Digital – Assisted Instruction for Music 7

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ABSTRACT - This study explored how to improve the academic performance of 133 Grade 7 learners in Music using Digital-Assisted Instruction Material that was created on EdApp. The main goal is to review the lesson, expand on it, and master insights even at home. This study employed a quasi-experimental design that aims to evaluate the performance of the developed material. On the basis of the development of Digital-Assisted Instruction Material, respondents were selected among the experts in music-related instruction, ICT, Education Program Supervisor, and other Key Teachers. The study concluded that the top least mastered competency is the learners' application of learning, the understanding of knowledge that being able to apply it to real-world exercises, and difficulties, that are not met during regular class teaching. In response to this, the researcher developed digital-assisted instruction which is a game-based application that can be used as an intervention material and supports 21st-century learners wherein they are given opportunities to learn in various means for the improvement of performance. The developed material was reviewed by the evaluators using the Learning Resource Management Development System (LRMDS) criteria. The evaluation revealed that the developed material had "Passed" from all the indicators: content and format, instructional quality, technicality, and other findings with a score of 39.2, 39.8, 50.2, and 15.8. Moreover, the evaluators agreed that teaching music will become more effective when supported by the developed digital-assisted instruction since additional senses - visual and auditory - are engaged.

Indexed Terms- **Digital-*Assisted Instruction, Music, Least-Mastered Competencies, 21st-Century Learning, Intervention***

I. INTRODUCTION

As technology has become an integral part of the educational system, the Philippine government has demonstrated a strong commitment to technology in education by introducing a series of initiatives into the teaching and learning process. With the implementation of the “No Child Left Behind Act in 2002”, and the “Every Student Succeeded Act in 2015”, schools have shifted from a more "traditional" teacher-centered approach to a technological, hands-on atmosphere. These are parts of the preparation for the so-called "Digital Rise" in education which is aligned with the Millennium Development Goals and the Education for All Movements (Dunuan, 2020).

The continuity in education along with the so-called new normal, the Department of Education started reforms in 2019 under the banner "Sulong EduKalidad" to continuously achieve a high-quality basic education. This move ensured that the majority of not all learners have given the opportunity to develop their skills and competencies at their own pace through a variety of learning activities. Unfortunately, as what has turned out these days, the Philippine educational system faces several difficulties. These are evident in a lot of discussions over the decline in quality education in both public and private schools. Consequently, these have resulted in low student performance in tests and/or post-diagnostic examinations.

Moreover, it is difficult to successfully manage the class because of the learners' diverse needs. Abana (2020) emphasized that teachers need to present a variety of activities, innovations, teaching approaches, and methodologies that would fit not only to a particular strata of learners but also with the rest of the learners’ types. In K to 12 Curriculum Guide for Music and Arts, it has been stated that learning Music and Arts will have to go through the learning process the same as other subjects. This is to ensure that the subject becomes more understandable for effective learning to happen through active experience, participation, and performance that are aligned with the learning competencies. In addition, it is a subject that provides a greater range of learning opportunities

resulting in the acquisition of knowledge and the development of abilities among teachers required to instruct learners effectively.

In the local setting, similar observations have been encountered by the researcher at Dominador Narido High School. The majority of Grade 7 students did not meet the mastery level of the subject during the Second Quarter Examination SY 2022-23. The Mean Performance Levels were fixed at 60.43%, 47.66%, and 29.79% among the three (3) sections. Meanwhile, MAPEH has four components, and among them, the component Music has the least-mastered competencies. This suggests that there is an element missing in the process of instructing learners in subject-specific skills. Therefore, there is a need to improve teaching-learning strategies and instructional materials used to be able to bridge the skill gap of those learners who fall under the low-mastery level.

In response, this study was conceptualized and aimed to identify the least-mastered competencies in Music 7 which served as a basis for the development of digital-assisted instruction for Music 7. Specifically, it answered the following questions: 1) what are the least-mastered competencies of Grade 7 learners in Music based on Item Second Quarter Examination; 2) what digital-Assisted Instruction for Music 7 can be developed based on least-mastered competencies; 3) what is the evaluation of Digital-Assisted Instruction in Music 7 using the LRMDS evaluation tool for non-print material; 4) what are the result of pre-test and post-test scores of Grade 7 learners in Music 7; 5) is there a significant difference between the pre-test and post-test results; and 6) what enhancement that can be integrated to improve the Digital-Assisted Instruction for Music 7.

Learning music focuses on more technicalities, particularly its foundations. To develop these among learners, teachers should be knowledgeable about the instructional methods and strategies. Tabuena (2020) stated that is vital to understand the factors that influence learners' performance in class in order to plan and create instructions that are appropriate for individuals or groups of learners. This entails moving beyond the evaluation of achievement. Teachers must start applying and integrating ICT inside and outside the classroom since learners are increasingly exposed to various developments using technology as part of today's learning adaptation. The main purpose of integrating ICT in our class is to engage learners, make things easier, be more creative, address learners' weaknesses, enhance learning and educational activities, and support the teaching process using mobile phones, computers, the internet, and other latest technologies.

Furthermore, the use of digital instructional materials caters to the learning style and needs of Generation Z learners, who are surrounded by technology and digital tools in their daily lives. It is within these ideas and principles that the researcher pursues to develop Digital-Assisted Instruction for Music 7. This serves as an intervention towards the development of students understanding and mastery of Music as a support to the current educational system which promotes digital education and supplementary material for teaching and learning the subject.

II. METHODS OF RESEARCH

This study used a quasi-experimental design, a type of research design that aims to evaluate the relationship between an intervention and the outcome but that does not use randomization was used in this study. In comparison to other types of research, quasi-experimental design has more significant external validity than true experiments since it generally evaluates the effectiveness of real-world interventions rather than the efficacy of an intervention. This includes a one-group pre-test and post-test design to evaluate Digital-Assisted Instruction as an intervention material toward the mastery of the least-mastered competencies in Music 7. This study employed purposive sampling. The 422 population of Grade 7 learners from three secondary schools in Basud District, are the Dominador Narido High School, San Felipe National High School, and Basud National High School. The two remaining secondary schools were excluded due to scheduling conflicts and the lack of consent from the School Heads for the conduct of the study. The researcher selected a sample of 133 students. They are learners who fell below the standard criterion during the second quarter examination.

Another set of respondents was five evaluators, including a Division ICT, an Education Program Supervisor in MAPEH, an Education Supervisor in LRMDS, and two key Teachers. The researcher developed and administered tools for the data gathering. These are the Pre-Test, Post-Test, and Evaluation Rating Sheet for Non–Print Material which is considered as an essential part of this study. Furthermore, the pre-test and post-test quasi-experimental research design was employed to determine the effect of the intervention being employed on the group. To analyze the least-mastered competencies, particularly in Music 7 that served as the basis for the development of digital-assisted instruction for Music, the researchers employed frequency count that pertains to the number of respondents that have the same answer in a specific question and ranking to determine the order of the results according to their percentage of incorrect responses. In addition, the researchers employed

Descriptive statistics to provide an overview of the data for further improvement of the developed material. *t*-test for the dependent sample was used to determine the significant difference between the pre-test and post-test scores of the respondents of the three schools.

Population, Sample Size, and Sampling Technique

This study employed purposive sampling. From the 422 population of Grade 7 learners from three secondary schools in Basud District, the researchers selected a sample of 133 students. They are learners who fell below the standard criterion during the second quarter examination.

Description of Respondents

The primary respondents of this study were the 133 Grade learners from three secondary schools in Basud District. These are the Dominador Narido High School, San Felipe National High School, and Basud National High School. The two remaining secondary schools were excluded due to scheduling conflicts and the lack of consent from the School Heads for the conduct of the study.

The total number of respondents was derived from 422 population from which the researchers selected those who fell below the performance level during the second quarter examination in MAPEH. They had been selected since they were the ones with a low-mastery level. Another set of respondents who had been included by the researcher were five evaluators. These include a Division ICT, an Education Program Supervisor in MAPEH, an Education Supervisor in LRMDS, and two key Teachers who gave recommendations for the improvement of the developed material.

Data Gathering Procedure

The researchers followed the data gathering procedures to ensure the accuracy and reliability of the data gathered. The researchers sought first the approval and recommendation from the Panel of Examiners and the Dean of Graduate Studies. Afterward, a letter requesting the conduct of this study was forwarded to the Office of the Schools Division Superintendent and to the respective School Principals of the target schools. Upon the approval of the request, the data gathering started and resulted in the consolidation of the item analysis that resulted from the highest percentage of incorrect responses and mean performance level. Another step that the researchers went through was the orientation of the selected student-respondents in preparation for the administration of the pre-test with the concurrence of the School Heads. The pre-test was taken as a paper and pencil test.

After the pre-test, the development of Digital-Assisted Instruction started based on the identified least mastered competencies. The materials had gone through a series of refinements based on the evaluation of the selected juror-specialist. Several suggestions and recommendations during the developmental process were integrated before the final version was approved. The evaluation utilized the standardized evaluation tool from LRMDS and had been subjected to the scrutiny of Division ICT, an Education Program Supervisor in MAPEH, an Education Supervisor in LRMDS, and two key teachers for the improvement and recommendation of the said material. Finally, the approved version was given for students' use, and after three weeks, a post-test was administered.

The right to conduct the study was strictly adhered to through the agreement of the Schools Division Superintendent, and School Principal, Teachers, and

Learners. Face-to-face orientation was conducted with the respondents. The most crucial ethical consideration in this study was the respondents' participation in taking the pretest and posttest exams. Respondents took part voluntarily with parental consent and were made fully aware of the research objectives. They were assured of the confidentiality and anonymity of the results of this study.

Research Instruments

The researchers developed and administered tools for the data gathering. These are the Pre-Test, and Post-Test is considered essential part of this study. The Pre-test and Post-Test were given to the learners of Grade 7 in Music consisting of 20 items. The researcher's pretest-post-test was utilized to collect information about participant performance before and after the study. Likewise, the Evaluation Rating Sheet for Non-Print Materials was used in this study. This is based on the standards and procedures for Learning Resource Management and Development Systems (LRMDS) assessment and evaluation. The Department of Education has recommended this LRMDS as one of its rating instruments for non-print instructional materials. It contains four components: content and format, instruction quality, technicality, and other findings. It was provided to technology experts, teachers, LRMDS Coordinator, and the Education Program Supervisor in MAPEH who assessed the developed digital-assisted instruction material using the LRMDS evaluation too. In addition, suggestions and recommendations were integrated in the developed materials.

Statistical Treatment of Data

In this study, pre-test and post-test quasi-experimental research design was employed to determine the effect of the intervention being employed on the group.

To analyze the least-mastered competencies, particularly in Music 7 that served as the basis for the development of digital-assisted instruction for Music, the researchers used frequency count that pertains to the number of respondents that have the same answer in a specific question and ranking to determine the order of the results according to their percentage of incorrect responses.

In addition, the researchers employed statistical analysis to provide an overview of the data in order to identify further improvement. *t*-test for dependent samples was used to determine the significant difference in the said test scores.

III. ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the results of this research about the least learned skills in Music. As an output of this undertaking, instructional material was developed by the researchers. The comments were considered and were integrated to make the research output compliant to the LRMDs output.

Least-mastered Competencies of Grade 7 Learners in Music based on the Second Quarter Examination Result

One of the objectives of the study is to determine the least mastered competencies among the Grade 7 learners in Music for Second Quarter. Table 1 shows the ranking of the five (5) least mastered competencies. Among the identified competencies, “Performs music from Cordillera, Mindoro, Palawan, and of the Visayas, with accompaniment” had been identified as rank 1 least mastered competency with a computed mean of 73.37. This means that the majority of the learners got the incorrect answer to the questions under this specific competency.

Table 1
Least-Mastered Competencies based on the Second Quarter Examination Result in Music 7

Competencies	Item No.	Basud National High School	San Felipe National High School	Dominador Narido High School	Total	Percentage %	Mean	Rank
		No. of Incorrect Responses	No. of Incorrect Responses	No. of Incorrect Responses				
Performs music from Cordillera, Mindoro, Palawan, and the Visayas, with accompaniment	11	114	121	72	307	72.74%	73.37	1
	12	126	123	41	290	68.72%		
	13	144	126	62	302	78.67%		
Identifies the musical instruments and other sound sources from Cordillera, Mindoro, Palawan and of the Visayas;	2	121	107	65	293	69.43%	72.15	2
	3	138	116	62	316	74.88%		

Discovers ways of producing sounds on a variety of sources similar to instruments being studied;	6	117	126	63	306	72.51%	70.9	3
	7	116	134	42	292	69.19%		
Improvises simple rhythmic/ melodic the Cordillera, Mindoro, Palawan, and of The Visayas;	8	79	131	62	272	64.45%	65.71	4
	9	105	108	47	260	61.61%		
	10	123	114	63	300	71.09%		
Explains the distinguishing characteristics of representative music from Cordillera, Mindoro, Palawan, and the Visayas in relation to its culture and geography;	4	50	114	60	224	53.08%	54.26	5
	5	62	110	62	834	55.45%		
N		**181**	**156**	**85**	**422**			

On the other hand, the lowest computed mean with 54.26 of incorrect responses was under the competency "Explains the distinguishing characteristics of representative music from Cordillera, Mindoro, Palawan and of the Visayas in relation to its culture and geography". This means that among the five (5) competencies, this particular competency has the lowest number of learners who got incorrect answers.

Based on the findings, the top least-mastered competency involves the application and understanding of knowledge that is able to apply it to real-world exercises, difficulties, or situations which is not built in a day or week sessions of the learners. The last on the rank of competencies revealed that the learners got more correct answers if the instruction was just simply recalling and explaining the concepts of the previously learned information. The result is supported by Atilano (2018) and Cainto (2020) who claimed that learning music focuses on more technicalities, and performances, particularly its foundations are not well taught.

Digital-Assisted Instruction in Music 7 based on Least-Mastered Competencies

Based on the results of the competency level of Grade 7 learners in Music, the researcher developed a Digital-Assisted Instruction that had been used by the learners as an intervention tool for the least mastered competencies. The developed material was named "MusiKaalaman: A Digital-Assisted Instruction for Music 7", designed to address the learning difficulties of the learners in Music 7. It was considered as an educational intervention integrating technological applications to support the Department of Education's vision and mission. The said material was created using EdApp.

Moreover, the material was referred to as interactive material by the researcher because it is a hands-on approach to help the learners become more engaged with the use of technology. To access the material, teachers can simply provide the link to the learner online, and the learner will be automatically directed to the application. Another way to access the material is via offline mode where the user must install the EdApp first in order to experience the full functionality of the material including the lessons. It can run with a minimum technical requirement and can be used independently. It has the features of revisiting, expanding, and mastering the lesson even at home.

As indicated by Dap-og (2022) and Bangayan-Manera (2019), more has to be done to improve instructional development to keep up with the ever-increasing needs of teaching, particularly to contextualize MAPEH teaching in the curriculum. Educational innovations have been created to solve the difficulties and needs of learners and improve the quality of their learning. Peer tutoring, computer-assisted instruction, and other educational videos, interactive games, and other audio-visual material can give learners a meaningful experience, thus, contributing to increasing retention of learning.

Plate 1 shows the interface of the application was all about establishing the purpose which is a short orientation on the content. This also had audio functionality applicable to students who prefer listening.

Plate 1
The interface of the Material

Plate 2 shows the introductory part of the application consisting of a short review task on the vocal music. This will help learners to evaluate prior knowledge and understanding, as well as practical questions as a way to present examples of the lesson.

Plate 2
Introduction

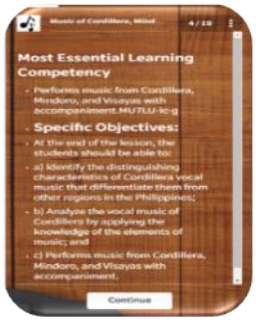


Plate 3
Content for Vocal and Instrumental Music of Cordillera, Mindoro, Palawan, and Visayas

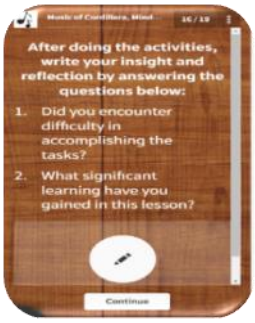
Plate 3 includes a sample video lesson, and texts, that cover the topic of Vocal Music and other musical characteristics of representative selections from Cordillera, Mindoro, Palawan, and Visayas. Learners will also be prompted to analyze the characteristics of the given vocal music. Learners cannot proceed to the next part until they have completed all of the videos and activities.

Plate 4 shows the activity designed for the application of content knowledge. A diverse range of tasks and games to assess students understanding like “Clap the Beat Activity”. This is to perform sample music from the Cordillera. This also acts as a wrap-up task for the learners to remember the Vocal and Instrumental Music.

Plate 4
Assessment

Plate 5 deals with the feedback from learners after using the material which forms part of the application of knowledge. This part discusses the difficulty that the learners encountered as well as the significant learning insights they gained from the lesson.

Plate 5
Feedback a Reflection



Digital-Assisted Instruction in Music 7 Using the LRMDS Evaluation Tool for Non-Print Material

The Digital-Assisted Instruction for Music 7 was reviewed by the evaluators using the Learning

Resource Management Development System (LRMDS) criteria.

Table 2 presents the evaluation of Digital-Assisted Instruction in terms of content and format using the indicators based on the LRMDS standards. The findings show that the developed digital tool had "Passed" in all ten (10) factors or indicators. The total score obtained from the jurors' ratings was 39.2. The result implies that the developed digital-assisted instruction can contribute to the reinforcement and can encourage meaningful learning inside and outside the classroom.

Table 2
Digital-Assisted Instruction for Music 7 as to Content and Format

Factors / Indicators	Mean	Adjectival Description
1. Content is consistent with topics/skills found in the DepEd Learning Competencies for the subject and grade/year level it was intended.	4	Very Satisfactory
2. Concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives	4	Very Satisfactory
3. Content is accurate.	4	Very Satisfactory
4. Content is up-to-date	4	Very Satisfactory
5. Content is logically developed and organized.	4	Very Satisfactory
6. Content is free from cultural, gender, racial, or ethnic bias.	4	Very Satisfactory
7. Content stimulates and promotes critical thinking.	3.8	Very Satisfactory
8. Content is relevant to real-life situations.	3.6	Very Satisfactory
9. Language (including vocabulary) is appropriate to the target user level.	3.8	Very Satisfactory
10. Content promotes positive values that support formative growth	4	Very Satisfactory
Total Score	39.2	Passed

Note: SLR must score at least 30 points out of a maximum of 40 points to pass this criterion.

Legend:

4.00-3.51 = Very Satisfactory
3.50-2.51 = Satisfactory
2.50-1.51 = Poor
1.50-1.00 = Not Satisfactory

Table 3 demonstrates the conformity of digital-assisted material in terms of instructional quality. Based on the evaluation of the jurors, it got a total score of 39.8 which shows the interpretation "Passed". The result also showed that 9 out of 10 factors or indicators were given a weighted mean of 4 based on the evaluation, implying that the developed material completely met the indicators. The 8th indicator was evaluated with a weighted mean of 3.80. The evaluators noted that there is a need for development about feedback on the target user's responses.

Table 3
Digital-Assisted Instruction for Music 7 as to Instructional Quality

Factors / Indicators	Mean	Adjectival Description
Purpose of the material is well-defined.	4	Very Satisfactory

2. Material achieves its defined purpose.	4	Very Satisfactory
3. Material achieves its defined purpose.	4	Very Satisfactory
4. Level of difficulty is appropriate for the intended target user.	4	Very Satisfactory
5.Graphics/colors/sounds are used for appropriate instructional reasons.	4	Very Satisfactory
6. Material is enjoyable, stimulating, challenging, and engaging.	4	Very Satisfactory
7. Material effectively stimulates the creativity of the target user.	4	Very Satisfactory
8. Feedback on the target user's responses is effectively employed.	3.8	Very Satisfactory
9. Target users can control the rate and sequence of presentation and review.	4	Very Satisfactory
10. Instruction is integrated with the target user's previous experience.	4	Very Satisfactory
Total Score	39.8	Passed

Note: SLR must score at least 30 points out of a maximum of 40 points to pass this criterion. Please put a check mark (/) on the appropriate box.

Legend:

4.00-3.51 = Very Satisfactory
3.50-2.51 = Satisfactory
2.50-1.51 = Poor
1.50-1.00 = Not Satisfactory

Table 4 shows the conformity of digital-assisted education in terms of its technicality. The evaluation resulted in a total score of 50.2 and is described as "Passed". Indicators 3, 8, and 9 got the highest mean of 4 and were rated as Very Satisfactory. Technical qualities provide appropriateness to the learners' mastery level of the competencies. The visuals provide an accurate representation of the concept discussed and these are effectively utilized to attract the attention and retention of the students. Since the material is a game-based application, the material is enjoyable, stimulating, challenging, and engaging. Meanwhile, the 4th indicator got the lowest weighted mean of 3.6. It was noted from the evaluation that the utilization of background music must be properly incorporated. It was justified that the music included can help learners feel motivated, increase memory, and make the process more enjoyable.

In the same vein, according to the article Brennan (2021) emphasized that music enhances learners' focus more. It was suggested in the article that classical or instrumental music with guitars or other string instruments may be less distracting, but anything that is not too rapid or too wordy can be used. Similarly, in the said material, music was incorporated properly in order to make it suitable for the different learning styles of the target user. To make it child-friendly, the developed material includes music that is a slow tempo, consistently instrumental, and low volume.

Table 4
Digital-Assisted Instruction for Music 7
as to Technicality

Factors / Indicators	Mean	Adjectival Description
1. Audio enhances understanding of the concept.	3.8	Very Satisfactory
2. Speech and narration (correct pacing, intonation, and pronunciation) are clear and can be easily understood.	3.8	Very Satisfactory
3. There is complete synchronization of audio with the visuals, if any.	4	Very Satisfactory
4. Music and sound effects are appropriate and effective for instructional purposes.	3.6	Very Satisfactory

5. Screen displays (text) are uncluttered, easy to read, and aesthetically pleasing	3.8	Very Satisfactory
6. Visual presentations (non-text) are clear and easy to interpret.	3.8	Very Satisfactory
7. Visuals sustain interest and do not distract user's attention.	3.8	Very Satisfactory
8. Visuals provide accurate representation of the concept discussed.	4	Very Satisfactory
9. The user support materials (if any) are effective.	4	Very Satisfactory
10. The design allows the target user to navigate freely through the material.	3.8	Very Satisfactory
11. The material can easily and independently be used.	4	Very Satisfactory
12. The material will run using minimum system requirements.	4	Very Satisfactory
13. The program is free from technical problems.	3.8	Very Satisfactory
.TOTAL SCORE	**50.2**	**PASSED**

Note: It must score at least 39 points out of a maximum of 52 points to pass this criterion

Legend:

4.00-3.51 = Very Satisfactory

3.50-2.51 = Satisfactory

2.50-1.51 = Poor

1.50-1.00 = Not Satisfactory

Table 5 presents the evaluation of the digital-assisted instruction for Music 7 in terms of other findings, which include conceptual, factual, grammatical, and typographical errors. The total score was fixed at 15.8 and was described as "Passed". The indicators demonstrate that there are no conceptual errors that caused the misinterpretation of the topic. The presentation of factual concepts is current and correct. There were no grammatical errors in the material. However, a small number of typographical and grammatical errors were discovered, and this indicator was rated as 3.8. As an implication, teaching materials for learners must be current. Outdated teaching materials will be ineffective in providing learners with values. Learners will be unable to apply the information gained through outdated teaching materials in actual life.

Table 5
Digital-Assisted Instruction for Music 7 as to Other Findings

Factors / Indicators	Mean	Adjectival Description
1. Conceptual Errors.	4	Not Present
2. Factual errors.	4	Not Present
3. Grammatical Errors.	4	Not Present
4. Typographical and other minor errors (e.g., inappropriate or unclear illustrations, missing labels, wrong captions, etc.)	3.8	Not Present
Total Score	15.8	Passed

Note: Resource must score at least 16 points out of a maximum of 16 points to pass this criterion.

Legend:

4.00-3.51 = Not Present

3.50-2.51 = Present but very minor and can be fixed

2.50-1.51 = Present & requires major redevelopment

1.50-1.00 = Do not evaluate further

The pre-test and post-test scores of Grade 7 learners in Music 7

Table 6 shows the result of the pre-test and post-test of Grade 7 learners in Basud District. The average score of the pre-test conducted for Basud National High School, San Felipe National High School, and Dominador Narido High School was computed as 8.28, 6.95, and 7.10 respectively. On the other hand, the average score of the post-test was computed as 10.42, 9.70, and 10.43 respectively.

The findings imply that the struggling learners and other difficulties inside the classroom cannot be fully addressed through the use of Digital-Assisted Instruction itself. This further implies that the teacher needs to exert more effort to have individualized instruction and educational activities that can be facilitated through portable instructional and intervention material like the Digital-Assisted Instruction for Music 7.

Table 6
Pre-test and Post-test Scores of Grade 7 learners in Basud District

School Name		Pre-test	Post-test
Basud National High School	N	60	60
	Average Score	8.28	10.42
San Felipe National High School	N	43	43
	Average Score	6.95	9.70
Dominador Narido High School	N	30	30
	Average Score	7.10	10.43

A significant difference between the Pre-Test and Post-test results

An analysis of the findings in Table 7 indicates that there is a significant difference between the learners' pre-test and post-test scores. The results indicated that the *t*-test value of 14.192 is less than the critical value of 1.96. Thus, rejected the null hypothesis and proved a significant difference in the pretest, and posttest scores of the respondents. This implies that using digital-assisted instruction in music significantly increased Grade 7 learners' academic achievement level and performance in Music 7.

Table 7
Significance Difference Result Between Pre-Test and Post-test Scores of Grade 7 Learners in Basud District

Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Post Test - Pretest	2.602	2.114	.183	2.964	2.239	14.192	132	.000

*** Difference is statistically significant; p <.01.*

Enhancement integrated to improve the Digital-Assisted Instruction for Music 7

The researcher sought the evaluators' suggestions to further enhancement of the developed material which is a Digital-Assisted Instruction for Music 7 as intervention material for Grade 7 learners. According to evaluators, some factors or indicators need to be improved for the material's full conformity with the LRMDS standards. Furthermore, the Education Supervisor in MAPEH, says that the material should include activities that will encourage learners to think more critically by including more HOTS questions. Another suggestion was the proper citation of the codes from the MELCS. The material should not only help the learners to understand more effectively but also apply it to real-life situations for them to realize the significance of the topics, thus, they will be motivated to continue.

Furthermore, the evaluation of the Education Program Supervisor in LRMDS recommended that the material should limit and identify audio that is appropriate for learners. Providing an option for the target user to enable or disable the audio. The embedded audio must be a helpful addition to the design rather than a distraction and must be properly incorporated into the said material. Similarly, Division ICT suggested that indicators about speech and narration (correct pacing, intonation, and pronunciation) should be made clearer and can be easily understood. It has been suggested further that the speech and narration of text must be carefully checked and must be taken into account seriously and responsibly because there are learners that are auditory and would prefer to listen to the instructions that read the text or figure it out hands-on. In addition, enhancing the visuals may sustain interest but should not distract the user's attention.

Lastly, the Key Teachers, noted that the developed material should be easily and independently used and should run with minimum requirements, and be free from technical problems. Further, it has been noted from the recommendations that there are minimal typographical errors that needed to be corrected by the researcher. The material should include instruction that is appropriate for the target user's age and stage of learning. Since the material is an intervention material intended for learners with a low mastery level, localization of language is also encouraged to ensure the effective utilization of the Digital-Assisted Instruction for Music 7.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of the findings of the study entitled "Digital-Assisted Instruction for Music 7". This also includes the conclusions to the problems addressed in the findings, as well as recommendations for further enhancement of Digital-Assisted Instruction.

This quasi-experimental research was used by the researchers from November 2022 to May 2023. This involved the 133 learners as respondents who had been purposely selected since they have a low mastery level among the Grade 7 learners from Basud National High School, San Felipe National High School, and Dominador Narido High School. In addition, five evaluators had also been chosen because of their expertise which contributed to the further development of the research output.

This study sought to develop digital-assisted instruction for Music 7 as an intervention material designed to help low mastery level learners toward a mastery level of competency. Specifically, it answered the following problems: 1) What are the least-mastered competencies of Grade 7 learners in Music 7 based on Item Analysis of Second Quarter exam results? 2) What Digital-Assisted Instruction in Music 7 can be developed based on least-mastered competencies? 3) What is the evaluation of Digital-Assisted Instruction in Music 7 using the LRMDS evaluation too for non-print material? 4) What are the pre-test and post-test scores of Grade 7 learners in Music 7? 5) What is the significant difference between the Pre-Test and Post-test results after using the Develop Digital-Assisted Instruction in Music 7? and 6) What enhancement can be integrated to improve the digital assisted instruction in Music 7. The steps employed in the research process were Analysis (Needs Analysis), Design, Development, Implementation, and Evaluation.

V. FINDINGS

The following are the major findings of the study:

1. Based on the item analysis in the second quarter in MAPEH, there are identified top 5 least mastered skills which served as the basis for the development of Digital-Assisted Instruction that had been used as an intervention material by the respondents. Among those competencies were: (1) performing music of Cordillera. Mindoro, Palawan, and of the Visayas with accompaniment, (2) identify the musical instruments and other sound sources from Cordillera, Mindoro, Palawan, and of the Visayas, (3) discover ways of producing sounds on a variety of sources similar to instruments being studied, and (4) improvises simple rhythmic/melodic accompaniments to a selected music from the Cordillera, Mindoro, Palawan and of the Visayas (5)explain the distinguishing characteristics of representative music from Cordillera, Mindoro, Palawan, and the Visayas concerning its culture and geography
2. To address the skill gaps among the Grade 7 learners in Music, the researcher proposed and developed a non-print intervention material named “MusiKaalaman: A Digital-Assisted Instruction for Music 7”. This material is a game-based application that has been created in EdApp: Mobile LMS, an online or offline platform. The developed material contains a set of activities, videos, and modules which the learners can do independently and at their own pacing. The utilization of the materials among respondents contributed to the improvement of their performance in the Music component of MAPEH.
3. The digital-assisted material had gone through evaluation using the Learning Resource Management Development System (LRMDS) criteria such as content and format quality, instructional quality, technicality, and other findings. Based on the evaluation, it was revealed

that the material conformed to the LRMDS standards and passed the minimum requirements as shown in the scores given by the evaluators. Content and quality scored 39.2, instructional quality scored 39.8, technicality scored 50.2, and other findings scored 15.8.

4. The average score of the pre-test conducted for Basud National High School, San Felipe National High School, and Dominador Narido High School was computed as 8.28, 6.95, and 7.10 respectively. On the other hand, the average score of the post-test was computed as 10.42, 9.70, and 10.43 respectively. The post-result result shows an increase in the computed average scores among the three (3) schools. It can be gleaned that the learners gained knowledge after they utilized the developed intervention material. However, the result of the average score does not meet the mastery level of the learners on the identified least-mastered competencies.
5. It was found that there is a significant difference between the student's pre-test and post-test scores. The results yield the t-test value of -14.192 which is less than the critical value of -1.96, therefore the null hypothesis had been rejected and established a significant difference. This means that using digital-assisted instruction in Music 7 increased the learners' level of performance.
6. According to the evaluators, several factors or indicators need to be modified in order for the material to fully conform to the set standards. The suggestions for improvement were: 1) Include activities that will encourage learners to think more critically by including more HOTS questions; 2) Properly cite the codes from the MELCS; 3) Material should limit and identify audio that is appropriate for learners; 4) Indicators about speech and narration (correct pacing, intonation, and pronunciation) should be made clearer and can be easily understood; 5) Enhance the visuals to sustain interest but should not distract the user's attention; 6) Design must be easily and independently use, should run with minimum requirements, and free from technical problems; 7) Correct the minimal typographical errors; 8) Include instruction that is appropriate for the target user's age and stage of learning; and 9) Localization of language is also encouraged to ensure the effective utilization of the Digital-Assisted Instruction for Music 7 since it is intended for students with a low mastery level.

CONCLUSION

Based on the findings, the following conclusions were drawn:

1. The top least mastered competency is the learners' application of learning, the understanding of knowledge that is being able to apply it to real-world exercises, difficulties, or situations that are not met during regular class teaching. Meanwhile, the lowest competency revealed that the learners can simply recall concepts or remember previously learned information. These gaps must be addressed before the learners level up to the next grade level for the same results not to come out they their level escalate.
2. The developed digital-assisted instruction which is a game-based application can be used as an intervention material that supports 21st-century learners wherein they are given opportunities to learn in various means for the improvement of performance. Furthermore, the material can be adapted to a range of classroom circumstances in which learners are given the opportunity to study in a variety of ways.
3. The developed digital-assisted instruction for Music 7 met all the needed criteria based on requirements for evaluating non-print materials set by the LRMDS. This is an intervention material that would help learners with low mastery to achieve and reach the mastery level. Based on the evaluation, it was useful to the present education setup wherein students are hooked by the use of technology like gadgets and other electronic devices.
4. The developed digital instruction is a useful tool in increasing the academic achievement of Grade 7 learners in the Basud District. It facilitates the learning of struggling learners to counter their difficulties in Music as a component of the MAPEH subject. ICT integration also contributes to a more child-centered approach to teaching, thus, addressing their individual learning needs. However, the use of Digital-Assisted instruction itself would not be enough to cater to all the difficulties of struggling learners. Because of the learning loss caused by the pandemic, the teacher

needs to exert more effort to have individualized instruction and educational activities that can be facilitated through portable instructional material like the Digital-Assisted Instruction for Music 7. Likewise, assistance from parents at home is necessary for the mastery level of least-mastered competencies.

5. The utilization of Digital-Assisted Instruction for Music 7 has impacted learners' academic achievement. It was clear that the Digital Assisted Instruction had addressed the identified learning gaps in the subject.
6. The evaluators agreed that teaching Music would become more effective when supported by the developed digital-assisted instruction since additional senses - visual and auditory - are engaged. However, some factors/indicators can be improved, such as content, used music, and visualization of the developed digital-assisted instruction in music to achieve the objectives and help learners grasp the lesson.

RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations were provided:

1. Every learning gap among learners must be addressed before they move to the next higher grade level. The teachers must ensure that instructions, as well as the instructional materials, complement the types of learners inside the classroom. Teachers must look into the impact of infusing technology in the teaching-learning process knowing the fact that most learners nowadays are considered digital natives.
2. The developed digital-assisted instruction must be used as additional supplementary material in teaching and learning Music. This is in response to the lack of resource material for teachers in teaching the subject. Future researchers should replicate this study to include different locales and include different features of the material aside from those mentioned in this study.
3. Although the digital-assisted instruction had been found to conform to the LRMDS standards some aspects must be modified especially those factors or indicators which were not rated 4 or did not receive the perfect score. Possible improvements in the application interface must also be looked into especially those which were not covered by the LRMDS evaluation tool.
4. The utilization of the intervention material had been proven to bring improvement in the performance of the respondents as revealed in the means of pre-test and post-tests, it is still recommended that the material must be tested on a large number of students to further establish the validity and integrity of its impact. In addition, enhance the material wherein students can have a mastery level of the specific competency.
5. It has been proven that the utilization of digital-assisted materials had brought a significant difference in the performance of the learners, it is recommended that the material must be introduced to other schools to benefit a wider group of learners, educators, and educator leaders. The initiative may imbibe inspiration among teachers to also look into their own gaps and propose similar material not only in MAPEH but also to the rest of the learning areas.
6. Since other teachers in the division may not be aware of the benefits of utilizing EdApp and its potential impact on the teaching-learning process, the developed digital-assisted material must be presented as one of the innovations or initiatives in MAPEH. It is also recommended that periodic evaluations of the application must be conducted to ensure its full functionality. Similar materials may also be developed to address the learning gaps in other learning areas.

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