without a teacher but I did not understand how it works.

Nart, (2016) revealed that there are various software programmes which can be used in music education and they provide an effective and efficient education process for learners. These software programmes are designed to administer music educational instructions and assessments to students as well as track the progress of the student. In contrast, although the other tutor knew about the significance of using computer software applications in music education, he could not explicitly describe any computer software application that could be used for music instruction.

Recognised Benefits

The tutors revealed the benefits of using computer software programmes in music education. All four tutors made assertions which revealed their awareness of the benefits of using computer software programmes in music education at Methodist College of Education, Akim Oda. One tutor passionately expressed his desire to explore the overwhelming benefits in using software programmes in music education. He said;

Computer-based music education is the way forward for effective music education. Almost all the various music educational activities can now be prepared on the computer.

The same tutor considering the benefits of software programmes for music education in Methodist College of Education, Akim Oda state:

If proper software based music education structures are laid down, the difficulty in ensuring and monitoring practice on musical instruments will be reduced.

The other two tutors apart from seeing the workload reduction benefits associated with using software programmes in music education made it clear that, software-based music education will increase the interest of the students they teach. One of these teacher stated:

We have students who never interacted with music as a course therefore their comprehension of concepts in music is mostly difficult. When these students find it difficult to understand some

concepts, they lose interest in the course. But I know there are some software programmes in music which are structured with interesting gaming features which can increase students' interest.

Long, (2007) postulated that computer games lead to positive results in long-term learner retention by improving learning interests and more focused attention, because the students enjoy the approach. The above clearly described the good faith the tutors had in software programmes for music education. They disclosed that if they could introduce their students to these technologies, their students will be able to explore on their own. They added that the exploration will lead to some of their students becoming composers who can compete within the 21st century technological composition structures. They also added that the exploration of these technologies will give birth to music producers and educators who will be able to efficiently employ computer technologies in their endeavours.

Challenges and Concerns

The tutors also revealed some challenges and concerns regarding the use of computer software applications in music education. One tutor who has practised with music notation software programme finale said.

I practised with finale 2012 back in school but I do not know how to install finale 2012 software programme on the computer because no one showed us how to do the installation.

The four tutors disclosed that although there is a computer laboratory at Methodist College of Education, Akim Oda, the computers in the laboratory do not have the software programmes that can be used in music education. Disclosing their inability to install the various software programmes, the tutors made it clear that it is very challenging to get the software programmes and also to install them since. Also, one of the tutors disclosed that using these software programmes in music education requires peripheral devices such as the headset and MIDI controllers, items which the school does not have. He said:

If we want to start using the software programmes for music education, then we need headsets, MIDI keyboards, sound cards and microphones attached to the computers.

According to Bingimlas (2009), the presence of all components increases the possibility of excellent integration of software programmes in learning and teaching opportunities. Therefore the absence of the required components may prevent fruitful integration of software programmes in music education. The four tutors further revealed that they are not very sure of how their students may cope with music education using computer technologies since they have limited sessions in the general ICT. One tutor who expressed his view in creating ample time for the use of computers said:

Nowadays everything is about the computer and if our students are not given enough time to practice with software programmes on the computer for music education it will not yield the expected results.

The other tutors agreed to the assertion of this tutor and disclosed that if enough periods are not created for students at the I.C.T laboratory and if they are also not given the flexibility of time to experiment their dexterity in using software programmes for music activities will be deprived.

Teachers' Proficiency in Using Software Programmes in Music Education

This section provides insights and depicts the teachers' proficiency, this section presents their proficiency in three aspects that is proficiency in music notation software programmes, music production software programmes and music education software programmes. Proficiency in this perspective revolves around the degree to which the tutors could use these software programmes in music notation, production and education.

Proficiency in Music Notation Software Programmes

Three tutors, through interviews, described their proficiency in using notation software programmes. One of the tutors had this to say:

After completing my first degree I still use the finale 2012 to score musical pieces and create new songs for my choir. So as for the finale 2012 I know how to use it and I believe I can teach students how to use it.

They described their dexterity in using the Finale notation software programme in scoring music and made it clear that they could introduce their students to this software programme. Although these three could use the Finale notation software programme, they could not install the software programme on the computer. One out of these three tutors also revealed that he could also use Sibelius to score music, however, he could not use it fluently like the Finale.

Proficiency in Music Production Software Programmes

The three tutors who were aware of music production software programmes made it clear that they had witnessed the Cubase 5 DAW being used in music production before; however, they had never experimented with the Cubase 5 DAW before.

On two occasions I have seen the Cubase 5 DAW used in music production. The first was during my study in the university when the tutor shortly demonstrated with Cubase 5 and the second was when I visited a studio.

Although they were aware of these categories of software programmes for music production, they had never practised using them themselves. Moreover, their submissions revealed that they were oblivious to the fact that there are several DAWs for music production and all these DAWs require Virtual Studio Technology Instruments for their operation. Also, they describe the fact that they do not know the processes involved in setting up these software programmes for music production.

Proficiency in Music Education Software Programmes

The three tutors described how they were introduced to the Perfect Ear software application during a workshop organised by the University of Education Winneba. They described their experience in using the software application by disclosing that the software provided systematic aural education in music. One of them had this to say:

It was interesting the way the software programme organised aural lessons from beginner to advanced level. It was very simple and systematic and I think every music student should be introduced to it.

This confirms the assertion of Liu and Liang (2021) who postulated that teachers can apply computer music technology to organize students to perform sight-reading and singing exercises so that students can deepen their understanding and feelings, thus better stimulating students' active learning enthusiasm. Except for the other music tutor who had no idea about these software applications, the other three tutors had the software application installed on their smartphones and they described how they had been using it periodically to improve their aural skills. Apart from the Perfect Ear software application, the three tutors could not describe any other software application for music education purposes. Although they train their learners in practical areas such as keyboard, drumming and composing, they could not describe any software application for these lessons.

CONCLUSIONS

Three out of the four music tutors at Methodist College of Education School are aware of computer and software programmes for music education. Although all four teachers are aware of the significance of using computers and software programmes in education, three out of these four are very much aware of computer and software programmes for music education such as notation software programmes, production software programmes and music education software programmes. Also, these three out of the four have experience and can use the Finale notation software programme and the Perfect Ear aural skill development software programme. Although they have witnessed the use of Cubase 5 DAW for music production, they cannot use it. Also, the ICT laboratory at Methodist College of Education needs headsets and MIDI keyboards before they can be used in music education. Considering the awareness and proficiency level of three out of four music tutors at Methodist College of Education, the study recommends that the college should add headsets and MIDI keyboards to the computers in the computer laboratory for the music tutors to use in teaching music students in the college. Also, the study recommends that the college should invite an expert in computer and software programmes for music education to train tutors on how the software programmes can be installed on the computers in the ICT laboratory. Moreover, the study recommends that the college should organise workshops for the music tutors to be trained on how to use some music production software programmes and other music education software programmes such as EarMaster, Auralia, and Piano Teacher.

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