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RESEARCH BULLETIN

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BLENDED LEARNING UTILIZATION IN EDUCATION (BLUE) PROJECT: ITS EFFECTIVENESS IN THE NEW NORMAL SCIENCE INSTRUCTION

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Introduction

To ensure that the delivery of education will continue despite the threat and challenges posed by CoViD – 19 pandemic, DepEd released DO number 12, series of 2020 to provide the package of education interventions that will respond the needs of the situation known as BE-LCP. In the implementation of modular instruction, there is a need to deliver the Most Essential Learning Competencies (MELCs) excellently. The challenge among Grade IV students in Science in making learning excellent is the need to provide transition period in learning from Waray to English as the medium of instruction. Science vocabularies should also undergo bridging during classroom discussion. Bates (2012) averred that audio materials are helpful in guiding students to learn. Hence, in the absence of physical classes, the learners were given an intervention through the Blended Learning Utilization in Education (BLUE) Project where audio learning podcasts were used to supplement the Self-Learning Modules (SLMs) and Learning Activity Sheets (LAS) to address the gaps.

Methodology

This pre-test and post-test quasi-experimental study aims to compare the effectiveness of Blended Learning Utilization in Education (BLUE) Project in Science Instruction and the traditional teaching method. The data gathering instruments used were researcher-made tests in compliance with the MELCs, Curriculum Guide, and Teacher's Guide. The study used the traditional method of teaching science (modular) for the control group where lessons are followed based on the Teacher's Guide. On the other hand, the experimental group were given the treatment using the BLUE Project facilities that include a series of lessons with the audio-learning podcasts. After seeking the approval of the school head, the pre-test and post-test were administered to both the experimental and control groups. The Mean Percentage Scores (MPS) from both classes were computed through finding the quotient of the gained score from the total number of items and number of takers. Scores were tested, compared, and analyzed statistically. Since the study is quasi – experimental, data were also treated using t-test for independent samples to compare the performance between groups. Qualitative data were analyzed

CONTENT HIGHLIGHTS

"Podcasts can reduce obstacles in online learning. The study revealed that the main advantage felt by respondents was the ease of access to teaching materials even though the quality of the internet network was inadequate."

thematically for the purpose of triangulation.

Results and Discussions

As gleaned on Table 1, data revealed that the students can improve their performance vis-à-vis the utilization of both the modular instruction and the BLUE project which utilizes audio material podcast. This confirms that podcast is very useful in language learning because it does not only helps but also motivates students to learn (Indahsari, 2020).

Podcast allows students to have interaction during the language learning process. It also affirms the results of the study of Ningrum and Ginting (2021) that podcasts can reduce obstacles in online learning. They revealed that the main advantage felt by respondents was the ease of access to teaching materials even though the quality of the internet network was inadequate. When the pre-test scores were tested using t-test of independent samples, the computed t-value is -.194 and the level of significance is .343. Thus, both groups are statistically the same and comparable. When data were computed on the difference between the post-test scores of the control group and experimental group, the computed t-value is -1.483 tested at .05 level of significance. Thus, there is a significant difference between the control group and experimental group in terms of students' performance in favor of the experimental group. It implies that the use of BLUE Project as an audio learning material in Science instruction is effective compared to modular instruction. However, it must be noted that both groups increased their scores when compared vis-à-vis their pre-test performance. There were two themes revealed from the narratives of the participants: the Highs and the Lows. The Highs are Aid to independent learning, simulation of classroom set-up, comprehensibility and fillers of the missing links; meanwhile, The Lows are lengthy discussion (Podcasts), abstract description, and tasking in production. In the light of understanding the study, this study suggests the replication of the BLUE Project since it is effective in enhancing the academic performance of the students in Science during the new normal Science instruction.

Works Cited

Bates, A. (2012) Teaching in a Digital Age. Retrieved from https:// opentextbc.ca teachinginadigitalage/ chapter/9-5-2-audio/

Deped Order Number 12, series of 2020. Retrieved from https:// www.deped.gov.ph/wp-content/ uploads/2020/06

Indahsari, D. (2020). Using podcast for EFL students in language learning. JEES (Journal of English Educators Society), 5(2), 103-108.

Ningrum, A. S., & Ginting, K. B. (2021, September). Development of Podcasts as Teaching Materials for Students of Higher Education in the Pandemic Covid-19. In 2nd International Conference on Science, Technology, and Modern Society (ICSTMS 2020) (pp. 157-162). Atlantis Press.

Groups	Comparison of Performance of the Students in the Pre-test			t-value	Sig	Comparison of Performance of the Students in the Post-test			Computed t-value	Sig
	MPS	*Pre-test Mean*	*sd*			*MPS*	*Post-test Mean*	*sd*		
Control Group (n=25)	48.00	.4800	.065	-.194	.343	78.27	.783	.078	-1.483	.011
Experimental Group (n=25)	48.40	.4840	.081			83.33	.833	.152		

Table 1: Comparison of Performance of Students in Pre-Test and Post-Test

HOMEWORK IN CLASS, LESSONS AT HOME: FLIPPED CLASSROOM AND THE ACADEMIC PERFORMANCE IN GRADE VIII MATHEMATICS

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Introduction

Among the most common causes of low MPS, below mastery of learning competencies, and poor grades are the amount of schoolwork requirement, unreliable homework results, overloaded assignments, loss of independent study, and complaints on long lectures. The will to gain back learners' trust in their day-to-day classes through letting them see the meaning of the work required from them motivated this query. This study intended to level down learners' burden in their assignments, find more purpose in their one-hour class in Mathematics, meet individual learner's needs, succeed in their daily classroom goals, and improve their academic performance by flipping the mathematics classroom.

The flipped classroom, which was first introduced by Eric Mazur (Collins, 2015), Salman Khan, Maureen Lage, Glenn Platt, and Michael Treglia, Jon Bergmann and Aaron Sams (Stohr et al., 2018), inverts the learning process so that learners receive the lesson's new and easy concepts at home or outside the classroom through very short video clips and do the lesson's hard part inside the classroom through collaborative activities with other learners and by the guidance and supervision of the teacher (Bishop, 2013; Educause, 2012; Abeysekera et al., 2015; and Aljaser, 2017).

Methodology

A quasi-experimental research design utilizing experimental and control groups was used in the study. A twenty-item pre-test and post-test from the Learners' Module in Grade VIII Mathematics was used to assess the extent of similarity of the two in terms of academic performance. The data used were taken from the 15 least performing learners of the two groups based on their pre-test results. The two groups underwent a study within five weeks, learning similar competencies on Inequalities in a triangle and parallel and perpendicular lines. The pre-test and post-test results of the two groups were analyzed through t-test of independent/ uncorrelated means to check significant statistical academic performance of the groups before and after experimentation. To test for incremental scores, analysis of variance between pre and posttest of the two groups was used. Finally, Cohen's d effect size determined the magnitude of the difference in the means of the incremental scores of the two groups.

Results and Discussions

Results of the study indicated that the use of the flipped classroom to increase academic performance is successful. The post-test means of the two groups showed a statistically significant difference. The incremental scores from the group exposed to the flipped classroom strategy showed a positive statistically significant difference to the incremental scores of the group on the traditional approach. These findings suggest that learning in the flipped classroom increases learners' academic performance compared with the traditional classroom setting, much to this significance is that these mean scores interpreted were from the fifteen least performing learners of the two classrooms under comparison.

Flipped classroom increases learner outcomes in terms of their academic performance (Collins, 2015; Bergmann et al., 2012; Stohr et al., 2018; Bishop, 2013; Fisher et al., 2008; Crouch et al., 2001; Abeysekera et al., 2015; Aljaser, *2017).*

Works Cited

Abeysekera, L. & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: definition, rationale, and a call for research. Higher Education Research and Development, 34(1), 1-14. http://dx.doi.org/10.1080/07294360.2014.934336

AlJaser, A.M. (2017). Effectiveness of Using Flipped Classroom Strategy in Academic Achievement and Self-Efficacy among Education Students of Princess Nourah bint Abdulrahman University. http://doi.org/10.5539/elt.v10n4p. (http://creativecommons.org/licenses/by/4.0/)

Bishop, J. L. (2013). The Flipped Classroom: A survey of Research. ATLANTA, Paper ID#6219© American Society for Engineering Education.

Collins, B. (2015). My Top Ten Tips for Implementing a Flipped Classroom. University of Wisconsin-Platteville.

Crouch, C. & Mazur, E. (2001). Peer instruction: Ten years of experience and results. American Journal of Physics, 69, 970-977. http://dx.doi.org/10.1119/1.1374249

EDUCAUSE (2012). 7 Things you should know about … Flipped Classrooms. Educause. http://net. educause.edu/ir/library/pdf/eli7081.pdf

Stohr, C. & Adawi, T. (2018). Flipped Classroom Research: From "Black Box" to "White Box" Evaluation Department of Communication and Learning in Science, Chalmers University of Technology, 412 58 Gothenburg, Sweden.

COMPUTER-AIDED INSTRUCTION IN PRINTED MODULAR DISTANCE LEARNING MODALITY: AN INTERVENTION TO MASTER LEAST LEARNED SKILLS IN ENGLISH 9

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Introduction

Teaching Learning process can be successful and productive if learning competencies are mastered by learners. An English teacher needs to find ways and means to make this goal a reality. Bounded by DepEd's Vision and mission it is the responsibility of the teacher to employ effective strategies to hone the necessary skills for the learners.

The time spent in the classroom is not the basis how much a student learns but it is best measured through mastery of competencies. Instilling mastery in competency ensures students' gain. Moreover, according to DepEd Order No.8 s. 2015, teachers should employ classroom assessment methods that are consistent with curriculum standards. Classroom assessment also measures the achievement of competencies by the learners.

Educators are mandated to produce Filipino graduates who possess sufficient mastery of basic competencies (K-12 Basic Education Curriculum Manual). Educators need to play a vital role in the design, development, and growth of competency- based education systems. Furthermore, it is their task to develop new instructional practices and effective strategies as intervention towards mastery learning.

Mastery of learning competencies ensures learners' mastery of lifelong learning. Learners should get the instructional support they need. Academic performance is enhanced by measuring achievement through an effective strategy to achieve mastery. Failure in mastering the competencies in English also affects the learners' ability to master competencies in other subject areas like Mathematics and Science. Mastering learning competencies in these areas is affected because of poor reading comprehension skills.

Despite the efforts done by the English teachers, learners continued to have least-learned skills as shown in their MPS and the average quarterly grade quarter results. In the first quarter of the School Year 2020-2021, Grade 9-Sapphire got 88% MPS/average grade results. Unfortunately, in the second quarter of the same school year, the Grade 9-Sapphire students' MPS/average grade results in English decreased to 84%. This fact needs immediate intervention. Among the four sections in grade 9, only Sapphire section has a decreased MPS/average grade results in English, that is why, they became the respondents of the study. As 21st century learners, they need to demonstrate their abilities and skills in a creative and innovative way. Consequently, it is the desire of the researcher to facilitate learning to meet the standards. It is the teacher's responsibility to analyze the least learned skills of learners in English and to provide them innovative teaching and assessment strategies. The use of Computer–Aided Instruction (CAI) in schools has become an important vehicle to address the issue.

The main purpose of this study is to evaluate the effectivity of Computer-CAI as a way to master the least learned skills of learners in English 9. The researcher seeks to analyze the results of giving additional activities to the learners for the improvement of academic performance of Grade 9-Sapphire learners of Ichon National High School. Specifically, this study sought to answer the questions: what is the performance level of the English 9 – Sapphire learners before the intervention and after the intervention; what are the least learned skills and assessment test scores of the English 9 – Sapphire learners before the intervention and after the intervention; and what are the feedback of the learners towards the intervention?

> "Computer-Aided Instruction (CAI) is significantly effective as an intervention. The study found out that the average scores of the learners in every quarter before the intervention has significantly increased after the intervention."

This action research helped learners master their least learned skills in English. The least learned skills were taken from the quarterly test results that served as the basis for the use of CAI. The researcher hoped to accomplish a prepared activities using CAI for the realization of this research.

CAI was the intervention used for grade 9 learners to address their difficulties from the identified least-learned skills. CAI is an interactive instructional technique whereby a computer is used to present the instructional material and monitor the learning that takes place. A self-learning technique, usually offline/ online, involving interaction of the student with programmed instructional materials. This is a competency-based activities aimed to master the least learned skills. The steps of CAI are guidelines for the general use of computer software for

instructional purposes. Thus, the steps for the use of specific software will vary according to the instructions.

Methodology

The researcher purposively chosen the Grade 9 learners section Sapphire as the participants of the experimental group. MPS based on the assessment results from the modules was conducted to identify the performance level and in particular to identify the least learned skills of the participants in the 2nd quarter (before the intervention) and 4th quarter (after the intervention) in the School Year 2020-2021.

This study was conducted in Ichon National High School, Ichon, Macrohon, Southern Leyte. The researcher handled English 9 subjects and that she actually experienced how the learners got low scores from quarterly test due to the least-learned skills. The problem was addressed because of the applied intervention.

The study is quantitative in nature that utilized one-shot experimental design. This design is a type of pre-experimental design where a single group of test units is exposed to an experimental treatment and a single measurement is taken afterwards.

In this study, the researcher conducted assessment tests based on the modules (MELC-based) without the intervention (CAI) in the 1st quarter. The researcher then composed modules using CAI for the 2nd quarter. The intervention that is the CAI was implemented to the learners in the 3rd quarter to 4th quarter. MPS in the 1st and 2nd quarters (before the intervention) and MPS in the 3rd and 4th quarters (after the intervention) were computed to measure the improvement of the participants particularly those who got low MPS. Getting low MPS, that is, below 75% is considered as least learned skills.

At the end of the 4th quarter, the researcher administered a summative test to the participants that was hypothesized to signify a difference between the MPS results before and after the intervention.

A five-item online survey questionnaire on the feedback of the learners about the use of CAI was administered to the respondents via messenger. Responses were consolidated after one day of receiving messages from the respondents.

Results and Discussions

This action research analyzed data on the performance of the English 9-Sapphire before and after intervention; the average scores of the least-learned skills of the English 9-Sapphire before and after intervention; and the feedback of the Grade 9-Sapphire towards CAI.

The findings showed that that the identified Grade 9 – Sapphire students got an MPS of 88 percent in the first quarter and the MPS lowered into 84% in the 2nd quarter before the intervention. It was on this basis that the CAI as intervention was applied to the students in the 3rd and 4th quarter. It further showed that the English 9 – Sapphire students got an MPS of 92% in the 3rd quarter and increased to 97% in the 4th quarter after the intervention. This significantly presents that the CAI is significantly effective as an intervention. The study also found out that the average scores of the learners in every quarter before the intervention has significantly increased after the intervention. Consequently, the study has found out that the students have positive feedback towards Computer -Aided Instruction (CAI). This implies that the intervention is effective in attaining mastery of the least-learned skills.

It can be concluded that CAI is an effective intervention to master the least-learned skills of the students. From the results of the study, it can be recommended that CAI must be widely used, not only in English, but also in other subject areas. Furthermore, the discussion of the results of this study must be presented in School Learning Action Cell (SLAC).

Works Cited

Collet-Klingenberg, L. (2008). Computer-aided instruction: Steps for implementation. Madison, WI: The National Professional Development Center on ASD, Waisman Center, University of Wisconsin

Deped Order No.8 s. 2015. Guidelines on classroom assessment for the Kto12 basic education program.

K-12 basic education curriculum manual. Retrieved from https:// wwwdeped.gov.ph

Katherine Casey. (2012). Moving toward mastery: Growing, developing and sustaining education for competency - based education. Retrieved from https://www.inacol.org

Muir,M. (2000). What underachieving middle school students believe motivates them to learn. (Unpublished doctoral dissertation). University of Maine. [On-line]. Retrieved from http://www.mcmel.org/DisWeb/ index.html

Sturgis, C. (June 8, 2017). Introducing an equity framework for competency education. Aurora Institute. https:www.competencyworks.org https://www.academia.edu

Tolbert, E.Jr. (2015). The impact of computer-aided instruction on student achievement. Education Theses, Dissertations and Projects, Paper 127. Retrieved from 53025877.pdf

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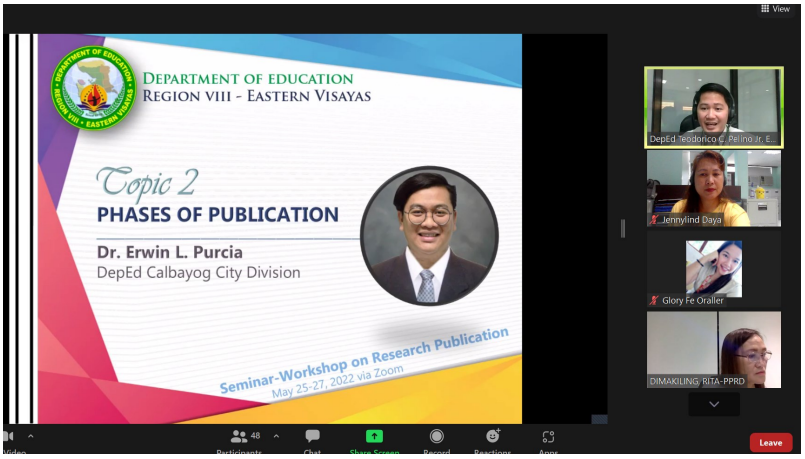
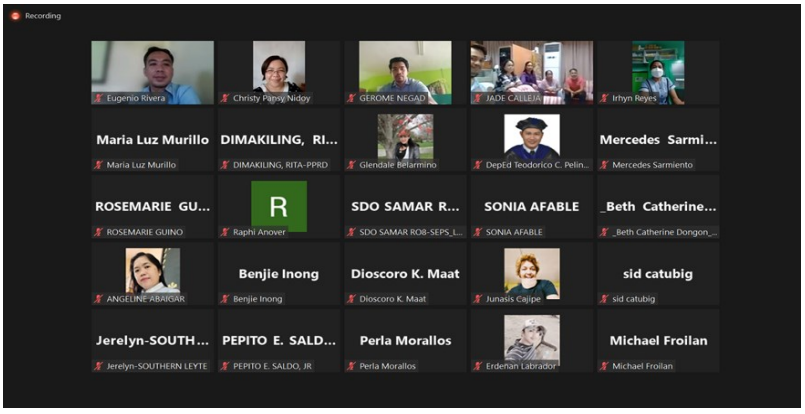
Conduct of Virtual Seminar-Workshop on Research Publication on May 25-27, 2022





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