

Multi-media Utilization in Teaching-Learning Process

Nathalie Jane I. Duya, MAEd

Public School Teacher, DepEd-Negros Oriental Division, Negros Oriental, Philippines

Abstract

This study aimed to determine the utilization of multi-media in teaching learning process in Manalongon Nicolas N. Lajot Central School, Sta. Catalina District I, involving 95 respondents of 46 male and 49 female, using the whole population of Grade V during the SY 2017-2018. This study is a descriptive design as the main data gathering instrument. The modified questionnaire was based on the questionnaire of Demetrio Catid. Since this was a modified questionnaire, the trial run was conducted in Mabuhay Elementary School, to find out the internal reliability and consistency of the items the researcher used cronbach alpha. The questionnaire was divided into two parts. Part one was the respondent's demographic profile and part two was the areas of multi-media utilization in teaching-learning process. The study utilized the frequency distribution, percentage, weighted mean and composite mean for the statistical treatment. Findings revealed the following: The composite mean obtained in the following areas were: learner's motivation 3.56 (Very Helpful), learner's cognition 3.49 (Very Helpful), learner's interaction 3.44 (Very Helpful), the learner's engagement 3.22 (Very Helpful). Recommendations included the following: that the teachers must be computer literate; that multimedia be used frequently in teaching to encourage learners to be active in the class, that the school must have enough computer units and a skilled personnel to maintain and secure the technological devices prey from vandals.performance.

Keywords: *Multi-media, Utilization, Teaching-Learning Process, Philippines*

I. INTRODUCTION

The world is rapidly changing. The field of education is experiencing these changes in particular in the field of media services. Children of today have become dependent on technologies, they are considered "digital natives" (Jones, 2014). Digital natives are said to be fluent in today's social technologies. They live in a world where within seconds they can call up any fact that they want; have instant access to the latest songs, films and photos with less effort; possess the ability to interact with friends across the globe within seconds both by typing and talking. They can get help from experts without even leaving the house. They can easily create impressive media such as music, movies and images and publish it for everyone to share and comment on. They are digital natives who do not know life without the ability to do these things.

Technology is everywhere. It has entwined in almost every part of people's lives. It affects how they shop, socialize, connect, play, and most importantly learn. In today's society, people have begun to gain knowledge through computers, internet, television, smart phones, and other types of media. It has become apparent that society as a whole is changing the way it gathers stores and receives information.

Multimedia education is now gaining grounds in the classrooms. Multimedia is a variety from audio, video, animation and interactive features though computers and electronic devices and bring different form of

media together. It is use a massive amount in entertainment and art by audio, video and animation. The advantages of integrating multimedia in the classroom are many, though participation in multimedia activities, learners can learn real-world skills related to technology like the value of teamwork; effective collaboration techniques.

Technology allows people easy access to information and communicates with each other. With its great increasing importance in the young children's lives, it also makes sense to have technology especially in the field of education. An experienced teacher using technology in the classroom revealed that if technology is used correctly it opens up possibilities for more students' learning. It makes the classroom learning fun, an engaging place to gain knowledge and understanding daily. Integrating technology into the classroom in a meaningful and purposeful way holds and sustains a student's love for learning (Elliott, 2016; Comighud, 2019; Comighud & Arevalo, 2020; Pillado, Futralan, & Comighud, 2020).

Technology has the ability to enhance relationships between teachers and students. Thus, when teachers effectively integrate technology into subject areas, teachers grow into roles of adviser, content expert, and coach. Technology helps make teaching and learning more meaningful and fun. Students are also able to collaborate with their own classmates through technological applications (Pine Cove, 2018).

Thus, it is the desire of the researcher to study the utilization of multi-media in teaching-learning process of the three grade V sections in Manalongon Nicolas Nalam Lajot Central School, Sta. Catalina District I.

II. METHODOLOGY

Research Design

This study is a survey that follows a descriptive design type of research. The objective of this study was to determine the grade V pupils perceptions on the use of the available multimedia in Manalongon Nicolas N. Lajot Central School, School Year 2017-2018.

The modified adopted questionnaire was used to determine the respondents' demographic profile; age, sex, number of years in school, previous average grade in Grade IV and gadgets used and available at home.

Research Environment

This study was conducted in Nicolas N. Lajot Central School, Sta. Catalina District 1 of the 3rd Congressional District, Division of Negros Oriental, is located in Barangay Manalongon Negros Oriental,.

Manalongon is a barangay school located 80 kms from Dumaguete City. It has been a consistent awardee of the Clean and Green Search in the Annual Buglasan festival of the Province. It was an awardee of the Best Brigada Implementer Reflective School Community Partnership.

This school has twelve (12) computer units in an air-conditioned ICT Room as seen on Appendix I , page 61 .An ICT Teacher has been designated. The school has an internet connection. Learners perform hands-on computer activities with the guidance of the ICT teacher.

Research Respondents

The respondents of this study were the grade V learners of Manalaongon Nicolas N. Lajot Central School. The three grade V sections namely Hyacinth, Lirio, and Rose, had a total of 95 learners distributed as follows:

Section	Male	Female	Total
Hyacinth	14	18	32
Lirio	18	15	33
Rose	17	13	30
TOTAL	46	49	95

Research Instruments

The researcher modified adopted survey questionnaire coupled with unstructured interviews were the data gathering instruments used. The questionnaire was patterned after that of Demetrio Catid in his research. A copy of the permission letter e-mailed to Mr. Calid is found on Appendix G, page 58. Since the latter’s instrument was more on the use of the power point presentation in teaching Science and Technology, the researcher modified the statements from each question. The modified version was then subjected to review by the panellists before it was finalized.

The questionnaire was divided into two parts namely: Part I. The personal information of the respondents and Part II was on the four areas: learner’s motivation, learner’s cognition. Learner’s interaction and learner’s engagement. Since the questionnaire was an adopted one with modifications, in some portions, the researcher conducted a trial run in Mabuhay Elementary School which yielded a Cronbach alpha of 0.96945841 (excellent). After the validity and reliability was determined in the trial-run the final administration of the questionnaire followed.

Research Data Gathering Procedure

After the design hearing, the researcher integrated all the comments and suggestions of the panel members. The critique on the questionnaire followed and was later finalized. Then the researcher made a letter of request for the trial-run and the final administration of the .questionnaire. The permission letter was signed by the dean of the graduate school and transmitted to the Division Office for approval from the Division Superintendent. The endorsement and approved letter from the Schools Division Superintendent together with a letter of request was presented to the District Supervisor for which the latter endorsed the approved request letter to the principal. Upon the principal’s approval, the researcher then visited each classroom to meet the advisers and the grade V pupils from the three sections.

During the distribution, the researcher gave the instruction and explained to the grade V pupils what to do. The respondents were also enlightened on the purpose of the research. The answered questionnaires were retrieved after the respondents answered the questions and subjected to statistical treatment. But before the final administration of the questionnaire, the researcher conducted a trial run in Mabuhay Elementary School which yielded a Cronbach alpha of 0.96945841(excellent).

III. RESULTS AND DISCUSSION

This section presents the result of the study and provides in-depth analysis and interpretation of data.

1. Profile of the Learners

Table 1.1. Age

Age	Total	Percentage
	(f)	(%)
10 yrs old & below	56	58.95%
11 yrs old	37	38.95%
12 yrs old	2	2.11%
13 yrs old & above	0	0.00%
Total	95	100.00%

The table shows the age of the respondents. Of the 95 total respondents, there were 56 (9 58.95%) aging 10 and below; 37 (38%) were 11 years old; 2 (2.11%) were 12 years old. The results hold that the grade V learners are mostly 10 years old and below. Being at this age and endowed with millennial characteristics the learners are mobile, dynamic and highly interactive. This implied that the learners more or less fall within the age range of 10-12. In the field of Psychology these learners who are within the same range are regarded as possessing the same interest and level of maturity. They are the Children of today who are exposed to the use of cellphones and other gadgets. In short they have become dependent on technologies, they are considered “digital natives” (Jones, 2014).

Table 1.2. Sex

Section	Male		Female		Total	Percentage
	f	%	f	(%		
Hyacinth	14	14.74%	18	18.95%	32	33.68%
Lirio	18	18.95%	15	15.79%	33	34.74%
Rose	17	17.89%	13	13.68%	30	31.58%
Total	49	51.58%	46	48.42%	95	100.00%

Table 1.2 presents the sex of the respondents. The data showed that there were 46 (51.58%)female and 49 (48.42% male). Generally girls outnumbered the boys in class but here they have almost the same number with a difference of one. On the subject towards accommodating gender differences in multimedia communication no true experiments in the strictest sense can be conducted in gender-related issues, empirical research in many related disciplines.(Klecum,2012). Regardless of sex no difference of the

multimedia effect can be ascertained. Moreover from this table, it could be deduced that sex has no room for special treatment on the use of the computers. Generally, female are given preference than male since boys always give way to the female. This is generally evident when the number of computers is limited. Thus, there is no need for the teacher to have special treatment for a preferred sex because of the great number of girls. All these were gleaned through observation and informal interviews both the teacher and learner’s concern. Gender sensitivity is then respected. This has also cultural basis since Filipinos have high regard with female.

Table 1.3. Number of Years in School

No. of years.	Hyacinth	Lirio	Rose	Total	Percentage
5	2	5	3	10	10.53%
6	3	2	5	10	10.53%
7	25	22	22	69	72.63%
8	2	4	0	6	6.32%
Total	32	33	30	95	100%

Table 1.3 presents the number of years in school of the respondents. The data above shows that the greatest number of school attendees was those attending school for 7 years with 69 (72.63%). The lowest number was those who attended school for 8 years with 6 (6.32%). The difference in the number of years in school among those from 6-8 years could be attributed to the one year stay either in day care or kindergarten. Learners’ length of stay in school be 6 years or more that would create a gap in computer-aided instruction. This is because computer learning specifically, age or years of experience is not a constraint in acquiring the skill.

Table 1.4. General Average in Grade IV

Grade	Male		Female		Total	Percentage
	f	%	f	%	F	%
75-79	9	9.47%	3	3.16%	12	12.63%
80-85	29	30.53%	37	38.95%	66	69.47%
86-89	5	5.26%	8	8.42%	13	13.68%
90-95	1	1.05%	3	3.16%	4	4.21%

The above table shows the general average in Grade IV, here 66 (69.47%) had a grade of 80-85% compose of 37 (39.95%) female and 29 (30.53%) male. The highest grade of 90-95% obtained a total of 4 (4.21%) of which 3 (3.76%) were female and 1(1.05%) was a male. On the range of 75-79%, 12 or (12.63%) obtained this rating. The implication is that the learners have average academic ratings. On this regard the teacher shared that the grade V pupils could easily be taught and are participative in class activities especially with the use of multimedia. This group of learners would be of help for the teachers because they are not only receptive to learning but they they are also responsible in handling multimedia equipment.

Table 1.5
Gadgets Used and Available at Home

Gadgets	Male		Female		Total	Percentage
	f	%	f	%		
Mobile phone	49	51.58%	46	48.42%	95	100.00%
Laptop	16	16.84%	15	15.79%	31	32.63%
Computer	5	5.26%	3	3.16%	8	8.42%
Tablet	13	13.68%	13	13.68%	26	27.37%

Table 1.5 shows the gadgets used and available at home. The data revealed that all of the learners used mobile phones which obtained 95 or 100%. There were only 31 or 32.63% learners who used laptop, 26 or 27.37% of the learners used tablet and there were only 8 or 8.42% having computers at home. The above data implied that the learners of today endeavour to possess gadgets and used them. This is a characteristics of the millennial. The millennial generation is <https://www.cpcc.edu/millennial> Actually this behaviour could be channelled so much so that the multimedia would facilitate learning. Thus, in the actual classroom setting mobile phones could be utilized to search for additional information and so do with computers.

2. The Extent of Helpfulness of Multi-media Instruction to Gauge Learning

Table 2.1. Learners’ Motivation

	A. Learner's Motivation	VH	H	SH	NH	F	Wx	Verbal Description
1	I am eager to attend classes when multimedia is being used.	68	26	1	0	95	3.71	Very Helpful
2	I am motivated to listen to the discussion when the topic is presented through the use of laptop/projector.	58	33	4	0	95	3.57	Very Helpful
3	I am not bored with the discussion throughout the learning period when technology is used.	62	29	3	1	95	3.60	Very Helpful
4	I can focus my attention to the topic presented with laptop/projector.	48	37	10	0	95	3.40	Very Helpful
5	I am inspired to learn about the topic after it was presented through technology.	64	20	10	1	95	3.55	Very Helpful
	Composite Mean						3.56	Very Helpful

Table 2.1 presents the learners’ motivation wherein the indicator “I am eager to attend class when multimedia is being used” obtained the highest weighted mean of 3.71 (Very Helpful). All the other indicators from indicators 2 to 5 had a weighted mean of 3.40 to 3.60 (Very Helpful). It is important to note the relationship of the top 3 behavior indicators: I am eager to attend Science class when multimedia is being used (3.71)., I am motivated to listen to the discussion when the topic is presented through the use of

laptop/projector (3.60)., I am not bored with the discussion throughout the learning period when technology is used.(3.57). All these boil down to the fact that interest is a motivating factor as seen in this lines “eager to attend”, “motivated to listen” and “not bored with the discussion”. Technology when used wisely is an enabler, motivating students to achieve, to excel, to think and to learn. This is related to the table on page 37 because the data then, pointed out their eagerness/interest to use computer. Multimedia composed of high quality teaching design could help arouse the intrinsic motivation of learners as well (Gilakjani, 2012). Motivation then is very important in the learning process. Relative to the use of appropriate software that it is an alternative method of teaching that has the potential of improving the performance and motivation of learners (Gweshe, 2014). Observation of the learners in Manalongon Nicolas N. Lajot Central School points out that when the teacher tells the learners to do hands-on activity, they were very active and excited, they were motivated to execute and perform the activity. The lowest weighted mean is item no. 4 “I can focus my attention to the topic presented with laptop/projector” it is said to be the lowest because some students could not focus their attention especially when they are not interested to the topic being discussed.

Table 2.2. Learners’ Cognition

	B. Learner's Cognition	VH	H	SH	NH	F	Wx	Verbal Description
1	Topics are presented can easily be understood when technology is used.	54	32	8	1	95	3.46	Very Helpful
2	My imagination on the concept presented is enhanced with the use of computer technology because it is more realistic.	63	27	6	0	95	3.59	Very Helpful
3	I can easily learn to use vocabulary words when it is presented in the laptop/projector.	51	34	6	3	95	3.41	Very Helpful
4	I can visualize clearly the process when laptop/projector is used.	59	29	7	0	95	3.55	Very Helpful
5	I can describe the events after it was presented through laptop/projector.	52	32	8	3	95	3.40	Very Helpful
6	I can easily remember important key points on the topic when it was presented through technology.	62	20	12	1	95	3.51	Very Helpful
	Composite Mean						3.49	Very Helpful

Table 2.2 presents the learners’ cognition on computer-aided instruction wherein the indicator “My imagination on the concept presented is enhanced with the use of computer technology because it is more realistic” obtained the highest weighted mean of 3.59 (Very Helpful). All other indicators had a weighted mean of 3.40-3.55 (Very Helpful). The above data pointed out that the imagination of the students will be developed and improved. Technology contributed to global development and diversity in classrooms and helped develop upon the fundamental building blocks needed for students to achieve more complex ideas. Many studies have discussed how multimedia affects the brains and impacts how much it is use affects the way that learners think and perform (Al-Hariri and Al-Hattami, 2016). Learners gather and analyse their own data as teachers guide them in the discovery of concepts. The lowest weighted mean was item no. 5 “I can describe the events after it was presented through laptop/projector”, obtained 3.40 (Very Helpful). This was said to be the lowest because it was difficult for them to understand the events that happened.

Table 2.3. Learners’ Interaction

	C. Interaction	VH	H	SH	NH	F	Wx	Verbal Description
1	I actively participate in the discussion when it is presented through the use of technology.	61	27	7	0	95	3.57	Very Helpful
2	I can easily take down notes from teacher’s discussion when it is shown in the laptop.	44	41	9	1	95	3.35	Very Helpful
3	I can comprehend teacher’s illustrations better when presented with the use of technology.	47	38	10	0	95	3.39	Very Helpful
4	I can easily understand teacher’s questions when presented in the laptop/projector.	50	38	6	1	95	3.44	Very Helpful
5	I feel that the class discussion is lively and facilitated with the use of technology.	55	30	10	0	95	3.47	Very Helpful
	Composite Mean						3.44	Very Helpful

Table 2.3 shows the interaction of the learner on computer-aided instruction wherein the highest indicator was item no. 1 “I actively participate in the discussion when it is presented through the use of technology” which obtained the weighted mean of 3.57 (Very Helpful). All other indicators obtained the weighted mean of 3.35-3.47 (Very Helpful). The data above demonstrates that the learners were really active and participative in the class discussion. With the use of technology, as learners were very active in the class discussion, they as well learn more because they were interested in the discussion. Multimedia as the powerful tool can provide individual and interactive instructions as well as motivation for practice in an entertainment environment (Arvind, 2014).). This help learners to give feedback in a timely manner, allows to maintain a dynamic interaction with the learners and teacher in regard to the content that are learning and applying. The lowest weighted mean was item no. 2 “I can easily take down notes from teacher’s discussion when it is shown in the laptop” that obtained 3.35 (Very Helpful). This was said to be the lowest because learners could not take down notes when the discussion was ongoing because attention was focused on the presentation.

Table 2.4. Learners’ Engagement

	D. Learner's Engagement	VH	H	SH	NH	F	Wx	Verbal Description
1	I can work fast enough to cope with the time allotted when the activity is clearly presented with laptop/projector	50	35	7	3	95	3.39	Very Helpful
2	I can answer fast enough and finish answering the questions presented in the laptop/projector	45	30	19	1	95	3.25	Very Helpful
3	I can save time in note taking when the topic is presented through laptop/projector.	33	38	17	7	95	3.02	Helpful
4	I can do difficult learning task easily when instructions are clearly presented in the laptop/projector.	47	27	16	5	95	3.22	Helpful
	Composite Mean						3.22	Helpful

The table above presents the learners’ engagement on computer-aided instruction wherein the highest weighted mean was item no. 1 “I can work fast enough to cope with the time allotted when the activity is clearly presented with laptop/projector” obtained 3.39 (Very Helpful). Indicator item no. 2 “I can answer fast enough and finish answering the questions presented in the laptop/projector” had a weighted mean of

3.25 (Very Helpful), indicator no. 3, “I can save time in note taking when the topic is presented through laptop/projector” and 4, “I can do difficult learning task easily when instructions are clearly presented in the laptop/projector” obtained 3.02-3.22 (Helpful). This again reiterates the usefulness and facility and ease of the use of computer-aided instruction. Note the phrase “answer fast enough”, “save time”, “do difficult learning task” which capsulized the usefulness of this modern technology. In this school, the computers are functional with 1:3 ratio, television sets are used in some classrooms and the projectors used at certain times.

The study of (Simuforosa, 2013) stated that technology can facilitate deep exploration and integration of information, high-level thinking and profound engagement by allowing students to design, explore, experiment, access information and model complex phenomenon. The lowest weighted mean was item no. 3 “I can save time in note taking when the topic is presented through laptop/projector” this was said to be the lowest because they were enjoying watching over the presentation, they could not save time because their attention was focused on the screen.

Table 3.0. Area on the Utilization of Multi-Media Learners Found Helpful

Areas	Composite Mean	Verbal Description
Learners' Motivation	3.56	Very Helpful
Learners' Cognition	3.49	Very Helpful
Interaction	3.44	Very Helpful
Learners' Engagement	3.22	Helpful

Table 3 shows the area on the utilization of multi-media in terms of learners’ motivation, learners’ cognition, interaction and learners’ engagement. The data revealed that the highest composite mean is learners’ motivation which obtained 3.56 (Very Helpful). This shows that learners are motivated and eager to attend classes when multimedia is being used in teaching-learning process. Moreover, when technology is used wisely, it motivate learners to achieve, to excel, to think and to learn (Tabbada, 2015).

The study (Ilhan and Oruç, 2016) states that with the use of multi-media learners’ interest, motivation and participation increased. Indeed, learners are eager and motivated to attend classes every day because multi-media killed boring classes, learner’s absences was lessen and encourages learners to do better in class. The lowest composite mean is learners’ engagement with a composite mean of 3.22 (Helpful). The study of (Baire, 2012) found out that the material is covered with more depth and retention the first time around, saving time and energy in the long run. But in this study learners can’t manage their time properly because the attention of the learners was focused on the presentation.

IV. CONCLUSIONS

From the given findings, it can be concluded that the learners of Nicola N. Lajot Elementary School, Barangay Manalongon, Sta. Catalina District 1 exhibited a high sense of motivation, learner's cognition, good interaction and good learner's engagement.

The use of Multi-media especially the utilization of computers, television sets, and projectors motivates, creates eagerness, widens imagination, a time saver, processes information and enhances learning for the grade V elementary learners in Mbarangay level.

V. RECOMMENDATIONS

Based on the above-mentioned conclusion, the following are the recommendations focusing on pupils' engagement are hereby given:

For the teacher:

1. That every teacher must be computer literate. Regular training on how to manipulate computers and enrich classroom learning with the use of multimedia should be conducted.
2. That they should use technology frequently in teaching to encourage pupils' participation and interaction.
3. That school activities must be undertaken to develop skill, accuracy and speed among the teachers and pupils.

For the school:

1. That school administrators should be resourceful in the purchase and maintenance of the different technological devices. If possible there should be a trained personnel for the maintenance of these devices or a skilled PTA member.
2. That there should be a functional and dynamic ICT committee to maintain the different technological devices.
3. That the school should have enough computer units, if possible 1:1 ratio for the pupils to perform hands on activities because pupils are eager to know more and manipulate computers.
 - That the school should help by tapping donors. Solicitation for computers should have DepEd approval.
4. That the ICT need be incorporated in the annual school improvement plan (SIP).

For the community:

1. That the barangay should secure the school so that multimedia equipment will not be a prey to vandals.
2. They should encourage donations from generous community members for the purchase of more computers and help provide for the maintenance of the computers, the television sets, projectors and the ICT Room.

ACTION PLAN TO SUSTAIN LEARNERS' ENGAGEMENT

Objectives	Strategies	Time Frame	Person Involve	Budget/Reso urces	Success Indicator
Sustain learner's engagement on multi-media utilization in teaching-learning process.	Conduct <ul style="list-style-type: none"> Orientation/seminars. Teachers Parents Pupils 	Sem. Break May 2018 July-August 2018	Teachers Principal District ICT Coordinator Parents Pupils	Materials - 500.00 Lunch & Snack- 6,000.00 Honorarium- 1,500.00/day	
	<ul style="list-style-type: none"> Demonstration teaching for the learners. 	Once a week	Principal Master Teacher	Materials - 1,000.00	
	<ul style="list-style-type: none"> Monthly ICT activities 	Year round	ICT Coordinator	Materials – 1,000.00	
	Procure <ul style="list-style-type: none"> Additional Computers/ Technological Gadgets 	July-October 2018	Stakeholders	Barangay – 50,000.00 PTA- 50,000.00 Alumni- 50,000.00	
	<ul style="list-style-type: none"> Conduct DepEd approved fund raising activity 	December and February	PTA Officials Brgy. Fund raising committee	1,000.00 for fliers and transportation	

REFERENCES

Books

- Eady, M.J. and Lockyer, L. (2013). *Tools for Learning: Technology and Teaching Strategies. Learning to Teach in Primary School*, Queensland University of Technology, Australia. P. 77
- Tabbada, E. (2015). *Technoogy in Education*. Adriana Publishing Co., Inc.

Journals

- Abdulla M.K. and Kang, H.C. (2014): A Study on Computer-Assisted Instruction (CAI) in the Teaching and Learning of Social Science: Effectiveness and Perception. jurcon.ums.edu.my/ojums/index.php/ijelp/article/download/704/461
- Agarwal, A. and Malik, S. (2012). Use of Multimedia as a New Educational Technology Tool - A Study. *International Journal of Infromation*. Vol. 2(5): 468-471. <http://www.ijiet.org/show-33-146-1.html>.
- Aloraini, S. (2012). The impact of using multimedia on students' academic achievement in the College of Education at King Saud University. Vol. 24 (2). 75-82. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2210831912000033>
- Al-Hariri, M and Al-Hattami, A. (2017). Impact of Students' Use of Technology in their Learning Achievements in Physiology Courses at the University of Damman. *Journal of Taiba University Medical Sciences*. Vol. 12, 82-85. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1658361216300683>
- Andresen, B.B. et. al. (2013). *Multimedia in Education: Curriculum*. Retrieved from <http://iite.unesco.org/pics/publications/en/files/3214723.pdf>
- Arvind, K. S. (2014). *Multimedia Approach to Teaching-Learning Process*. Retrieved from http://www.researchfront.in/05%20JAN%202014%20Special%20Issue/70.%20Kh%20ot_S.A.%5B1%5D_final.pdf
- Babiker, E. (2015). For Effective Use of Multimedia in Education, Teachers Must Develop their Own Educational Multimedia Applications. *TOJET: The Turkish Online Journal of Educational Technology*. Vol. 14. <http://www.tojet.net/articles/v14i4/1446.pdf>
- Chernobilsky, E. and Granito, M. (2012) The Effect of Technology on a Student's Motivation and Knowledge Retention. *Open Journal of Social Sciences*. Retrieved from [http://www.scirp.org/\(S\(czeh2tfqyw2orz553k1w0r45\)\)/reference/ReferencesPapers.aspx?ReferenceID=1918092](http://www.scirp.org/(S(czeh2tfqyw2orz553k1w0r45))/reference/ReferencesPapers.aspx?ReferenceID=1918092)
- Comighud, Sheena Mae T., "Instructional Supervision and Educational Administration. Goal setting, monitoring and feedbacking practices as performance management mechanisms." (2019). *UBT International Conference*. 52. <https://knowledgecenter.ubt-uni.net/conference/2019/events/52>

- Comighud, S.M., & Arevalo, M. (2020); Motivation In Relation To Teachers' Performance; International Journal of Scientific and Research Publications (IJSRP) 10(04) (ISSN: 2250-3153), DOI: <http://dx.doi.org/10.29322/IJSRP.10.04.2020.p10071>
- Diosalan, S. (2016). The Multimedia Approach in Teaching Physical Fitness as Basis for Physical Education Program. JPAIR Institutional Research, 7(1), 79-89. Retrieved from doi:10.7719/irj.v7i1.374
- Ghavifekr, S. and Rosdy W. (2015) Teaching and Learning with Technology: Effectiveness of ICT integration in Schools. International Journal of Research in Education and Science (EJRES). 175-191
- Gilakjani, A. (2012). The Significant Role of Multimedia in Motivating EFL Learners' Interest in English Language Learning. I. J. Modern Education and Computer Science. Vol. 4, 57-66. Retrieved from https://www.researchgate.net/publication/264889259_The_Significant_Role_of_Multimedia_in_Motivating_EFL_Learners'_Interest_in_English_Language_Learning
- Groom, F. and et. al. (2018). "The effects of enriching classroom learning with the systematic employment of multimedia." Vol. 117 (1). 61+Hu, M. and Xu, S. (2012). Research for Mutimedia Teaching on Principles of Management. Elsevier B.V. 666 – 670. https://ac.els-cdn.com/S2212667812001591/1-s2.0-S2212667812001591-main.pdf?_tid=8ff82162-f99e-4e8e-b411-0a541e18caa2&acdnat=1521330806_c5eb409beaeb7678a2e8ce8dd614141e
- Ilhan, G. (2016). Effect of the use of multimedia on students' performance: A case study of social studies class. Vol. 11 (8). 877-882. <https://files.eric.ed.gov/fulltext/EJ1099996.pdf>
- Jamieson, R., et. al. (2013). Development of the TTF TPACK Survey Instrument. Australian Educational Computing. Vol. 27 26-35. http://acce.edu.au/sites/acce.edu.au/files/pj/journal/AEC27-3_JamiesonProctor_etal
- Joshi, A. (2012). Multimedia: A Technique in Teaching Process in thge Classrooms. 33-36.<http://www.cwejournal.org/vol7no1/multimedia-a-technique-in-teaching-process-in-the-classrooms/>
- Khan, M. and Shah, I. (2015). Impact of Multimedia-Aided Teaching on Students' Academic Achievement and Attitude at Elementary Level US-China Education Review. Vol. 5(5). 349-360. <http://davidpublisher.org/Public/uploads/Contribute/556fad46a6d6f.pdf>
- Patel, C. (2013). Use of Multimedia Technology in Teaching and Learning Communication Skill: An Analysis. International Journal of Advancement in Research and Technology. Retrieved from <http://www.ijoart.org/docs/Use-of-Multimedia-Technology-in-Teaching-and-Learning-communication-skill>
- Verecio, R. (2014). Students' Evaluation of an Interactive Course Ware. International Journal of Education and Research. Vol. 2(6). <http://www.ijern.com/journal/June-2014/02.pdf>

Dissertation/Thesis

Appling, T. (2015). The effect of 1:1 Technology on Student Achievement

Gweshe, L. (2014). The effect of using a Computer Assisted Instruction on teaching Circle Geometry in Grade 11

Manaligod, H. (2012). Integration of Information and Communication Technology in Public Secondary Schools in Metro-manila Philippines

Simuforosa, M. (2013). The impact of modern technology on the educational attainment of adolescents

Internet Sources

Elliott, H. (2016). The Importance of Education Technology in Our Changing World. Retrieved from <http://edblog.smarttech.com/2016/09/importance-education-technology-changing-world/>

Heng, T.L. and Tan T.G. (2008). Efficacy of Multimedia Teaching Instruction in Elementary Mandarin Class. https://www.researchgate.net/publication/251346449_EFFICACY_OF_MULTIMEDIA_TEACHING_INSTRUCTION_IN_ELEMENTARY_MANDARIN_CLASS

Kesh, A. (2017). Importance of Education Technology in teaching and learning. Retrieved from <http://honestdot.com/blog/2017/02/17/importance-of-education-technology-in-teaching-and-learning/>

The Cambridge Handbook of Multimedia Learning (Cambridge Handbooks in

Psychology), 2014. <http://www.learning-theories.com/cognitive-theory-of-multimedia-learning-mayer.html>
Retrieved from <http://www.edutopia.org/technology-integration-guide-importance>

<http://www.investopedia.com/terms/m/millennial.asp>

<https://webpace.oise.utoronto.ca/~benzela/Constructivism.html>

<http://www.edutopia.org/technology-integration-guide-importance>

<http://education-2020.wikispaces.com/Connectivism>

<https://sites.google.com/a/dresden-is.de/parent-internet-training/benefits-of-growing-up-digital>

<https://www.cbsnews.com › MoneyWatch › Money>

<https://www.learning-theories.com/connectivism-siemens-downes.html>

<http://encyclopedia.jrank.org/articles/pages/6821/Multimedia-in-Education.html>">Multimedia in Education - Introduction, The Elements of, Educational Requirements, Classroom Architecture and Resources, Concerns

<http://www.otterbein.edu/Files/pdf/Education/JTIR/VolumeVIII/sharritts.pdf>

<https://www.nuiteq.com/company/blog/5-benefits-of-multimedia-learning>

APPENDICES

Survey Questionnaire

Multi-Media Utilization in Teaching-Learning Process

Instructions: Please read each question carefully and answer what is asked. Please do not leave any item unanswered. The researcher assures that whatever information is written in this instrument will be treated with utmost confidentiality.

(Palihog basaha pag-ayo ug tubaga ang mga pangutana. Palihog ayaw bilini ang pangutana nga walay tubag. Ang tigdukiduki makapasalig nga kon unsa man ang impormasyon nga nakasulat niini nga instrumento magpabilin ug ma tratar nga tinago.)

Part I. Personal Profile

1.1. Age (Edad):

- 10 years old and below
- 11 years old
- 12 years old
- 13 years old and above

1.2. Sex: Male(Lalaki) Female(Babaye)

1.3. Number of years in school: _____

1.4. General Average in Grade IV: _____

1.5. Gadgets used & available at home: _____

Part II. Student's Perception on the use of computer-aided instructions in teaching Science Lesson. (Panglantaw sa mga tinun-an sa paggamit og kompyuter bilang tabang sa pagtudlo sa Science nga leksyon)

Using the scale below please check the appropriate column as the way you perceive for the use of laptop/projector in teaching Science. (Gamit ang scale nga naa sa ilalom, palihog butangi ug check ang angay nga kolum kung unsa ang imong panglantaw kon adunay laptop/projector nga gamiton sa pagtudlo sa Science.)

Weight	Verbal description	Scale
4	Very Helpful (VH)	(3.81-4.00)
3	Helpful (H)	(2.41-3.80)
2	Slightly Helpful (SH)	(1.61-2.40)
1	Not Helpful (NH)	(1.00-1.60)

Students' Perception	Very Helpful (VH) 4	Helpful (H) 3	Slightly Helpful (SH) 2	Not Helpful (NH) 1
A. Learner's Motivation				
1. I am eager to attend classes when there is video clips, pictures presented. (Madasigon ako nga mosulod sa klase sa kon aduna'y "video clips" ug mga hulagway nga gipakita.)				
2. I am motivated to listen to the discussion when the topic is presented through the use of laptop/projector. (Ganado ako nga manimati kon ang leksyon itudlo pina-agi sa pag gamit og laptop/projector.)				
3. I am not bored with the discussion throughout the learning period when laptop/projector is used. (Dili ako mawad-an og gana o interes sa gipangtudlo sa tibuok klase kon gigamitan og laptop/projector.)				
4. I can focus my attention to the topic presented through laptop/projector.(Tibuok ang akong atensyon sa ginahisgutan kon kini ipadayag pina-agi sa laptop/projector.)				

5. I am inspired to learn about the topic after it was presented through technology.(Interesado akong makat-on sa gihisgutan human nga kini gipakita pina-agi sa teknolohiya.)				
B. Learner's Cognition				
6. Topics presented can easily be understood when technology is used (Ang mga gihisgutan sayon ra nga sabton kon adunay teknolohiya nga gigamit.)				
7. My imagination on the concept presented is enhanced with the use of computer technology because it is more realistic.(Makapalambo sa akong imahinasyon kabahin sa konsepto nga gipakita kon kini gipadayag pina-agi sa teknolohiya kay kini mas akong masabtan.)				
8. I can easily learn use the vocabulary words when it is presented in the laptop/projector. (Mas dali akong makat-on sa paggamit og mga pulong kon kini ipakita pina-agi sa laptop/projector.)				
9. I can visualize clearly the processes when laptop/projector is used.(Mas klaro nako kaayo ang mga proseso kon kini gigamitan og laptop/projector.)				
10. I can describe the events after it was presented through laptop/projector. (Makahatag ako og klaro nga deskripsyon bahin sa panghitabo kon kini gipakita pina-agi sa laptop/projector)				
11. I can easily remember important/key points on the topic when it was presented through technology.(Mas dali kong makahinumdom sa mga importante nga punto sa gipanghisgutan kon kini gipakita pina-agi sa teknolohiya.)				
C. Learners' Interaction				
12. I can actively participate in the discussion when it is presented through the use of technology.(Madasigon akong moapil sa				

among gihisgutan kon kini gipasabot kanako pina-agi sa paggamit og teknolohiya.)				
13. I can easily take down notes from teacher's discussion when it is shown in the laptop/projector.(Mas sayon ako nga makahinumdom o maka gama og detalye gikan sa akong maestra kabahin sa gipanghisgutan kon kini gipakita pina-agi sa laptop/projector)				
14. I can comprehend teacher's illustrations better when presented with the use of technology.(Mas makasabot ako sa mga gipakita sa akong maestra kon kini gipadayag pina-agi sa pag gamit og teknolohiya.)				
15. I can easily understand teacher's questions when presented in the laptop/projector.(Mas dali nakong masabtan ang mga pangutana sa akong magtutudlo kon kini ipangutana pina-agi sa laptop/projector.)				
16. I feel that the class discussion is lively and facilitated with the use of technology.(Mabati nako nga mas madasigon ang panaghisgutanay sa klase kon kini ipadayag pina-agi sa pag gamit og teknolohiya.)				
D. Learner's Engagement				
17. I can work fast enough to cope with the time allotted when the activity is clearly presented with laptop/projector.(Mas maka trabaho ako nga paspas og ha-om sa oras nga ihatag para mahuman ang trabahuon kon kini gipakita pina-agi sa laptop/projector.)				
18. I can answer fast enough and finish answering the questions presented in the laptop/projector.(Makatubag ako nga paspas og mahuman nako ang mga pangutana nga naa gipakita sa laptop/projector.)				
19. I can save time in note taking when topic is presented through laptop/projector.(Maka daginot ako og oras sa pag hinumdom sa				

mga gipanghisgutan kon kini gipakita pina-agi sa laptop/projector.)				
20. I can do difficult learning task easily when instructions are clearly presented in the laptop/projector. (Makabuhat ako og mga lisod nga galam-om sa sayon nga pama-agi kon kini klaro ang pagka pakita pina-agi sa pag gamit og laptop/projector.)				

CURRICULUM VITAE

NATHALIE JANE ILAGAN DU YA

🏠 Manlongon, Sta. Catalina, Negros Oriental
 📧 nath28.nc33@gmail.com
 📞 +63915-558-2883



PERSONAL DATA

Date of Birth	August 28, 1994
Place of Birth	Dumaguete City, Negros Oriental
Age	23
Sex	Female
Civil Status	Single
Religion	Roman Catholic
Nationality	Filipino
Mother's Name	Rovie Lyn I. Duya
Father's Name	Jonathan M. Duya

EDUCATIONAL BACKGROUND

Level	Degree	Name of School and Place	Year Graduated
Graduate Studies	Masters of Arts in Education	St. Paul University-Dumaguete	2017
Baccalaureate	Bachelor in Elementary Education	Negros Oriental State university - Bayawan-Sta. Catalina Campus	2014
Secondary	Graduate	Bayawan National High School	2010
Elementary	Graduate	Manalongon Central School	2006

ELEGIBILITY

Licensure Examination for Teachers – Taken: August 17, 2014 Area of Specialization: General Curriculum

EMPLOYMENT HIGHLIGHT

Position	Name of Organization	Date Covered
Teacher I	Department of Education	August 22, 2016-Present
Substitute Teacher	Department of Education	October 2016-April 2017

COMMUNITY INVOLVEMENT

Name of Organization	Position	Date
CFC-Singles for Christ	Member	August 2016-Present

SEMINARS/TRAINING/WORKSHOPS ATTENDED

TITLE OF SEMINARS/WORKSHOP/TRAININGS	INCLUSIVE DATE		NO. OF HOURS	CONDUCTED/SPONSORED BY
	FROM	TO		
DISTRICIT MID YEAR INSET	10/23/2017	12/27/2017	40 HRS	STA. CATALINA DISTRICT II
DIVISON TRAINING ON THE K-12	08/03/2017	08/05/2017	24 HRS	NEGIROS ORIENTAL DIVISION
TRAINING ON PROJECT ERLIN	05/23/2017	05/26/2017	32 HRS	STA. CATALINA DISTRICT I & II
GENDER AND DEVELOPMENT ORIENTATION	12/01/2016	12/02/2016	16 HRS	STA. CATALINA DISTRICT II
DISTRICT MID-YEAR IN SERVICE TRAINING 2016	10/24/2016	10/28/2016	40 HRS	STA. CATALINA DISTRICT II
BASIC TRAINING COURSE FOR KAWAN AND TROOP LEADERS	09/29/2016	10/01/2016	24 HRS	STA. CATALINA DISTRICT I
2015 DISTRICT INSET OF TEACHERS ON THE K-3 LITERACY AND NUMERACY TRAINING	10/26/2015	10/30/2015	40 HRS	STA. CATALINA DISTRICT I
SCHOOL INSERVICE TRAINING ON INFORMATION AND COMMUNICATION TECHNOLOGY	07/13/2015	07/18/2015	24 HRS	CASIANO Z. NAPOKIT NATIONAL HIGH SCHOOL
COMPUTER HARDWARE SERVICING NC-II	09/29/2014	12/02/2015	360 HRS	SOUTHERN TECH COLLEGE

AWARDS/CITATION RECEIVED

AWARD	FIELD/ORGANIZATION LEVEL	DATE RECEIVED
Best Localized Instructional Material in Grade V	DISTRICT LEVEL	October 2017
Presidential Academic Awardee	Bachelor of Elementary Education	February 2014
Dean's List Award	Bachelor of Elementary Education	SY. 2011-2013