

The Effectiveness of Supplementary Materials Developed Through Quizalize.Com in Improving Assessment Results of Learners in Philippine Politics and Governance

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Abstract—Supplementary materials are important tools made to support the teaching and learning process. These are intended to provide learners with various engaging activities and experiences in improving knowledge, skills and even the capacity in assessing their own learning. The purpose of this research was to investigate the effectiveness of supplementary materials developed through Quizalize.com in improving assessment results in Philippine Politics and Governance among Grade 11 Academic Track-Humanities and Social Sciences (HUMSS) Students of Santa Cruz Integrated National High School for the Second Quarter of School Year 2022- 2023. Participants were 20 learners across two sections in which 10 of them served as part of the experimental group and the other 10 learners for the control group that were established through quota and convenience sampling. Both groups took the PPG pre-assessment composed of 40 items before the start of Quarter 2. After taking the pre-assessment, members of the experimental group regularly utilized the supplementary materials every end of their lesson while the members of the control group remain in their usual learning activities. At the end of Quarter 2, both groups took the post assessment with the same content and number of items. After the activities of both groups in different set-up, it was found out that the assessment scores of those who utilized the supplementary materials remarkably increased as compared to those learners who remain in their usual learning activities as evident in the results computed through the independent samples t-test supported by critical and p-values. The results revealed that the utilization of supplementary materials developed through Quizalize.com significantly improved assessment results of learners in Philippine Politics and Governance.

Keywords— Supplementary Materials, Pre-Assessment, Post Assessment.

I. INTRODUCTION

Supplementary materials are important tools to support the teaching and learning process. These are intended to provide learners with various engaging activities and experiences in improving knowledge, skills and even the capacity in assessing their own learning. Supplementary materials can be in form of skills development resources, practice materials, appealing worksheets, communicative activity collections, teacher's resources and web page materials that can be developed or adapted in recognized sources. These instruments enhance the main instructional resources and learning materials in reaching educational standards and competencies.

The crafted supplementary materials under this research were developed through Quizalize.com. The site used for material development is a web-based game that allows learners to be engage in class while providing immediate assessments for personalized learning. The web-based game assists learners to identify their strengths, weaknesses, and learning gaps and to intervene in real-time through extending one-on-one help in the classroom.

Assessment on the other hand is an essential part of this study and an important component of curriculum implementation. In reference to DepEd Order no. 8 s. 2015 known as the Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program, assessment is defined as the process used to monitor learners' progress based on learning standards and development of 21st century skills, promotion of self-reflection and personal accountability for own learning, and provide bases for profiling performance of learners on the learning competencies and standards of the curriculum. Formative assessment as one of the types of classroom assessment is designed to check the effectiveness of instruction that can be facilitated anytime in the teaching-learning process. The results of this assessment underpin instructional adjustments.

Formative assessment as the mechanism used in this research determines the effectiveness of the developed supplementary materials via prospective improvement to learners' assessment results. The study was conceptualized as a contribution to instructional innovations and to serve as a springboard for other researchers in developing tools and instruments that will support students in improving their learning outcomes. The study acknowledges the trend of innovation in the teaching and learning process designed to capacitate students with various abilities and learning potentials including the role of every participant in the assessment process.

1.1 Statement of the Problem

Problem/s which were addressed by the research

This research was designed to evaluate the effectiveness of the supplementary materials developed through Quizalize.com in improving assessment results of learners. Specifically, this study sought to answer the following questions:

1. What is the level of the learners' performance in Philippine

Politics and Governance based on their pre-assessment results:

- a. Experimental group
- b. Control group?
2. What is the level of the learners' performance in Philippine Politics and Governance based on their post assessment results:
 - a. Experimental group
 - b. Control group?
3. Is there a significant difference between learners who used the supplementary materials developed through Quizalize.com and learners who did not use the supplementary materials based on their pre- assessment and post assessment results?

II. METHODOLOGY

The instruments that were used in this research are the following:

1. The pre-assessment tool composed of 40 item questions and covers the six lessons in PPG for the second quarter of School Year 2022-2023. This tool was accomplished by all of the respondents whether from the experimental group or control group and was answered through google forms. All questions were anchored in the lessons' MELCs and were composed through a table of specification. No score and key to corrections were given to respondents after its accomplishment and scores will only be seen by the researcher for analysis.
2. Supplementary materials developed through Quizalize.com were composed of six sets of time bounded activities with 25 items each intended to improve the assessment results of learners as well as to improve their learning retention. All of the activities were anchored to the lessons' MELCs and are formulated based on the applicable Cognitive Process Dimension stated in DO 8 s. 2015.
3. The post assessment tool composed of 40 item questions is same with content from the pre-assessment tool and also covers the six lessons in PPG. This tool was accomplished by all of the respondents whether from the experimental group or control group and were answered through google forms. All questions were anchored to the lessons' MELCs and were composed through a table of specification. Scores and key to corrections were given to respondents after its accomplishment.

III. RESULTS AND DISCUSSION

This part presents the analysis and interpretation of the data gathered. Data sets were analyzed and interpreted based on the problems raised in the study with corresponding tables presented sequentially to give clarity on data presentation analysis.

Experimental Group Learners' Level of Performance in Philippine Politics and Governance Based on Pre-Assessment Results.

The table below shows the performance level of 10 learners from the experimental group for Philippine Politics and Governance based on pre-assessment results. The figures revealed that the learners' competency to explain and analyze

the roles and responsibilities of the Philippine Judiciary and the Local Government Unit has a mean value of 3.10 with a standard deviation (SD) of 1.1005 and a verbal interpretation of low. The learners' competency to analyze the nature of elections and political parties in the Philippines has a mean value of 2.30 with an SD of 1.1595 and a verbal interpretation of very low. The learners' competency to explain the concept, role and contributions of civil society societies and social movements to Philippine democracy has a mean value of 2.90 with an SD of 1.3703 and a verbal interpretation of low. The learners' competency to explain the importance of active citizenship has a mean value of 2.40 with an SD of 0.9660 and verbal interpretation of very low. The learners' competency to explain the issues and programs related to political engagement and youth empowerment has a mean value of 2.20 with an SD of 1.1353 and a verbal interpretation of very low. In average, the learners' competencies for the second quarter of the school year based on pre-assessment results has a mean value of 2.58 with an SD of 1.1463 and a verbal interpretation of very low. The standard deviation in average is higher than 1 which signifies a heterogenous sample and data are more spread out.

TABLE 1. Mean Level of Experimental Group Learners' Level of Performance in Philippine Politics and Governance Based on Pre-Assessment Results

Most Essential Learning Competencies (Melcs)	Mean	SD	Verbal Interpretation
1. Analyze the roles and responsibilities of the Philippine Judiciary.	3.10	1.1005	Low
2. Explain the roles and functions of Local Government Unit (LGU)			
3. Analyze the nature of elections and political parties in the Philippines.	2.30	1.1595	Very Low
4. Explain the concept, role, and contributions of civil society societies and social movements to Philippine democracy.	2.90	1.3703	Low
5. Explain the importance of active citizenship.	2.40	0.9660	Very Low
6. Explain issues and programs related to political engagement and youth empowerment.	2.20	1.1353	Very Low
Average	2.58	1.1463	Very Low

Control Group Learners' Level of Performance in Philippine Politics and Governance Based on Pre- Assessment Results.

TABLE 2. Mean Level of Control Group Learners' Level of Performance in Philippine Politics and Governance Based on Pre-Assessment Results

Most Essential Learning Competencies (Melcs)	Mean	SD	Verbal Interpretation
1. Analyze the roles and responsibilities of the Philippine Judiciary.	2.60	1.6895	Very Low
2. Explain the roles and functions of Local Government Unit (LGU)			
3. Analyze the nature of elections and political parties in the Philippines.	2.30	1.3375	Very Low
4. Explain the concept, role, and contributions of civil society societies and social movements to Philippine democracy.	1.80	1.0328	Very Low
5. Explain the importance of active citizenship.	1.40	0.9661	Very Low
6. Explain issues and programs related to political engagement and youth empowerment.	1.50	0.8498	Very Low
Average	1.92	1.1751	Very Low

The table above shows the performance level of 10 learners from the control group for Philippine Politics and Governance based on pre-assessment results. The figures revealed that the learners' competency to explain and analyze the roles and responsibilities of the Philippine Judiciary and the Local Government Unit has a mean value of 2.60 with a standard deviation (SD) of 1.6895 and a verbal interpretation of very low. The learners' competency to analyze the nature of elections and political parties in the Philippines has a mean value of 2.30 with an SD of 1.3375 and a verbal interpretation of very low. The learners' competency to explain the concept, role and contributions of civil society societies and social movements to Philippine democracy has a mean value of 1.80 with an SD of 1.0328 and a verbal interpretation of very low. The learners' competency to explain the importance of active citizenship has a mean value of 1.40 with an SD of 0.9661 and verbal interpretation of very low. The learners' competency to explain the issues and programs related to political engagement and youth empowerment has a mean value of 1.50 with an SD of 0.8498 and a verbal interpretation of very low. In average, the learners' competencies for the second quarter of the school year based on pre-assessment results has a mean value of 1.92 with an SD of 1.1751 and a verbal interpretation of very low. The standard deviation in average is higher than 1 which signifies a heterogenous sample and data are more spread out.

Experimental Group Learners' Level of Performance in Philippine Politics and Governance Based on Post Assessment Results.

TABLE 3. Mean Level of Experimental Group Learners' Level of Performance in Philippine Politics and Governance Based on Post Assessment Results

Most Essential Learning Competencies (MELCs)	Mean	SD	Verbal Interpretation
1. Analyze the roles and responsibilities of the Philippine Judiciary.	7.80	0.4216	Very High
2. Explain the roles and functions of Local Government Unit (LGU)			
3. Analyze the nature of elections and political parties in the Philippines.	7.00	1.0541	Very High
4. Explain the concept, role, and contributions of civil society societies and social movements to Philippine democracy.	6.90	1.2867	Very High
5. Explain the importance of active citizenship.	7.00	0.6667	Very High
6. Explain issues and programs related to political engagement and youth empowerment.	7.60	0.6992	Very High
Average	7.26	0.8257	Very High

The table above shows the performance level of 10 learners from the experimental group for Philippine Politics and Governance based on post assessment results. The figures revealed that the learners' competency to explain and analyze the roles and responsibilities of the Philippine Judiciary and the Local Government Unit has a mean value of 7.80 with a standard deviation (SD) of 0.4216 and a verbal interpretation of very high. The learners' competency to analyze the nature of elections and political parties in the Philippines has a mean value of 7.00 with an SD of 1.0541 and a verbal interpretation

of very high. The students' ability to articulate the concept, function, and contributions of civil societies and social movements to democracy in the Philippines has an average value of 6.90, with a standard deviation of 1.2867 and a verbal interpretation of very high. The learners' competency to explain the importance of active citizenship has a mean value of 7.00 with an SD of 0.6667 and verbal interpretation of very high. The learners' competency to explain the issues and programs related to political engagement and youth empowerment has a mean value of 7.60 with an SD of 0.6992 and a verbal interpretation of very high. In average, the learners' competencies for the second quarter of the school year based on post assessment results has a mean value of 7.26 with an SD of 0.8257 and a verbal interpretation of very high. The standard deviation in average is lower than 1 which signifies a homogenous sample and data are clustered around the mean.

Control Group Learners' Level of Performance in Philippine Politics and Governance Based on Post Assessment Results.

TABLE 4. Mean Level of Control Group Learners' Level of Performance in Philippine Politics and Governance Based on Post Assessment Results

Most Essential Learning Competencies (MELCs)	Mean	SD	Verbal Interpretation
1. Analyze the roles and responsibilities of the Philippine Judiciary.	3.20	1.9889	Low
2. Explain the roles and functions of Local Government Unit (LGU)			
3. Analyze the nature of elections and political parties in the Philippines.	2.90	2.4244	Low
4. Explain the concept, role, and contributions of civil society societies and social movements to Philippine democracy.	2.60	1.4298	Very Low
5. Explain the importance of active citizenship.	2.40	1.1738	Very Low
6. Explain issues and programs related to political engagement and youth empowerment.	2.20	2.2509	Very Low
Average	2.66	1.8536	Very Low

The table above shows the performance level of 10 learners from the control group for Philippine Politics and Governance based on post assessment results. The figures revealed that the learners' competency to explain and analyze the roles and responsibilities of the Philippine Judiciary and the Local Government Unit has a mean value of 3.20 with a standard deviation (SD) of 1.9889 and a verbal interpretation of low. The learners' competency to analyze the nature of elections and political parties in the Philippines has a mean value of 2.90 with an SD of 2.4244 and a verbal interpretation of low. The learners' competency to explain the concept, role and contributions of civil society societies and social movements to Philippine democracy has a mean value of 2.60 with an SD of 1.4298 and a verbal interpretation of very low. The learners' competency to explain the importance of active citizenship has a mean value of 2.40 with an SD of 1.1738 and verbal interpretation of very low. The learners' competency to explain the issues and programs related to

political engagement and youth empowerment has a mean value of 2.20 with an SD of 2.2509 and a verbal interpretation of very low. In average, the learners' competencies for the second quarter of the school year based on post assessment results has a mean value of 2.66 with an SD of 1.8536 and a verbal interpretation of very low. The standard deviation in the mean is greater than 1, indicating a heterogeneous sample and that the data is more dispersed.

Difference Between Learners Who Used the Supplementary Materials Developed through Quizalize.com and Learners Who Did Not Use the Supplementary Materials Based on Pre and Post Assessment Results.

TABLE 5. *t*-Test Results of Learners Who Used the Supplementary Materials Developed through Quizalize.com and Learners Who Did Not Use the Supplementary Materials Based on Pre and Post Assessment Results

Group	Mean	SD	<i>t</i> -Value	<i>t</i> -Critical	P-Value	Decision
Experimental	Pre-Assessment: 2.58	Pre-Assessment: 1.1463	-16.8777	2.262	0.00001	Significant
	Post Assessment: 7.26	Post Assessment: 0.8257				
Control	Pre-Assessment: 1.92	Pre-Assessment: 1.1751	-1.4255	2.262	0.171123	Not Significant
	Post Assessment: 2.66	Post Assessment: 1.8536				

Alpha=0.05

Significance: $p < .05$

The table above shows the difference between learners who used the supplementary materials developed through Quizalize.com and learners who did not use the supplementary materials based on pre- assessment and post assessment results. The figures revealed that the experimental group in their pre- assessment attained a mean value of 2.58 with a standard deviation (SD) of 1.1463 while in their post assessment attained a mean value of 7.26 with an SD of 0.8257. Based on the data, the experimental group achieved a *t*-value of -16.8777 with a critical value of 2.262 and a *p*-value of 0.00001 which made the results through the use of the supplementary materials significant. On the other hand, the control group in their pre- assessment attained a mean value of 1.92 with an SD of 1.1751 while in their post assessment attained a mean value of 2.66 with an SD of 1.8536. Based on the data, the control group achieved a *t*-value of -1.4255 with a critical value of 2.262 and *p*-value of 0.171123 which makes the result without the intervention of the supplementary material not significant.

IV. CONCLUSION AND RECOMMENDATIONS

The conduct and outcomes of the study helped the researcher to unveil the importance of supplementary materials in the teaching and learning process. It is clear based on the results that these materials helped learners in improving learning performance as evident in their assessment outcomes. It is conclusive that better performance and learning are more apparent if there are tools and mechanisms designed to scaffold learners in the process as compared from the

traditional set-up of teaching and learning. There are instances because of technological challenges in several aspects both on teachers and learners, difficulties in development, access and utilization on both sides are encountered. As long as creativity and innovation are practiced by teachers even not through highly sophisticated technology, learning goals will be possible.

Academic Freedom for teachers in the discharge of their professional duties, particularly with teaching and classroom methods as what is stated in RA 4670 is not just a provision but a conviction for educators to enrich their teaching practices not only in content and assessment but most especially in pedagogy.

We are in the 21st Century, learning demands of students are quite different compared from what we have in the past. Creativity and innovation are essential to make the whole learning process successful in which material development is an example.

According to Albert Einstein, "You can't solve a problem on the same level that it was created, you have to rise above to the next level."

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