Assessing the Impact of Technology-Based Multimedia Tools in Pre-pandemic on Senior High School Students' Learning Performance

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ABSTRACT

Younger generations today are constantly growing where technology is always available. The ever-expanding world of students' interest in social media applications and websites is also increasing. This study aimed to determine what the extent of multimedia integration implementation is in instruction with reference to instructional, communication, organization, analytical/programming, expansive, and recreational. And to determine if there is a significant relationship between the level of multimedia integration and the academic performance of senior high school students. The respondents of this study were 70 senior high school teachers. The study employed the non-experimental descriptive correlational survey research design. The data were treated using simple percentage, weighted mean, coefficient of contingency. And the result of the study in terms of the multimedia integration implemented in instruction with reference to instructional, communication, organization, analytical/programming, expansive and recreational were all interpreted as High. And the significant relationship between multimedia integration and Academic Performance of Senior High School Students with the t-value of 0.0565, p-value which is <0.00, its alpha level is 0.005, thus Ho was rejected and found to be significant. Furthermore, based on the results, the researcher recommends an intervention program to level-up the integration of multimedia in the learning process and strategies of the senior high school teachers.

INTRODUCTION

Immediate admission of information has rationalized how students learn today. From an instructional point of view, teaching tools sound great, but with its growing occurrence in America's public schools, its true influence is progressively being revealed (McPherson & Schapiro, 2021). And the news is not all good. Caswell (2023) studied nearly high percent of teachers who considered that multimedia could be an easily distracted generation the students which results to short attention spans. About 60 percent said it slowed down students' ability to write and converse face to face, and almost half said it hurt critical thinking and their capability to do homework. Also, 74 percent of teachers believed students were being conditioned by the internet to find quick answers, leading to a loss of concentration (Insail et al., 2022). Back then, multimedia integration learning strategies open educational assets for transforming innovative model of instructional approach that would increase educational efficiency and the rate of learning.

Technology is everywhere in education (Nguyen et al., 2020). Many teachers in China have deviations on cognition to multimedia teaching, such as some teachers mistakenly think that they can give up the traditional teaching because of with multimedia, and some one-sided consider it is only the PowerPoint (PPT) courseware in multimedia teaching, and so on (Iswahyuono et al., 2023). Beginner teachers were more probable to use computers or the Internet as medium of instructions and to accomplish various teaching approaches.

For the education global concern and competency, the Philippine government decided to put up a national strategy for improving Internet access, identifying education as a key area that would benefit from Information, Communication, Technology (ICT) development (Kareem, 2018). Among the targets were that 99 percent of secondary schools and 80 percent of elementary schools in the country which should have had Internet access by 2016 (Navarro, 2022). Educators have seen firsthand the benefits of multimedia in the classroom setting. According to a study by IT Trade Association CompTIA (McClellan, 2024), around 75 percent of educators

think that technology has a positive influence in the education process.

The researcher thinks that multimedia is one of the best educational tools or techniques in addressing modern education, simultaneously, as it addresses the senses of sight and hearing of learning. According to Untari et al. (2020), multimedia application is a creative presentation of a combination of media such as sound, graphic, text and animation. The development of such applications supports education systems by improving knowledge sharing process and at the same time influence people to think creatively. Few attempts have been made on how the design of multimedia instruction can be informed by the science of learning and science of instruction, which yields principles of multimedia instructional design that are grounded in theory and based on evidence (Nilson & Goodson, 2021). Moreover, the relationship between multimedia science of learning and the science of instruction as traditional is reciprocal (Mafarja et al., 2024).

The purpose of the study was to propose an intervention scheme based on the multimedia integration and the academic performance of senior high school students. The specific objectives are enumerated as follows: to determine the extent of multiple integration implemented in instructions with reference to; instructional, communication, organization, analytical reading, expansive, and recreational, to determine the significant relationship between the level of multimedia integration and the academic performance of senior high school students. Moreover, intervention scheme will be also provided in order for educators to be able to enhance the skills on how to use computer-based multimedia lecture presentation more effectively in the teaching process.

Hypothesis

The null hypothesis was formulated and tested at α 0.05 level of significance that there is no significant relationship between the multimedia integration and the academic performance of senior high school students.

METHODOLOGY

Presented in this chapter are the research design, research locale, population and sample, research instruments, data collection and statistical tools.

Research Design

The study employed the descriptive correlational research design. This design focuses on determining the level of computer-based multimedia lecture presentation in science learning abilities of senior high school students which was the basis for proposed training design.

Research Respondents

The respondents for this study were senior high school teachers of one of the schools in Davao City with a total of 70 respondents. Universal sampling technique was utilized in taking all senior high school teachers assigned in different departments. This study was conducted during the 1st semester of the school year 2019-2020.

Research Locale

The study was conducted in St. John Paul II College of Davao located at Ecoland Drive, Matina, Davao City where the senior high school students in different strands were assessed on how far multimedia integration was integrated whether such integration influences the academic performance of the students. The institution has 4 Strands, General Academic Strands, Accountancy Business and Management, Science Technology Engineering and Mathematics, and Technical Vocational.

Research Instrument

The researcher adapted a questionnaire based on the study of Abrami and Wade (2015). The questionnaire was subjected to content validation by a pool of experts before its administration to the identified respondents. The mentioned questionnaire gauged the level of multimedia integration and the academic performance of senior high school students, which was the basis for coping intervention program with indicators: instructional,

communication, organization, analytical reading, expansive, recreational.

The variable of the study was scaled using the 5-level Likert scaling system as follows:

Range of Means	Descriptive Level	Interpretation
4.20-5.00	Very High	Multimedia Integration and Academic Performance of Senior High School Students always manifested
3.40-4.14	High	Multimedia Integration and Academic Performance of Senior High School Students often manifested
2.60-3.39	Moderate	Multimedia Integration and Academic Performance of Senior High School Students sometimes manifested
1.80-2.59	Low	Multimedia Integration and Academic Performance of Senior High School Students rarely manifested
1.00-1.79	Very Low	Multimedia Integration and Academic Performance of Senior High School Students never manifested

Ethical Considerations

The researcher is accountable for the personal information of the research participants which would remain anonymous. The researcher has a big responsibility and duty to consider the confidentiality of their responses as this would establish good relationship between the participants and the researcher. In the ethics literature, confidentiality is commonly views as akin to the principle of privacy (Oliver & Gregory, 2003). It is a pivotal matter to take into consideration the ethical concerns because this is to protect the research participants and would not cause harm against them. The researcher ensured that the involvement of the research participants was purely voluntary, and the respondents were fully informed regarding the procedures of the research study and their role as respondents. Possible research participants had the free will to make a decision on their engagement for the study and were free from any forced persuasion.

Statistical Tools

The data were treated using the following statistical tools:

Simple Percentage was used to quantify the academic performance of senior high school students during the first semester of school year 2019-2020. Weighted Mean was used in quantifying as to what extent multimedia integration implemented in instruction with reference to: instructional, communication, organization, analytical reading, expansive and recreational. Coefficient of Contingency was employed in determining the significant relationship between the level of multimedia integration and the academic performance of Senior High School students.

RESULTS AND DISCUSSION

This chapter presents the data gathered by the researcher. The presentation starts with the extent of multimedia integration implementation in instruction with reference to: instructional, communication, organization, analytical reading, expansive and recreational followed by the academic performance of senior high school students during the first semester of school year 2019-2020.

Presented in Table 1 is the extent of multimedia integration in instruction with reference to instructional, where instructions influence the style and quality of the learning procedure that somehow become one of the factors for an excellent academic performance.

Table 1. Extent of Multimedia Integration in Reference to Instructional.

As a teacher, I use…	Weighted Mean	Interpre-tation
1. educational sites in preparation for my lessons	3.70	High
2. tutorials for self-training using computers	4.14	High
3. tutorials for remediation (in class) using websites	3.20	Moderate
Overall Weighted Mean	3.68	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

Table 1 shows multimedia integration in instruction, such as used tutorials for self-training using computers had a highest weighted mean with 4.14 interpreted as High, which means often manifested. These technologies ultimately increased learners' retention by facilitating more active learning environment. Teachers used educational sites in preparation for the lessons had a weighted mean of 3.70 interpreted as High, which means often manifested. Cochran-Smith et al. (2020) reported that educational sites could make teachers more prepared and educate themselves further which would give a result of a high performance of students. And tutorials for remediation (in class) are using websites had a lowest weighted mean with 3.20 interpreted as Moderate, which means multimedia integration sometimes manifested. Romiszowski (2024) talk about two radically different learning environments. First is the traditional classroom which is overly structured and second is the multimedia classroom which is sometimes used for extension of learning like remedial classes.

This implies that the teachers integrate multimedia specifically in instructions in which they have the total weighted mean of 3.68 interpreted as High, which means the multimedia integration was often manifested. Thus, teachers often manifested the use of educational sites in preparation for lessons, tutorials for self-training using computers and for remediation in class using websites. Furthermore, if teachers would not incorporate these adoptions of new technology and the schools do not change along with society as far as technology is concerned, they would educate a group of students who do not have knowledge about the multimedia skills to compete and succeed in higher education or in the educational market, both nationally and globally (McHaney, 2023).

Presented in Table 2 is the extent of multimedia integration implemented in instruction with reference to communication where it is a source of information to the organizational sequence for decision-making process especially in bringing lessons to the classroom. If communication in class fails, the learning outcome also fails. Failure to communicate this successfully undermines the entire strategic effort and erodes trust in both learning process and outcome.

Table 2. Extent of multimedia integration in reference to communication

As a teacher, I use…	Weighted Mean	Interpre-tation
1. use e-email to communicate with other teachers.	4.46	High
2. use e-mail to communicate with students.	4.57	Very High
3. use e-mail to communicate with parents.	4.50	Very High
4. use LCD projector (a projector connected to a computer) or any digital laboratory in class.	4.10	High
5. create PowerPoint presentation to use in class.	4.57	Very High
Overall Weighted Mean	4.44	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

As reflected in Table 2, multimedia integration in communication, such as use of e-mail to communicate with students and create PowerPoint presentations to use in class had the highest and with the same weighted mean of 4.57 interpreted as Very High. It indicates that PowerPoint presentation is the best preferred anatomy teaching method along with the dissection technique. PowerPoint can also be a wonderful tool for students and teachers to give out information, if used properly (Chiu, 2020). Teachers use e-mail to communicate with parents had a weighted mean of 4.50 interpreted as Very High, which means this was always manifested. Stites et al. (2021) posits that parents indicated that they preferred emails once a week that were short, simple, and easy to read. In addition, parents appreciate when these emails had personal and specific information about their students once in a while. These parents appreciated these emails and used them to learn what was being taught in college. Use email to communicate with other teachers had a weighted mean of 4.46 as interpreted as High which means often manifested. For McHaney (2023) teachers appreciated the way they exchanged educational information through emails and sometimes personal matters, which increases gossip conversation.

According to Dar et al. (2022), the projector was not developed as a teacher labor saving device but more importantly it was designed to help the student better understand the subject material presented, which indicates that the teachers used LCD projected (a projector connected to a computer) or any Digital Laboratory in class had a weighted mean of 4.10 interpreted as High, which means this was often manifested.

This implies that the teachers integrated multimedia specifically in communicative processes in which they had the total weighted mean of 4.44 interpreted as Agree. Teachers often manifested the used of e-mail to communicate with other teachers, students, parents, used LCD projector (a projector connected to a computer) or any Digital Laboratory in class, create PowerPoint presentations to use in class. The information on how teachers communicate to the parents has generally remained the same over the years, but the way teachers communicate with parents today has changed considerably with the advent of email as well as the propagation of electronic and mobile devices. Still, it is significant to recognize that efficient communication is vital and that despite technological advances in communication especially in teaching approaches and strategies like using LCD for PowerPoint presentation, communication with those ones knows best is often as difficult as it ever has been (Chou, 2020).

Presented in Table 3 the extent of multimedia integration implemented in instruction with reference to organization, which organizations could use all symbolically generalized statement media of society especially in teaching- learning approaches and organizations that understand this option as part of their learning.

Table 3. Extent of multimedia integration in refence to organization.

As a teacher, I use…	Weighted Mean	Interpre-tation
1. keep tract of my upcoming laboratories and materials to be used in the activities through online.	4.07	High
2. became prepared with my handouts, test/quizzes and homework assignment through multimedia.	3.96	High
3. search the internet for information of certain lesson.	4.69	Very High
Overall Weighted Mean	4.24	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

Table 3 reflects the multimedia integration in organizational processes. Search the Internet for information of a certain lesson had the highest weighted mean of 4.69 interpreted as Very High, which means this was always manifested. There is a high significant integration of multimedia. Through the internet, teachers and learners could search for information and processing the acquired information is a complex cognitive process that requires learners and teachers to verify, evaluate, organize and synthesize information obtained from different sources (Beach et al., 2020).

In terms of keeping track of upcoming laboratories and materials to be used in the activities through online had a weighted mean of 4.07 interpreted as High while became prepared with handouts, tests/quizzes and homework assignment through multimedia had a weighted mean of 3.96 interpreted as High, which means both were often manifested. This encourages teachers to take responsibility for their own learning and to provide a resource to help students focus their study efforts. The system is designed for students that want to further their knowledge using the potential of the multimedia in teaching for educational success. This approach allows the teacher to give graded homework assignments with feedback by the use of online material without having to invest considerable time typically required in grading homework assignments using comfortable multimedia (Buitrago-Florez et al., 2020).

This implies that the teachers integrated multimedia specifically in organizational processes, which garnered a total weighted mean of 4.24 interpreted as High, which means this was often manifested. Teachers often manifested the integration of multimedia to keep track of upcoming laboratories and materials to be used in the activities through online, prepared with handouts, tests/quizzes and homework assignment through multimedia, searched the Internet for information of a certain lesson. Teachers help students to understand the most relevant parts of all subjects. Multimedia applications also help teachers to prepare teaching materials and teaching assessment in less time than it would take without the use of such applications (Abdulrahaman et al., 2020).

Presented in Table 4 is the extent of multimedia integration implemented in instruction with reference to analytical/programming. This aids like creating charts and graphs via online should support the curriculum rather than dominate it.

Table 4. Extent of multimedia integration in reference to analytical/programming

As a teacher, I use…	Weighted Mean	Interpre-tation
1. create charts or graphs using online via computer	3.89	High
2. create a class/school website or put my work online	3.39	Moderate
3. analyze the materials to be used in the laboratory exercises.	4.61	Very High
4. use internet in making graphs as well as reading and writing blogs	4.26	High
Overall Weighted Mean	4.09	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

Table 4 shows multimedia integration in analytical/programming. The statement “analyze the materials to be used in the laboratory exercises” had the highest weighted mean of 4.61 interpreted as Very High, which means this was always manifested. The literacy of analyzing such laboratory activities with complex procedure is one of the best characteristics of a teacher. According to Shunkov (2022), multimedia tools include well planned programs that suggest the teacher’s role and potential by adding a variety of educational fundamentals to the cognitive process which assist them investigate, interact, apply, and create further instructional procedure. “Use internet in making graphs as well as reading and writing blogs” had a weighted mean of 4.26 interpreted as High, which means this was often manifested, like teachers now indulging internet as an extension of notes which students would be required to create their own narrative reports as a writing blog and to be passed to a given deadline. The opportunities are in expanded access and text selection. The statement “create charts or graphs using online of via computer” had a weighted mean of 3.89 interpreted as High, which means this was often manifested.

Another way around, multimedia integration in analytical/programming, such as create a class/school website or put my work online had a weighted mean of 3.39 interpreted as Moderate, which means this was sometimes manifested. It became sometimes manifested because the challenges of teachers on how to use technology in modern media requires understanding and intervention (Hennesy et al., 2022). Tohara (2021) acknowledges that

the digital age is not about technology. It is about what the teachers and the learners are doing with the technology to extend their capabilities as learners. It is not just about how to create a class on website or put the teachers' work online but how technology is used in a proper and effective way.

This implies that the teachers integrate multimedia specifically in analytical/ programming with a total weighted mean of 4.09 interpreted as High, meaning this was often manifested. Teachers often manifested the integration of multimedia in creating charts or graphs using online platforms via computer, creating a class/school website or put work on-line, analyzing the materials to be used in the laboratory exercises, use internet in making graphs as well as reading and writing blogs. Teachers should use internet to sharpen one's ability to search and analyze information (Nasution & Afrianti, 2022). The students at Van Meter use their laptops for virtual reality programs and creating Prezi software slideshows for data analysis. They use the internet in making graphs and reading and writing blogs.

Presented in Table 5 the extent of multimedia integration implemented in instruction with reference to expansive which focuses not just the common techniques used in the classroom setting but also on the use of advanced tools and materials in accelerating and advancing the learning process in the classroom.

Table 5. Extent of multimedia integration in reference to expansive

As a teacher, I use…	Weighted Mean	Interpre-tation
1. conduct experiments or laboratory exercise (in class/school lab) with instruction projected	4.04	High
2. use 3D software modeling or simulations (in class/school lab).	3.83	High
3. use word processor such as Microsoft word.	4.56	Very High
4. use Audio Visual Room (AVR) to lecture presentation.	4.31	High
5. maintain an online journal (dairy) or discussion board online.	3.91	High
Overall Weighted Mean	4.26	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

Table 5 shows multimedia integration in expansive. The statement "use a word processor such as Microsoft word" had the highest weighted mean of 4.56 interpreted as Very High, which means this was always manifested. Mailizar and Fan (2020) suggests that most teachers should have a basic understanding of how to use word processing software, such as Microsoft Word, which is available on all school computers. If teachers know how to use the internet and maximize the accessibility of a wide variety of information like databases and word processors, it would provide a synchronization of teaching techniques (Svetsky & Moravcik, 2022).

Use Audio Visual Room (AVR) for lecture presentation has a weighted mean of 4.31 interpreted as High, conduct experiments or laboratory exercises (in class/school lab) with instruction projected has a weighted mean of 4.04 interpreted as High, maintain an on-line journal (diary) or discussion board online has a weighted mean of 3.91 interpreted as High, and use 3-d modeling software or simulations (in class/school lab) has a weighted mean of 3.83 interpreted as High are all often manifested. Accordingly, multimedia integration aims to improve spatial skills of students by conducting activities with instruction projected and being emphasized. Many researchers have studied alternative methods and tools such as concrete and virtual 3D models which could be used effectively in spatial ability training. At this point, 3D modeling via computer technologies has a special place in the context (Carvajal, 2020). Rahmawati et al. (2021) aimed to improve university students' spatial abilities in the activities they developed using different 3D software. It was seen that the teachers who supported with software proved to be more successful at spatial ability tests than the teachers who used traditional education tools (del Cerro Velázquez & Morales Méndez, 2021).

It implies that the teachers integrate multimedia in expansive processes, which obtained an overall weighted mean of 4.26 interpreted as High, which means multimedia integration of teachers was often manifested. Teachers often manifest the integration of multimedia in conducting experiments or laboratory exercises (in class/school lab) with instruction projected, use 3-d modeling software or simulations (in class/school lab), use Audio Visual Room (AVR) for lecture presentation, use a word processor such as Microsoft word, maintain an on-line journal (diary) or discussion board online. On the other side, by expanding these activities, experimental studies could be developed for utilization of online journals, 3D software, audio visual room (AVR) and even discussion online for higher results. It is known that any course designed with the use of these softwares, extended room like Audio Visual Room or online classroom would be able to improve teachers' candidates' spatial and expansive abilities.

Presented in Table 6 the extent of multimedia integration implemented in instruction with reference to recreational where technology can be also used for stimulating the many senses of the audience, which consequently leads to better attention and retention rates. At the heart of any digital multimedia development is interactivity and creativity.

Table 6. Extent of multimedia integration in reference to recreational.

As a teacher, I use…	Weighted Mean	Interpre-tation
1. use drawing or paint programs	4.09	High
2. use drawing tools as strategies for engaging learning	3.67	High
3. Use digital video, digital cameras for presentation	4.00	High
Overall Weighted Mean	3.92	High

Legend: 4.20-5.00-Very High; 3.40-4.19-High; 2.60-3.39- Moderate; 1.80-2.59-Low; 1.00-1.79-Very Low

Table 6 shows multimedia integration in recreational. The statement "use drawing or paint programs" got the highest weighted mean of 4.09 interpreted as High, which means this was often manifested. This implies that it is essential to keep in mind that all art educators might not be trained in implementing partial participation, creating task analyses, using prompting strategies (e.g., least prompts), and adapting assessments (e.g., individualized rubrics based on specific student capabilities). Good instruction used in other settings should be carried over into the art classroom (Goldberg, 2021).

The statement "use digital video, digital cameras for presentations" got a weighted mean of 4.00 interpreted as High and "use multimedia tools as strategies for engaging learning" got a weighted mean of 3.67 interpreted as High, which means the recreational was often manifested. Teachers often use digital video, digital cameras as a tool for exploring and presenting the learning in a creative way, which is where students could learn best. For Santana (2022), art is about self-expression; participating in the process is much more important than having a perfect final product.

The statement "teachers integrate multimedia in creative ways" obtained an overall weighted mean of 3.92 interpreted as High, which means this was often manifested. Teachers often integrate multimedia in a creative way like using drawing or paint programs, multimedia tools as strategies for engaging learning, and digital video, digital cameras for presentations of learning. But when students are not able to use drawing, coloring, or painting implements, middle or high technology solutions might provide access to participation in art activities. These solutions might be more meaningful than having someone else draw or paint for the student or even more meaningful than receiving hand- overhand or hand-under-hand assistance (Grattan, 2020).

A study by Tusiime et al. (2022) found that access to technological resources was one of the effective ways to teacher's pedagogical use of ICT in teaching and digital literacy and painting.

Presented in table 7 the academic performance of the senior high school students during the first semester of the school year 2019-2020. This explains the actual performance of the students in the integration of the technology in the classroom setting and how the teachers multimedia as part of the learning process. The academic performance of the students is now dependent to the technological competence especially in the continuity of the education even in the middle of pandemic.

Table 7. Academic performance of senior high school students

Academic Performance	**n**	**Hypothetical**	**Actual**	**Standard**	**Computed**	**Critical**	**Description**
(First Semester)		**Mean**	**Mean**	**Deviation**	**z**	**value of z**	
First Grading	200	75	84.82	4.9	-28.06	1.96	**Above Average**
Second Grading	200	75	86.54	4.4	-37.23	1.96	**Above Average**
Average	200	75	85.68	4.53	-32.65	1.96	**Above Average**

Legend: value of z - <1.96 – above average; >1.96 – below average

As reflected in Table 7, in first semester first grading, the academic performance of senior high school students obtained an actual mean of 84.82 with a standard deviation of 4.90. The computed z is -28.06, which is lower than the critical value at 1.96 at a = 0.05 level of significance. In the second grading, the academic performance of senior high school students obtained an actual mean of 86. 54 with a standard deviation of 4.40; the computed z is -37.23 which is lower than the critical value at 1.96 at a = 0.05 level of significance. In addition, the average shows that the senior high school students obtained an actual mean of 85.68 with a standard deviation of 4.53; the computed z-value is -32.65 which is lower than the critical value at 1.96 at a = 0.05 level of significance.

The actual mean of the first quarter is 84.82 which turned into 86.54 in second quarter. The increase of actual mean represents that student were performing well as they experienced the best academic structure to graduate in a timely manner (Kumar et al., 2021).

This is significant. This means that there is a significant difference in the hypothetical mean and the actual mean of the academic performance of senior high school students;

this implies that the academic performance of senior high school students was above average. There is anecdotal evidence suggesting that marginal students perform worse if the academic calendar runs on 10-week quarters and students perform well in changing the way in teaching (Kumar et al., 2021).

Present in Table 8 is the significant relationship between the level of multimedia integration and the academic performance of the senior high school students in the school year 2019-2020. This includes the influential effect of multimedia integration in the learning process of the students to achieve positive learning output.

Table 8. Significant relation ship between the level of multimedia integration and the academic performance of senior high school students.

Level of Multimedia Integration		**Mean**		**station**	**SS**	**MS**	**df**	**t-value**	**sig.**	**a**	**Interpretation**
1. Instructional	70	3.68									
2.Communicative	70	4.44	0.3	**High**	0.3	0.1	1	-0.057	0	0.01	Significant

3. Organizational	70	4.24									
4.Analytical/ Programming	70	4.09									
5.Expansive	70	4.26									
6. Creative	70	3.92									
Average	**70**	**4.11**									
Academic Excellence	200	85.68	4.5	**VS**							

Legend: p-value < 0.05 Significant

Table 8 revealed the significant relationship between multimedia integration and Academic Performance of Senior High School Students. Table 8 also revealed that the level of multimedia integration of the teachers in terms of instructional, communicative, organizational, analytical programming, expansive and creative has a weighted mean of 4.11 standard deviation of 0.27.

The data reveals that the computer-Based multimedia lecture presentation in Science Learning abilities of Senior High School students is always manifested and it is interpreted as high because the weighted mean of 4.11 which is under the range of 3.40 -4.19. On the other hand, the academic performance of senior high school students has a mean of 85.68 and standard deviation of 4.53. The data reveals that the academic performance of Senior High School Students is interpreted as Very Satisfactory but does not qualify as With Honors, With High Honors and With Highest Honors based on the New K- 12 Grading System.

The data shows that there is a significant relationship between multimedia integration and Academic Performance of Senior High School Students with the t-value of 0.0565, p-value which is<0.00, its alpha level is 0.005, thus Ho was rejected and found to be significant.

This shows that the computed p-value is lower than tabular alpha which is 0.05 value indicating that the relationship between multimedia integration and Academic Performance of Senior High School Students. In layman's language, the data revealed directly proportional which means that if the multimedia integration is intensified and implemented then the academic performance of the students will be excellent and proficient in terms of academics. Moreover, multimedia creates new styles and strategies in teaching that might influence content-specific activity structures, as an alternative to existing professional growth and expansion approaches which affects the academic performance of students (Harris et al., 2014). This clarifies how this new way of thinking may reasonably and completely support teachers and teacher educators' technology integration efforts.

CONCLUSION AND RECOMMENTATION

The result of the study partially confirmed the innovation decision process theory of Roger (1995) and technology, pedagogy, and content knowledge (TPACK) of Harris, Punya, and Koehler (2014). These theories emphasize the disciplinary arrangement of intermediaries between the media and the learners requiring teachers to adopt multifarious knowledge across effective technology integration resulting to effective acquisition experience of students. Based on the findings of the study, the following conclusions are given:

The multimedia integration implemented in instruction with reference to instructional would be an important aspect of multimedia integration since it is a guiding process by the learner in seeking information online. Communication and organizational were actually a good choice of senior high school teachers which it is a wonderful tool for students and teachers to give out information using multimedia, if used properly, compared to traditional concepts. To add, analytical/programming, expansive and recreational were also assessed by senior

high school teachers and concluded that technology in learning can be an effective tool in the classroom teaching strategies and with proper implementation and application of these technology, it would provide success learning experience of student's performance to achieve academic success.

SOP2. The technology as integrated strategy in the learning process to the academic performance of the students has influenced the learning by using multimedia integration from teachers who used multimedia in the classroom. Furthermore, the classroom with the use of multimedia found out that the grades of the students increase after the integration of the technology in the classroom setting. Multimedia integration could influence the academic performance of the senior high school students. Meaning, the circumstances for victorious learning experience with the multimedia integration finally appear to be part of the academic success.

Based on the above reports, the researcher recommends that the proposed intervention program be considered by the senior high school teachers in integrating multimedia in the learning procedure. Essentially, the purpose of the intervention program may assist the senior high school teacher to level-up the integration of multimedia as an instrument for the positive learning of the students. Also, the researcher recommends the admission to support the internet accessibility of the faculty since it can help to further explore the knowledge that may effectively influence the process of the learning context. Senior high school teachers must continuously focus on the proper integration of multimedia which will be a factor on the successful learning outcome and professional development of the students.

To the school administration, they must consider the instructional, communication, organization, analytical/programming, expansive and recreational in formulating the flow of each plan towards the recommended intervention program, giving much emphasized on the involvement of the integration of multimedia in teaching-learning styles and strategies for teachers. Thus, include ready admission to multimedia, increase the training for teachers, and a favorable policy environment, provide high-level multimedia usage in the classroom setting and it suggests that supplementary barriers, particularly associated to teachers' pedagogical beliefs, may be at work.

To the senior high school teachers and to all teachers, they may consider the adjustment of the new integration using multimedia as a tool in the learning process to students for excellent competence, not only in local but also in global arena. And the researcher suggests that multimedia programs as an efficient and effective means in teaching towards the senior high school teachers must have trainings for technical skill and conceptual development. This will result to teachers could save time, increase teaching styles, and increase motivation to learners by involving them in the learning process. Furthermore, the senior high school students can now appreciate a conducive classroom atmosphere where they can learn best and possibly be the best version of themselves in the learning process to achieve a high learning competence.

And the future researchers should enhance the data and information from the result of the study and could be used as reference and data baseline of researchers who would undergo in-depth study.

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