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Efficacy of Technology in Reinforcing the Performance Task in English Among Grade 10 Students

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ABSTRACT

Technology is now considered a way of life for people that its utilization cannot be ignored if schools are responsive to the demands of globalization. The study aimed to determine the level of efficacy of technology in reinforcing the performance tasks in English of the Grade 10 students of Pundasan National High School, Gingoog City. The researcher used an experimental design. A test was designed to determine the level of efficacy of technology in reinforcing the performance tasks in English administered to the 50 respondents after six weeks of treatment through teacher modeling. The treatment was carried out with the combination of lecture, discussion, and demonstration of the application of technology as a tool for students in completing the performance tasks in English. The statistical treatments applied were frequency and t-test. The overall result indicated that there is a significant difference tested at 0.05 level between the level of efficacy of technology in reinforcing the performance tasks in English before and after the treatment. Teacher modeling on the application of technology as treatment was found to be efficient in helping students use blogging, infographics, digital scrapbooking and digital storytelling in completing the performance tasks.

KEYWORDS

Education, technology, English, performance tasks, experimental design, Philippines

INTRODUCTION

Liton (2015) emphasized that with the booming proliferation of media technology in all sections of society, digital literacy seems to be an inseparable part of students' day-to-day life at and outside of school as their need for the self-directed application of technology in language learning increases (Lai, Shum & Tian, 2016). Students referred to as 'digital natives' (Prensky, 2001) can process information fundamentally differently from their predecessors as a result of being born in a technology ubiquitous period (Browning, Gerlich & Westermann, 2011). As technology pursues ubiquity, studies have claimed the imperative application of the emerging internet technologies which has recently gained attention to the English language-learning arena: educational social media which covers blogging through the use of educational social networking online applications like Edmodo, LinkedIn and Google Classroom, and digital citizenship tools such as infographics, digital scrapbooking and digital storytelling (INNOTECH, 2012).

As an effort to bridge the digital divide between students and teachers in the ASEAN region, the SEAMEO-INNOTECH initiated flexible learning courses such as the Gearing Up Responsible and Outstanding Teachers in Southeast Asia for the 21st Century (GURO21) for teachers and Teaching and Learning Excellence in School Leadership for Southeast Asia (TEACHeXCELS) for school administrators, to address the needs in relation to the technological advances and changing educational trends of the 21st century (INNOTECH, 2012).

The digital divide and the insufficiency of technological devices in the public schools present a major challenge to Filipino curriculum designers, teachers and the researcher herself to tap the use of technology in increasing the academic achievement of the learners. Although the Philippines is still considered traditional with a particular nonchalance in accepting major changes, there are still prevailing notions and assumptions that the use of technology can harm the students' academic achievement. The education sector has started adopting technology as a teaching tool, hence, this study.

As a Guro21 learner, the researcher opted to study the efficacy of technology integration in teaching English as a language in the performance tasks of Grade 10 students of Pundasan National High School. Her experiences in applying technology had somehow helped in the students' performance as a result of the integration of technology in class.

OBJECTIVE OF THE STUDY

The study aimed to determine the efficacy of technology through the use of blogging, infographics, digital scrapbooking and digital storytelling in reinforcing the performance task in English among Grade 10 Students of Pundasan National High School, Gingoog City.

METHODOLOGY

Research Design

The study used the experimental design with the pre-test - post-test to test the hypothesis concerning the cause and effect relationship. The experimental group was given the pre-test before the exposure of the treatment and the post-test after the exposure of the treatment. The treatment was in the form of a lecture-discussion and demonstration on the use of technology to reinforce performance tasks in English. A post-test was given after the introduction of the treatment.

Research Locale

The study was conducted at Pundasan National High School, Santiago, Gingoog City, Philippines which is presently considered the second largest secondary school in the division with a population of 800 students from Grades 7 – 12, a school principal, and 34 faculty members. The Junior High School Department has a functional computer laboratory and three (3) LCD projectors available for teachers' use. One of the school's programs is to provide a television per classroom however, presently, only 3 classrooms are provided with a 32" LCD television.

Research Participants

The respondents of the study were the 50 Grade 10 students of section Service of Pundasan National High School that were subjected to the pre-test and post-test. All the students of the said section were all taken as respondents of the study who were present during the duration of the study.

Research Instruments

The researcher designed a test to determine the efficacy of technology in reinforcing the students' performance task in English in line with the competencies prescribed in the K to 12 Grade 10 – English Curriculum Guide (Department of Education,2013). It was a 40-item test composed of questions about blogging, infographics, digital scrapbooking, and digital storytelling that was submitted to the IT Coordinator and teachers for content validation. Their comments and suggestions improved the construction of the test items. It was then tried out to 30 Grade 10 students of another

section and retested to 30 Grade 10 students from another school to test its reliability. After the try-outs, the test items were reduced to 35 items after the item analysis. The reliability index is .85.

Ethical Standards

As this study utilized human participants and investigated the level of efficacy of technology in reinforcing performance tasks in English and underwent a six-week treatment, significant issues were considered including the consent of the respondents, parental consent, confidentiality, and data protection. The researcher explained in detail the process which they underwent, the administration of the pre-test and post-test, and the treatment itself. Issues regarding the devices and materials involved were also given consideration.

Data Gathering Procedure

The researcher formally wrote a letter to the Schools Division Superintendent to allow her to conduct the research as a partial requirement for the degree of Master of Arts in Education. Upon its approval, she asked permission from the principal of the target school to allow her to undertake the study to the student respondents.

After the validation of the reliability of the test, it was then given to the respondents as a pre-test. After getting the result of the pre-test, the researcher gave a lecture-discussion and demonstration type of teacher modeling on the efficacy of technology in reinforcing the performance tasks of the students in English 10 for six (6) weeks.

On the seventh (7th) week, the post-test was given to the respondents. The result of the post-test was sought to determine the significant difference between the pre-test and the post-test. The English Outputs Exhibit displaying the use of technology in the performance tasks in English followed which was critiqued by the principal and teachers and witnessed by the other students of the school.

Statistical Treatment

The mean was used to determine the level of efficacy of technology in reinforcing the performance task of students in English and the t-test was used to determine the significant difference in the pre-test and post-test.

RESULTS AND DISCUSSION

Table 1. Efficacy of technology in reinforcing the performance task in English before the exposure of the treatment

Pretest Components	Mean	Total Pretest Mean	Descriptive Equivalent
Blogging	2.46	10.84	Failed
Infographics	2.98		
Digital Scrapbooking	2.60		
Digital Storytelling	2.80		

Legend: Total Pretest Mean 35 – 30: Outstanding 29 – 24:
Very Satisfactory 23 – 18: Satisfactory 17 – below: Failed

The overall result of the pre-test reflects the subjects' low level of efficacy in using technology in the performance tasks in English that further confirms the subjects' lack of knowledge and skills in technology due to the lack of exposure to digital tools and applications in the performance tasks in the English subject.

Among the four media technologies, the result further reveals that a number of the subjects have low prior knowledge in infographics, followed by digital storytelling, digital scrapbooking, with blogging as the medium with the lowest rating. Since the subjects have experienced creating graphic organizers, they were able to answer basic questions on infographics. However, the subjects showed very low skills in using blogging in completing performance tasks in the English subject which is due to their unfamiliarity toward the technology.

As cited by Gonzalez-Lloret (2015), language performance tasks are described according to Mainemelis, Boyatzis, & Kolb's (2002) idea of experiential learning which is represented with the theory of learning by doing. Although the K to 12 Learner's Material in English (2013) provides a variety of performance task activities, there is a tendency for teachers to choose the activities suitable to the learners' level with consideration of the time and resources needed to complete the activities. Hence, to apply technology as a reinforcing tool in all the performance tasks prescribed where students can be more creative and engaged is not prioritized.

Van den Branden (2016) further emphasized that language performance tasks are goal-oriented activities in which learners achieve an outcome using language which can be done by solving a problem, doing a puzzle, playing a game, analyzing a text or video from a particular genre, or sharing and comparing experiences. However, Inozu, Sahinkarakas & Yumru (2010) pointed out that most of the materials and activities chosen are conventional and traditional which focus on vocabulary, grammar, and receptive language skills rather than allowing the students to express understanding and skills through technology.

Although Pundasan National High School has technological equipment such as computers, LCD television sets, and an LED projector, it is insufficient in number as compared to the class size and population of the school. Thus, the use of technology regularly for classroom instruction is dependent on the teachers' and students' technological resources.

Table 2. Efficacy of technology in reinforcing the performance task in English after the exposure of the treatment

Post-test Components	Mean	Total Post-test Mean	Descriptive Equivalent
Blogging	7.52	27.02	Very Satisfactory
Infographics	6.00		
Digital Scrapbooking	6.70		
Digital Storytelling	6.80		

Legend: Total Pretest Mean 35 – 30: Outstanding 29 – 24:
Very Satisfactory 23 – 18: Satisfactory 17 – below: Failed

Table 2 illustrates the result of the post-test after the exposure of the students to treatment in reinforcing the performance tasks in English using technology through teacher modeling for six (6) weeks. The mean scores reveal that the students have very satisfactorily met the necessary knowledge and skills in incorporating technology in completing the performance tasks.

As revealed in the post-test components, blogging has the highest mean which could be associated with Edmodo's similarity with popular social networking sites. The Edmodo website and mobile application provide user-friendly features allowing the teachers and students to write, post, comment and react to blogs with ease. To help the students enhance their blogs and comments before posting in Edmodo, the researcher introduced the Grammarly and the Paperrater websites to check their blogs and comments for grammar errors and plagiarism.

Blake (2016) asserts that new technologies push learners to combine speaking, listening, reading, and writing in ways that resemble more closely to how learners normally engage with the digital facets of their own lives. As students are introduced to blogging, they can express their ideas and opinions using the English language while engaging in a meaningful exchange of ideas through a social networking platform.

The students gained a mean score of 6.00 out of 10 items in using infographics. This is significantly higher than the pretest mean of 2.98. Although the students are already using photo-editing tools and graphics applications before the treatment, they still needed to be taught how to use the technology in their English outputs. The result is reinforced with Gonzalez – Lloret's (2015) digital task-based learning which states

that students must be trained on how to use technology in completing class activities, even if the overall task is understandable.

The respondents gained 6.70 and 6.80 mean scores as to digital scrapbooking and storytelling, which is significantly higher than the pretest mean of 2.60 and 2.80, respectively. During the treatment, the researcher noted a remarkable interest among the respondents in terms of these components. Interactivity and engagement are obvious particularly on the application of the basic skills in photography, photo editing, lay-outing, and video making.

Blake (2016) which confirmed that today's language students are actively engaged in producing videos because a variety of digital video tools are readily accessible and videos are uploadable to video sharing sites like YouTube. Sung, Chang & Liu (2016) quoted Ross, Morrison & Lowther (2010) to further emphasize that graphics and animation are more engaging and interesting than textbooks and workbooks and are effective strategies to supplement regular classroom instruction.

Table 3. Significant difference between the level of efficacy of technology in reinforcing the performance tasks in English before and after the treatment

Indicators	Paired Differences Mean	t – value at 95%	P value	Remarks	Decision
Pretest - Posttest	-1.61	-35.074	.000	Significant	Reject Ho

There is a significant difference between the level of efficacy in using technology as a reinforcing tool to the subjects' performance tasks before and after the treatment. The six-week teacher modeling treatment promotes a marked increase in the performance level of the subjects. An English Outputs Exhibit was then held after the treatment to showcase the Grade 10 students' performance task outputs using blogging, infographics, digital scrapbooking, and digital storytelling. The outputs were displayed and critiqued by the principal and teachers and students from the other grade levels who witnessed the activity showcasing the use of technology in the completing tasks in the English subject.

As Srisawasdi (2012) cited, the challenges for education in the 21st century are to discover and develop tools that add efficiency and value to the teaching-learning process. Technology in the classroom is a powerful cognitive tool that can transform the way a subject is taught as it requires teachers and students to use new technologies to innovate practical ideas in real-world settings. This is supported by Ross, Morrison, & Lowther's (2010) assertion that the effectiveness of a treatment is defined primarily in terms of achievement gains for the technology-supported treatment condition over the control condition. Treatment can be effective or ineffective based on the quality of instructional strategies employed and further stated that technology in classroom instruction without the proficiency of the teachers is analogous to grocery trucks that carry food but do not in themselves provide nourishment.

The duration of the six-week treatment yields a highly significant result in increasing the students' proficiency in using technology in completing performance tasks. Moreover, the result shows that the researcher has effectively made the material more meaningful and engaging in organizing and presenting lessons using technological tools. As Ross, Morrison, & Lowther's (2010) stated, using technology as a tutor, a teaching aide and as a learning tool for completing contemporary tasks has become an essential educational outcome.

Furthermore, Gorder (2010) posited that the most important factor of effective technology integration is the teachers' competence and ability to shape instructional technology activities to meet students' needs. Teachers know their content and pedagogy and what students need to know about technology. Technology proficient teachers are essential in organizing the goals of the curriculum and use technology into a coordinated, harmonious whole.

Intervention on the Application of Technology to Enhance the Performance Tasks of Students in English

Seminar-Workshop for Teachers

I. Rationale

A three-day training course is designed to address the need for enhancing the performance tasks of students by re-educating teachers in the application of technology in classroom instruction. English teachers are encouraged to attend the seminar-workshop to acquire the necessary skills and hone their technical knowledge and command relative to the goal of the Department of Education to make classroom instruction relevant to the skills and needs of the learners in terms of technology use.

The result of this study reveals that in terms of technology integration in the performance tasks in English, the learners perform best on blogging, followed by digital storytelling and digital scrapbooking with infographics as the least mastered technology.

II. Training Objectives

At the end of the three-day seminar-workshop, the teachers are expected to: (1) acquire knowledge and skills on the effective use of technology such as blogs, infographics, digital scrapbooks and digital stories in classroom instruction; (2) create blogs, infographics, digital scrapbooks and digital stories consistent with the prescribed competencies and performance tasks in English; and (3) demonstrate the application of technology in performance tasks.

III. Training Methodology

The seminar-workshop will be conducted through lecture, discussion, modeling, creation, presentation and critiquing of outputs, and teaching demonstrations.

IV. Training Participants

The course will be spearheaded by the Schools Division Superintendent, the Educational Program Supervisor in English, District English Coordinators, and teachers handling English subjects in the Junior and Senior High School departments.

V. Training Venue and Date

The training will be conducted at the Division EMIS Hall during the In-Service Training for Teachers.

VI. Implementation Arrangement

Promotion, program, and communication with the persons involved, venue, date and time, preparation and supplies, and other training essentials will be circulated and arranged by the administrative group with the coordination and assistance of the English area coordinators in the district level together with the school principals and heads.

VIII. Budgetary Requirement

The expenses for food, materials and other training expenses shall be subject to the schools' MOOE under the usual accounting procedures of the division office.

IX. Monitoring and Evaluation

The Education Program Supervisor in English together with the district English area coordinators shall monitor the implementation of the training. Research implementing team shall provide evaluation forms to the participants for the assessment and evaluation of the seminar-workshop.

CONCLUSIONS

Based on the foregoing findings, the conclusions are drawn: (1) students lack the knowledge and skills in applying technology in reinforcing the performance tasks in English and lack the basic skills on how to apply what they know about technology in completing the tasks; (2) students learn better if teachers demonstrate the application of technology as a reinforcement tool in completing performance tasks in English which was provided for six (6) weeks to students as a treatment in the study; and (3) technology is effective in reinforcing the performance task of students in the English subject. Teacher modeling on the application of technology as a strategy is efficient in helping students use blogging, infographics, digital scrapbooking, and digital storytelling in completing performance tasks.

RECOMMENDATIONS

Based on the conclusions drawn, the following recommendations are offered: (1) schools must invest in providing classrooms with technological equipment for the teachers and students to use during discussions, outputs, and performance tasks in the different subject areas for educational purposes; (2) schools must embody positive attitudes toward technology as a learning tool, use technology consistently, reflectively, and scientifically to make the teaching-learning process more effective in preparing students for higher education and future careers; and (3) teachers must have the competence in technology integration in classroom instruction to effectively model technology in the classroom, apply technology across the curriculum especially in English, and integrate technology to facilitate collaboration and cooperation among students.

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