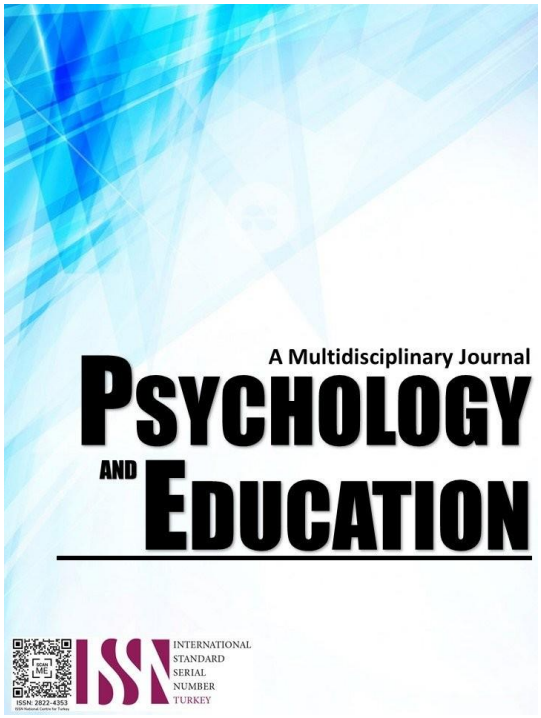
IMPROVING THE ACADEMIC PERFORMANCE AND MOTIVATION OF GRADE 10 STUDENTS IN MUSIC USING INTERACTIVE PORTABLE MODULE (IPM)



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Research Article

Improving the Academic Performance and Motivation of Grade 10 Students in Music Using Interactive Portable Module (IPM)

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Abstract

This study focused on determining the effectiveness of the utilization of Interactive Portable Module (IPM) in the teaching and learning process of Music concepts that aims to improve the academic performance as well as the level of motivation of the students. The participants of the study were from the Grade 10 junior high school students of Silae National High School who were officially enrolled in the School Year 2022-2023. The students were heterogeneous in composition and since the population of Grade 10 curriculum was only 56, all of them were chosen as the participants of the study. In this study, pre- experimental research design was used because it only involves a single group using non-probability sampling specifically total population sampling. Results in researchers made pre-test and post-test of music lessons serves as the academic performance of the students were compared and the outcome of the assessment in motivation level of the students was also analysed. The researchers made academic performance test had resulting Cronbach alpha value was 0.781 which means that the test items were good and adopted with modification a motivational survey questionnaire from Glynn & Koballa, 2006 with the Cronbach alpha value of 0.91.The mean scores of the students in pre-test and post-test increases and had a significant difference on the academic performance before and after the intervention of interactive portable modules (IPM) therefore the alternative hypothesis was accepted. It signifies that the applied intervention was effective enough in improving the academic performance of the students. The students also developed their motivation level into highly motivated wherein the students are much more interested and active in learning music concepts since the students motivation is highly associated with their academic performance.

Keywords: *interactive portable module, motivation, academic performance*

Introduction

As a teacher, it is always our priority to highlight the quality of learning by creating innovations that somehow improves the academic performance of the students. Moreover, it is with our top concern that we have come up with the study that assessed the improvement of the Academic Performance and the level of Motivation of Grade 10 Students in MAPEH specifically in Music classes. The students were exposed to Interactive Portable Module (IPM) to provide valuable understanding. Based on our observation, student's behaviour may change if they used multimedia as a learning tool. Sani (2019) asserts that observing how a student's behavior alters as a result of what they have learnt was one approach to determine whether they are learning. A person was said to be learning when their behavior changes as a result of rigid guidelines and positive reinforcement. The Mayer and Fiorella (2014) theory, which Campen et al. (2020) cited, states that learning was most effective when two senses, specifically visual and auditory, were employed simultaneously in working memory. Multimedia learning is crucial because it can support students in achieving their learning goals.

In addition to things like practical activities, game-based learning, and digital interventions, the typical student day today may entail sitting at a desk and paying attention to their teacher. Interactive learning modules have developed into a potent e-learning tool. Since increasing student engagement with any educational material can help students better master the concepts, educators and even educational platforms are now incorporating e-learning into content to improve not only quality but also to get rid of the "data is boring" mentality.

Vaishnav (2013) asserts that each child learns and processes information in a special way. They pick up knowledge in many ways. other people learn by spoken repetition, other people through writing it out, and some people through doing. Consequently, learning styles vary amongst people. A person's learning style can be characterized as a collection of elements, actions, and attitudes that make learning easier for them in a specific circumstance. It is the capacity of students to take in and absorb information in educational settings. The trait of cognitive, affective, social, and physiological behaviours known as learning style serves as a generally reliable indicator of how students view, engage with, and react to their learning environment.

Attachment to DepEd Order No.18, s. 2020, it discusses the policy guidelines for the provision of

learning resources in the implementation of the basic education learning continuity plan that defines Self-Learning Modules (SLMs) as self-contained, self-instructional, self-paced, and interactive learning resources for public schools intended for learning a specific topic or lesson where the learner actively engages with the instructional material rather than passively reading the material. When a teacher cannot provide the on-going instructional monitoring and assistance required in a classroom context, SLMs become an ideal learning resource and, thus, a top priority in remote or distance learning. DepEd has employed SLMs for its ADMs for emergencies or in cases where students struggle to attend class on a daily basis. SLM use has been mandated by COVID-19 on a significant basis.

According to the SBT Standards from 2005 and the SCFBE from 2010, learners acquire concepts and skills through interesting, significant, difficult, and relevant experiences as well as from teachers who support their creation of original ideas. Thus, the usage of modules encourages independent learning. The improvement of students' self-study or learning skills is one benefit of employing modules for instruction. Students actively engage in studying the concepts covered in the program. They develop a sense of responsibility as they complete the module's tasks. The student advances on their own with little to no assistance from others. They are becoming independent and learning how to learn. Additional benefits of modular training include increased student autonomy, variety, and adaptability of learning opportunities. Therefore, the general goal of education is to provide people with the knowledge and skills they need to pursue their education and advance their society.

Utilizing an interactive portable module has a number of advantages, including improving students' ability to retain information and making it a great tool for teaching new ideas. We are all aware that not everyone learns in the same way. Some pupils learn better visually, while others prefer reading and hands-on activities. Students will be more engaged in their own development if they perceive learning to be fascinating and entertaining. Results of the study will then be very significant in assessing and evaluating students' achievement that relates the prior knowledge to a new and relevant concept with the help of Interactive Portable Module (IPM) in teaching Music. Hence, it encourages the students to utilize and make use of their critical thinking skills by assimilating prior knowledge to the existing information that they have. More importantly, it could also provide important information for all curriculum planners for future curriculum to be implemented.

Research Questions

This action research examined the effectiveness of utilizing Interactive Portable Module (IPM) Approach in improving the Academic Performance in Music and the level of Motivation of Grade 10 Students at Silae National High School for the School Year 2022-2023. Specifically, it sought to answer the following questions;

1. What is the academic performance of grade 10 students before and after the use of Interactive Portable Module (IPM)?
2. Is there a significant difference on the academic performance of grade 10 students before and after the use of Interactive Portable Module (IPM)?
3. What is the level of Motivation of Grade 10 Students before and after the use of Interactive Portable Module (IPM)?
4.. Is there a significant difference on the level of Motivation of Grade 10 Students before and after the use of Interactive Portable Module (IPM)?

Proposed Innovation, Intervention, And Strategy

The researchers utilized the Interactive Portable Module (IPM) in teaching the music concepts and determined the improvement of students' academic performance and motivation level. This subject covers the topics that describe distinctive musical elements of given pieces in 20th century styles; explains the performance practice (setting, composition, role of composers/performers, and audience) of 20th century music; relates 20th Century music to other art forms and media during the same time period; performs music sample from the 20th century and evaluates music and music performances using guided rubrics. All of these concepts were presented using the interactive portable module wherein they were given time to answer activities and learn actively with the portable module. With this, aside from making the teaching and learning fun and interesting, they also developed and have a deeper understanding about music concepts by just using their cell phones, laptops or any gadgets anywhere and anytime they want.

For the effectiveness of this strategy, the students were given time to work, interact and explore virtually individually. This study stressed the discovery and exploratory approach and enhances the independent learning of the students. Descriptive statistics (mean and standard deviation) was employed to determine

the students' academic performance and were used in analyzing the data obtained from the results of the survey questionnaire. In comparing for the dependent variables, paired t test was employed.

According to Chaeruman (2014), the creation of interactive e-modules has several features that relate to the nature of e-modules, including (1) self-paced learning that allows for independent learning at anytime and anywhere, (2) self-instruction that includes learning activities, (3) self-contained learning that includes all learning activities, and (4) modular/chunking learning that is broken down into smaller pieces and discussed in greater detail. An interactive electronic module has at least two-way communication. Initially, the researchers performed different phases or stages namely the planning stage, development stage, validation, and implementation stage.

In the conduct of the study, for the planning stage, the researchers determined the purpose of making teaching materials, what topics to be included in the interactive e-module, sources, and as well as the process of identifying needs of the students. Second was on the development stage; the crafting and designing of researchers made interactive portable module and assessment tool. In the academic assessment for pre-test and post-test, the researcher created 50 multiple choice test for pilot testing and was selected down to 30 items that covers the topic included and adopted with modification a motivational survey questionnaire from Glynn & Koballa, 2006 with the Cronbach alpha value of 0.91 which is considered as excellent. Third was on the validation stage; the material expert paid attention to assessing the content, language, the suitability of learning objectives with materials and media, ease of use of e-modules, display of e-modules, the face validity that includes the suitability of choosing the type of font, and appearance. This was done with the help of the School Head, Academic Head, English teachers and the LRMDS in-charge. And lastly was on the Implementation stage; the researchers conducted the pre-test prior to the utilization of the crafted interactive portable module in the teaching and learning process. Right after the pre-test, implementation of the intervention was done during the class session in which the modules were downloaded to the computers in the computer laboratory and cell phones for own consumptions. After the time span given for the conduct of the study, post-test was given.

Teachers frequently develop and implement a wide range of innovations to enhance the teaching and learning process and raise the standard of education as a whole. Improvements in curriculum creation, learning innovation, and teacher and educator quality are only a few of these advancements. To enhance the learning process, teachers must be more inventive and creative in pushing students to learn well in both the classroom and through individual study.

Methodology

Participants and/or other Sources of Data and Information

The study was conducted at Silae National High School located at Silae, Malaybalay City, Bukidnon. The participants of the study were from the Grade 10 junior high school students of Silae National High School who were officially enrolled in the School Year 2022-2023. The students were heterogeneous in composition and since the population of Grade 10 curriculum was only 56, all of them were chosen as the participants of the study.

Table 1. *Number of Participants*

Grade Level	*Male*	*Female*	*Total*
10	33	23	56

In the conduct of the study, reliability test was employed through pilot testing to Grade 11 senior high school students. Fifty (50) test items were crafted and was subjected for reliability test through Cronbach Alpha and since the result of the reliability test was good with the cronbach alpha value of 0.781, the test items were then selected down to 30 test items. Pre-experimental research design was used in the study using non probability sampling specifically total population sampling. The teacher gave pre-test before the conduct of the lesson. In this design, the answer of the students in the pre-test serves as the assessed background knowledge in the MAPEH subject specifically in Music. The post-test score of the class was then compared and treated as the independent variable of the study.

Data Gathering Procedure

In this study, Pre-experimental research design was used by means of non-probability sampling specifically total population sampling which involved

only a single group. The teacher gave pre-test before the conduct of the lesson and post-test after all the lessons were delivered. The independent variable in the study is the innovation used which is the interactive portable module and the dependent variable is the performance of the students in music and their motivational aspect.

Instrumentation of the Study

The instruments used in this research were composed of the researchers made academic performance test and adopted with modification a motivational survey questionnaire from Glynn & Koballa, 2006 with the Cronbach alpha value of 0.91. The academic assessment was a performance test based on the main topic and set of activities. Items in the pre-test and post-test were made. The teacher created Fifty (50) questions that were subjected for pilot testing and the resulting Cronbach alpha value was 0.781 which means that the test items were good. The test questions were then selected down to thirty (30) test items multiple choice that was based on the MELCs and the teachers and learners guide set by the Department of Education. The construction of the test items was guided with Table of Specifications (TOS) with the following cognitive process and dimension: remembering, understanding, applying, analysing, evaluating and creating.

This subject covers the topics that describe distinctive musical elements of given pieces in 20th century styles; explains the performance practice (setting, composition, role of composers/performers, and audience) of 20th century music; relates 20th Century music to other art forms and media during the same time period; performs music sample from the 20th century and evaluates music and music performances using guided rubrics. The academic performance test was validated by experts in Silae National High School for the checking of content of the subject area and language for the grammar use. The bases for the validation are the content, content accuracy, clarity and appropriateness. The comments that were gathered were used for the final revision as the basis for the final material of the test.

Ethical Issues

Before the conduct of the study, approval and permission was obtained from the School Head and from the office of the Schools Division Superintendent of the Division of Malaybalay City. Full consent was secured from the participants prior of the study. Participants should participate on the basis of informed consent. The researchers provide sufficient information and assurances about taking part to allow individuals to understand the implications of participation and to reach a fully informed, considered and freely given decision about whether or not to do so without the exercise of any pressure or coercion. The use of offensive, discriminatory or other unacceptable language needs to be avoided in the formulation of the study.

Data Analysis Plan

The data was treated with appropriate statistical tool for analysis.

For problem 1 and 3, the mean and standard deviation (sd) was used to assess the academic performance and level of motivation of grade 10 students before and after the use of Interactive Portable Module (IPM).

For problem 2 and 4, paired t-test was used to identify the significant difference on the academic performance and level of motivation of grade 10 students before and after the use of Interactive Portable Module (IPM).

Results and Discussion

This study focused on determining the effectiveness of the utilization of Interactive Portable Module (IPM) in teaching Music concepts that aims to improve the academic performance as well as the level of motivation of the students during the teaching and learning process. Results in pre-test and post-test of academic performance of the students were compared and the outcome of the assessment in motivation level of the students was also analyzed.

Table 2. Frequency and Percentage of the scores in Academic Performance of students.

Level of Proficiency	*Range of Scores*	*Achievement Range*	*Pre-test*		*Post-test*	
			Frequency (f)	*Percentage (%)*	*Frequency (f)*	*Percentage (%)*
Outstanding	28-30	90% above	0	0	7	14.58
Very Satisfactory	25-27	85%-89%	0	0	26	54.17
Satisfactory	22-24	80%-84%	0	0	12	25.00
Fairly Satisfactory	18-21	75%-79%	0	0	3	6.25
Did Not Meet Expectations	0-17	74% below	48	100	0	0
Mean			10.208		25.292	
Standard deviation			2.501		1.946	
Achievement Level			Did Not Meet Expectations		Very Satisfactory	

Based on the result of table 2, it shows that 100% of the pre-test scores of the students fall on the last level of proficiency wherein they did not meet expectations which means that all of the learners at this level

struggle with knowledge, skills and understanding and have not acquired or developed to aid understanding. Thus, there is a need for intervention to make progress on the development and enhancement of the students learning in music concepts. Furthermore, in the post-test score of the students, 54% got the very satisfactory level and only 6% of them fall under fairly satisfactory level. Additionally, the students got a mean score of 25 in the post-test under very satisfactory level which means that the learners at this level developed the fundamental core requirements in terms of knowledge, skills, and understanding, and transfer them automatically through authentic performance task. In the classroom setting, the students became more interested and active during classes. It showed that with the help of interactive portable modules, they were introduced to wider perspective about music concept especially that there were only limited resources. Students can create better understanding towards the topic given especially that this needs to be meaningful to them. Interactive e-modules are therefore anticipated to enhance student learning outcomes and address issues that arise during the teaching and learning process in the learning environment. Naturally, if students believe that learning activities are valuable, they will actively engage in them and approach them with a positive outlook in order to build a solid comprehension of a new topic on the basis of what they already know.

According to Chaeruman (2014), interactive e-module development has several features that aid in enhancing students' academic performance. For example, it enables them to learn independently, whenever and wherever they choose, at their own pace, it includes learning activities, and the concepts are modified, dissected, and thoroughly discussed with the aid of videos, illustrations, and simulations. Adisusilo's (2014) idea in the interaction itself contains a premise that suggests that teaching is not just about teachers imparting knowledge to pupils. However, it is still believed that teaching involves creating an environment that might motivate children to study. Darmawan, 2016 implied that teaching materials can also evolve. Initially modules were in the form of print but now can be in the form of e-modules or non-printed modules that can be integrated with so many media such as visual, audio, audio-visual and multimedia that makes the module more interactive. In addition, Dwiyoga (2013) in Suwatra et al. (2018) states that interactive modules can make it easier to include elements of sound, video, animation and simulation especially that all elements were included in the lesson.

Table 3. t-Test value of Means of Academic Performance of students

		Paired Differences					*t*	*df*	*Sig. (2-tailed)*
		Mean	*Std. Deviation*	*Std. Error Mean*	*95% Confidence Interval of the Difference*				
					Lower	*Upper*			
Pair 1	Pre-test - post-test	-15.083	3.009	.434	-15.957	-14.209	-34.724	47	.000

In table 3, the mean difference of pre-test and post-test was -15.083 which means that there was an increase of the scores of the students. Since the p value was less than 0.001 which was lesser than the level of significance, the difference was statistically significant. Therefore, the null hypothesis was rejected thus alternative hypothesis was accepted stating that there is a significant difference on the academic performance of grade 10 junior high school students before and after the use of interactive portable module. The researchers were also 95% confident that the actual mean difference between pre-test and post-test was between -15.957 and -14.209 and that means were very confident that the score before the intervention was always less than after the intervention.

As presented in table 3, it shows that the mean scores of the students in pre-test and post-test increases and had a significant difference on the academic performance before and after the intervention of interactive portable modules (IPM) in MAPEH specifically in music class. This merely means that students find quizzes and sets of activities helpful in learning the material and also found it helpful in correcting their mistakes by the help of feedback through these activities. Additionally, by using interactive portable modules, less supervision is needed and additional resources are provided, such as videos, illustrations, and additional sites that promote critical thinking, increase time on task, and promote collaborative learning. This is so that students receive high-quality instruction, which is dependent upon the instructional strategies and resources employed. Including aspects of sound, video, animation, and simulation that are organized systematically can be made easier via interactive modules.

According to Darmaji (2019), using portable modules enables students to actively use cognitive structures from memory, thinking, and imagination as well as be designed for intensive personality development in terms of their organizing processes. Furthermore, Ramdhani (2012) found that the e-module was successful in facilitating the learning process. This was done because employing ICT in the classroom was

thought to be able to enhance students' learning skills, one of which was using portable modules.

This assertion is supported by a number of researches, including Cloonan et al (2020) work, which demonstrates how both seasoned students and those who are learning the material acquire knowledge and confidence as a result. Interactive e-modules were proven to be effective in enhancing students' critical thinking abilities and giving them more autonomy during the process of skill growth by McNamara et al. (2020). The Mayer and Fiorella (2014) theory, which Campen et al. (2020) cited, states that learning is most effective when two senses, specifically visual and auditory, are employed simultaneously in working memory. According to Wijaya (2019), the effectiveness of the electronic module has been examined and is supported by a number of theories. The study's findings suggest that electronic teaching resources built around modules are useful for applying to learning. According to Ramdhani (2015), integrating ICT into the classroom would improve students' academic performance.

Table 4. Motivation level of Grade 10 Junior High School Students

	Before			*After*		
	Mean	*Standard Deviation*	*Qualitative Description*	*Mean*	*Standard Deviation*	*Qualitative Description*
Overall motivation level	3.22	.41	Moderately Motivated	3.85	.57	Highly Motivated

Based on the table 4 presented, the mean score before the intervention was 3.22 which was interpreted as students were moderately motivated. After the intervention, it signifies that the students got a higher mean score which was 3.85 which means that they developed their motivation level into highly motivated wherein the students are much more interested and active in learning music concepts since the students motivation is closely connected to their achievement and desired outcomes. In the classroom setting, the students became more interested and motivated to learn the concepts because they were able to learn with the use of technology. To them, it was a higher form of learning and meaningful since it won't be boring to them. They were able to manipulate and use the computer in the laboratories that somehow boost their interest to learn and make the activities together with their classmates. Anytime, they can just simply scan and review the topic in their phones or any form of gadgets.

As what Lumsden 1994 said, he defined motivation as the willingness of students to participate in the process of language learning. According to Dörnyei and Ryan (2015), motivation is the primary requirement for beginning a learning task and serves as the process's driving force. Effective learning requires motivation as a critical component. Indeed, inspiration for learning activities and enhancement of the learning process depend greatly on motivation.

Sani (2019) asserts that observing how a student's behavior alters as a result of what they have learnt is one approach to determine whether they are learning. A person is said to be learning when their behavior changes as a result of rigid guidelines and positive reinforcement. El-Seoud (2013) cites numerous studies that demonstrate how well-designed e-learning may boost student engagement, motivation, and attendance. It should also enhance behavior and performance in core areas, as well as increase student participation in class. Self-motivation is one of the key elements for students' success in the e-learning process. Information and communication technology integration into the educational process is dependent on participant motivation. Students require support with their digital enhanced learning in order to enable them to harness the potential of ICT in their learning process.

According to Dörnyei (2020), motivation and engagement are closely related concepts, and in order to engage students, motivation must be maintained. Any instructional design should strive to keep students interested regardless of the learning situation, whether traditional or online, according to Hedge (2001). This is a difficult task given the plethora of distractions in the twenty-first century. Learner motivation, whether it is innate to the learner or is developed through classroom experiences, is crucial in the classroom setting.

Table 5. t-Test value of Means of the Motivation of Grade 10 students

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	*Std. Deviation*	*Std. Error Mean*	*95% Confidence Interval of the Difference* *Lower*	*Upper*			
Pair 1	Before-After	-.631	.234	.043	-.718	-.543	-14.758	29	.000

The mean difference of pre-test and post-test was -.631 which means that there was an increase of the mean score of the motivation level of the students. Since the p value was less than 0.001 which was lesser than the level of significance, the difference was statistically significant. Therefore, the null hypothesis was rejected thus alternative hypothesis was accepted stating that

there is a significant difference on the motivation level of grade 10 junior high school students before and after the use of interactive portable module. The researcher was also 95% confident that the actual mean difference between before and after the 21st century skills of the students was between -.718 and -.543 and that means were very confident that the score before the intervention was always less than after the intervention.

Conclusion

Based on the findings of the study, the following conclusions were drawn: (1) It was concluded that the academic performance of the students significantly increases which means that the students at this level developed the fundamental core requirements in terms of knowledge, skills, and understanding, and transfer them automatically through authentic performance task. Thus, the students became more interested and active during classes therefore they had a better understanding towards the topic given and make it more meaningful to them. It signifies that the applied intervention was effective enough in improving the academic performance of the students. (2) Therefore, the null hypothesis was rejected thus alternative hypothesis was accepted stating that there is a significant difference on the academic performance of grade 10 junior high school students before and after the use of interactive portable module. Interactive portable modules therefore enhanced the student learning outcomes and address issues that arise during the teaching and learning process in the learning environment and give them a positive outlook in building a solid comprehension of the topics in music. According to Chaeruman (2014), interactive e-module development has several features that aid in enhancing students' academic performance. However, it is still believed that teaching involves creating an environment that motivates children to study. (3) It was concluded that the students developed their motivation level into highly motivated wherein the students are much more interested and active in learning music concepts since the students motivation is highly associated with their academic performance. To make the learning effective, students must be motivated enough because motivation is the key factor to make it possible. Indeed, motivation plays a vital role in inspiring learning activities and enhancing the learning process. El-Seoud (2013) cites numerous studies that demonstrate how well-designed e-learning may boost student engagement, motivation, and attendance that also enhance behavior and performance in core areas, as well as increase student participation in class. (4) It was concluded that there is a significant difference on the motivation level of the students after the intervention therefore the alternative hypotheses was accepted which states that there is a significant difference on the level of motivation before and after the intervention of interactive portable modules.

The researcher recommended the following for the future researchers: (1) Teachers must allot more time to conduct the study for a better result. (2) A similar study must be conducted to a larger population of participants to gain better results of the study. (3) Teachers should be encouraged to incorporate more interactive teaching materials in teaching the subject.

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