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## Assessing the Impact of Computer-Based Programme on Students' Music Compositional Skills: A Case of Diploma Two Students of UEW Music Education Department

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### **Abstract:**

*Music composition is one of the areas in Music Education that allows music students to showcase their creative tendencies. In recent times the development of music softwares in composing provides students with easy-to-accomplish method of music composition. This paper examines the extent to which technology has impacted on students' composition skills in the creative process. Through action research, the paper attempts to leverage this advanced technique and investigates the level of learning satisfaction among 2015 Diploma II students of the University of Education, Winneba (UEW) Music Department. It is seen that computer-based programme helps students enjoy music composition without requiring an extensive background in musical theory. It is recommended that Music Theory and Composition lecturers approach their teaching using music technology; it speeds up enhancing creativity in students.*

**Keywords:** *Composition, Music Technology, Finale software, Diploma Students, music portfolio*

### **1. Introduction**

Building a portfolio of musical compositions among music students has always been the most important aspect of composition among Theory and composition tutors at the tertiary level of education. In addition to the paper and pencil method of composition, it is important that other strategies and means of composing are evaluated and stressed for its convenience in teaching the subject. When students have easy ways of creating musical works, they can easily increase their repertoire, be it vocal or instrumental. The term vocal is being used here to encompass all musical pieces embedded with voice, including choral music.

My experience in the previous years as a Theory and composition lecturer indicates that the paper and pencil method of composition had not yielded much result in terms of ability of students to compose a variety of musical pieces in both the Western and the African medium. However, for teachers to emphasize creative activities in their classrooms, they need to be provided with effective strategies for structuring that learning (Brinkman, 1995). It was therefore important that other means of teaching composition was addressed to improve creativity in the students.

The purpose of this study was to address another effective strategy for implementing composition activities among Diploma II students of Music at the University of Education, Winneba. It was also an effort to demystify some processes and steps that could be helpful to teachers as they design, plan, and carry out the teaching of composition. Building on previous experience, the study charted the progress of students in composition using a computer-based programme instead of the paper and pencil method. Rajsekhar (2013) realizes this and states:

Present educational systems are pressure to use the new information and communication technologies (ICTs) in teacher education, because the students need up-to-date knowledge and skills for their development or to develop themselves. ICTs predict the transformation of the teaching-learning process and the way teachers and learners gain access to knowledge and information. (Rajsekhar (2013, p.1)

As much as music composition has the tendency to enhance awareness of musical scores and increase the level of commitment to musical interpretation as reported by Kaschub (1997) and Kaschub & Smith (2009), it becomes imperative that students pursuing general music programme are strengthened in the area of composition to enhance their value of creative abilities. Liu (2014) notes the importance of using computer-based programme to teach music composition and states:

Reasonably and correctly using multimedia technology teaching means not only can stimulate students' learning interest, but also can use scene to promote thinking and improve students' creative ability. In music teaching classroom, when appreciating music, teachers can organize proper and corresponding animation or imagine according to the music rhythm, melody and content, creating corresponding music situation, making students expand rich imagination and better grasping the feature of music works. In the music

situation created by multimedia technology means, it can produce a powerful infection, in order to make students enjoy learning in a specific background and obtain the ideal teaching effect. (Liu, 2014, p.267).

Indeed, when students are made to use the computer to compose, it will stimulate their music expression desire, and let them form their own unique understanding of music in this artistic conception, in order to improve the passion of music creation. This study basically centred on the use of the Finale software in Music composition although other music composition software programmes such as Cakewalk Sonar, Cubase, and Nuendo can also facilitate effective professional music composition. The Finale is an interactive music system that facilitates a musical experience in which a musician scores already created music and modifies it where necessary or creates a new music with it and uses it as a learning tool. It is designed to develop musical creativity, stimulate musical understanding, encourage improvisation, and engender bonds with musical instruments.

## 2. Models of Composition

It is significant that a student composer grasps various relevant models of composition and knows how to create music; when these key elements are integrated, they can create pieces that express their understanding of music (Kaschub & Smith, 2009). In creating music, certain concepts in the form of models and stages indicating compositional processes have been propounded by some scholars. Earlier on, Wallas (1926) enumerated four stages of compositional process in music as preparation, incubation, illumination, and verification. This is reflected in Webster's (1990) model of creativity and in the works of Hargreaves (1986) and Kratus (1989). Emmerson (1989), an expert in electroacoustic music, also constructed a model of compositional process to include (1) action-create/combine sounds, (2) test-listen and determine whether they sound right together, and (3) accept-store, or reject-modify as new action. All these processes may differ depending on the creative style of the composer because researchers in several studies have posited stages in the compositional process based on an investigation of groups of composers. Bennett (1976) interviewed eight professional composers on their processes of musical creation. He then identified the stages of composition as germinal idea, first sketch, first draft, elaboration and refinement, completion of final draft, and score copying. Similarly, Fulmer (1995) discussed 12 contemporary composers' approaches to composition and maintains that different composers use different strategies and some composers use more than one strategy. He concludes and states that "a composer's cognitive processes and aesthetic experiences are unique (p. 10)". Also, Hung (1998), Stauffer (1999), Brinkman (1995) Burnard (1995), Moore (1986) and Smith (1998) corroborate this by affirming the idiosyncratic nature of individual composition processes. In all these developed models, specifications were not made to the musical style, whether instrumental or vocal.

In this regard, students were made to adopt Emmerson's (1989) model of the compositional process irrespective of the medium as vocal or instrumental. This model seems to be basic in any form of composition giving young composers the opportunity to modify and recreate.

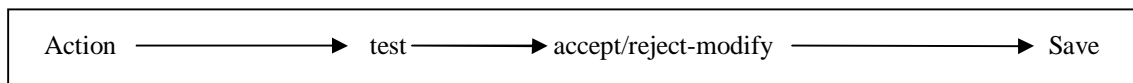


Figure 1: Emmerson's compositional process

## 3. Teaching Composition with Computer-Based Programmes

Chih-Fang & Yun-Sheng (2014) developed a graphical interface-based automated music composition (GBAMC) software program to facilitate music composition among children and students at the elementary school level in Taiwan. The study focused on enhanced usability, sequenced design, graphical technology, auditory learning, and intelligence and they concluded that the use of the software in composition provides a meaningful function that assists learners to complete a creation that they may have not been able to accomplish alone. This provides a learning framework and allows students to familiarize themselves with the musical content to be learned, enabling them to experience the fun of composition.

There has been a lot of concerns on the development of music education softwares to be used to teach the various concepts in music. For instance, Burnard (2000) talks about using the computer to explore improvisation and composition while Webster (2007) documents computer-based technology in music education. Music education software can be applied to developing musical creations; this process is closely related to the cultural and creative industries (Chih-Fang & Yun-Sheng, 2014, p.86). Elsdon (2007) suggests that composition even be performed using mobile devices.

All these attest to the fact that the use of computer software in teaching music composition is relevant as much as computerized music technologies such as automated composition, exhibit potential to enhance creativity (Chih-Fang & Yun-Sheng, 2014). This informed the current study where students created rhythms, pitches, and chords settings using the Finale software (2014 version) instead of the traditional score-based training. It is worth noting that scholars such as Chen (2012) and Ho (2004) indicate how the use of the computer is popular and widespread in Taiwan and Hong Kong due to its ability to enhance music education curriculum. The reason is that students can always discover musical presentations in the world of music if appropriate tools are selected for musical creation (Gordon, 2003).

#### 4. Methodology

The study was situated within the context of a school. It charted on an action research model, described by Bogdan & Biklen (1998) as a type of investigation that is “practical, directed at the researcher's own concerns and, for those who wish, a tool to bring about social [or educational] change” (p.224). As a theory and composition lecturer, well versed in the use of the Finale software, I was a complete participant as defined by Adler & Adler (1987) and Spradley (1980). Data collection techniques consisted of observation, informal conversations with students and document analysis. The study took place in the context of a regular Diploma music course where students met once a week for one-eighty minutes during a sixteen-week semester. The composition projects spanned the gamut from simple melody constructions and compositions in both African and Western mediums cutting across instrumental and vocal. The course aimed at demonstrating through practical, hands-on activities the feasibility of implementing compositional skills using the Finale software instead of the traditional paper and pencil method. The course geared towards increasing the portfolio of musical repertoire of the students. There was a teaching assistant who assisted in the use of the technological matters in spite of my expertise in the use of the software.

##### 4.1. Participants

Ten music Diploma students enrolled in the course—one female and nine males.

All the students had been introduced to rudiments and theory of music for two semesters each of which made up of three to four months. None of the students had taken a composition course before although all had had experience in creating short pieces as part of rudiments and theory using the paper and pencil method. I was also committed to instructor and peer composition critiques as a means to nurture creative music making (Reese, 2003).

##### 4.2. Tasks executed

During the first meeting, students were introduced to the first task, given several compact discs tapes to record their working sessions. Students require no high-level skills in theory regarding creating music with the music software as Jennings (2006) opines, “practical intermediate tools may be required during teaching”. In this study therefore, students created rhythms and tunes by themselves using Finale 2014 version to enable automatic chord configuration and musical arrangement. Based on the model of compositional process developed by Emmerson (1989) as discussed earlier on, the following tasks were assigned to all the students. It included choice of template, inputs for melody using the speedy entry method and generating the chords using the chord tool, playing back and modifying where necessary and saving file as complete composition.

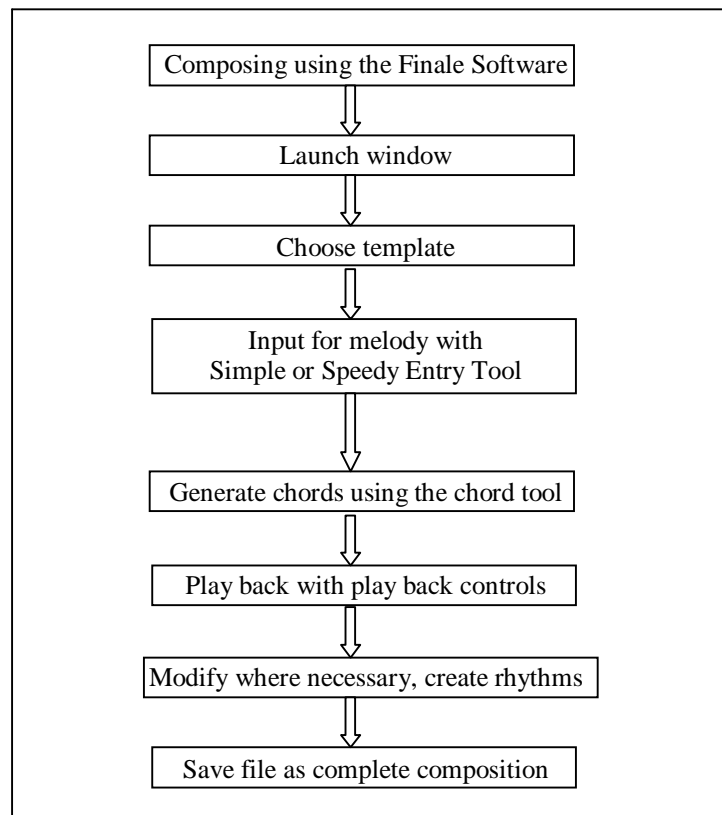


Figure 2: Composing with Finale software designed by the author

The method was easy to use and operated by students while the software system automatically generates harmonic patterns. During the playback session, I allowed them to explore with the various tools that could enhance their works after listening to them by

themselves and make alterations where it was deemed necessary. At the conclusion of the data collection process, students were made to burn their creative works on compact discs using Ashampoo (a software for burning files onto compact discs) which had been installed on all the computers used.

Students' attitudes were recorded using video-tape recorders and observations also recorded in a notebook. Students were also made to write their experience and reflections on a paper for analysis. Works composed were both instrumental and vocal some of which were danceable tunes both in the Western and African mediums. There were sessions that created the opportunity to take up further interview topics, discuss progress, examine composition drafts/sketches, listen to excerpts from the recorded audios and hear the final products.

#### 4.3 Method of Analysis

Students' reflections were read and analyzed while their compositions were listened to and studied. Viewing the video-tape, reflections were made on specific attitudes of the students indicating their satisfaction and interests during the execution of the given tasks. Much comparison was made with similar group of students who were taught the same course the previous years without the use of music technological means.

### 5. Discussion

The understanding of composition teaching and learning was extended from the study after analysis of documents, observations and interviews. Teaching and learning in this setting was an adoption of an action research to solve a composition problem among students using the Finale software as an intervention. Learning satisfaction in terms teaching materials, learning situations in terms of environment, instructional activities, and the needs of students, were adequately addressed. Students became very much satisfied as indicated in their reflections and experiences.

The models of compositional process are although dependent on the individual composer, students can rely on to guide them as they begin to develop in composition because for Vseviov (2009), "throughout times, the task of education has been to guide people towards goodness, to give human beings something that they do not inherently have". Also in music lessons, it is possible to teach students to notice values (Sutrop, 2009; Kiilu & Muldma, 2013). The models therefore serve as guides and values for the students in their composition career.

Indeed, all the students were able to increase their portfolios of musical compositions due to the use of the music technology. In comparison with the previous students, based on my experience as a composition teacher over the years, the traditional paper and pencil method did not yield as much as the use of the music software. Computer based programmes in music are popular in the contemporary world. Liu (2014) asserts that "with the rapid development of modern science and technology, multimedia technology is a new teaching means, which has been gradually popular in numerous universities". Apart from the use of the music software in achieving heights in music composition, more research can be made by scholars to authenticate using other multimedia technologies in musical composition in the educational institutions.

### 6. Conclusion and Implication

The most meaningful function of Finale software in music composition class was to assist students to complete a creation that they could not have accomplished it alone. It allowed students to familiarize themselves with the musical content, even yet to be learned. It is worth stating that if theory and composition teachers can rationally apply multimedia teaching means in music composition lessons, it will not only improve music theory teaching quality based on enriching teaching, but also reduce learning difficulty, creating a happy learning atmosphere, which can make students better absorb theory and composition knowledge and improve music appreciation ability and creativity. In fact, students who lack music theory background can compose music by entering musical parameters that automatically generate various styles of music. In most part of the world, computer-based programmes in teaching music are popular; hence, the little facilities available in our institutions can be put to good use to enable our students, be part of the global village. To conclude, the use of computer based programmes in teaching composition has positive impact and therefore implies that teachers of the subject must apply them in their lessons.

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