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VML (Voice Mail Learning): a New Normal Learning Platform in Aiding Learning Difficulty in Science 10-Biology

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A R T I C L E I N F O

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A B S T R A C T

Although widely used instant messaging apps like Facebook and Messenger were not designed as teaching tools, they have evolved into venues for peer review and aid to learning. This study aimed to utilize messenger as a friendly and widely used social media app as tool in aiding learning difficulty particularly in Biology through Voice Mail Learning. A One group Pretest and Posttest design was used in gathering the test scores of the 50 respondents during the pilot implementation of face-to-face classes SY 2021-2022. The SPSS was utilized to treat the gathered data. The study revealed that the posttest results were significantly higher that the pretest at 73.31 percent as compared to 29.46 percent. Thus, a post posttest was conducted 2 months after the posttest was administered to ensure that the platform is still in effect. The results exuded 84.74 percent efficiency. The utilization of digital tools was indispensable in this era. This study recommends the widely use of Voice Mail Learning not only as aid in teaching but also an aid in learning difficulty in other major subjects.

INTRODUCTION

Context and Rationale

Traditional teaching takes place in classrooms where teachers present learning materials to a group of students. Educational technology depends mainly on teachers and students to be physically involved in the learning process. In addition to obvious advantages such as direct teacher-student contact and immediate feedback, traditional classroom teaching has many disadvantages. For example, if students do not have the opportunity to participate in a lesson, they will miss the training material. These limitations lead to the search for new and more effective teaching methods. The rapid development of information and communication technology and the increase of students' computer skills make the emergence of these new forms of teaching possible. If 15 years ago the focus was on computer-based training mainly using CDs and the local area network as the medium of communication, five years ago the focus was on using the Internet and Learning Management Systems. practice. eLearning as a new term has appeared.

The distance learning is one of the important fields in which computers and Internet applications are widely used and playing a great role in that trend. In the study of Wisanti, Ambawati, R., Putri, E., Rahayu, D., & Khaleyla, F. (2021) distance education through online learning greatly restrict students to receive qualified education and become a great challenge to teachers where online learning is a choice that should be taken to make virtual class. Distance education program does not make the learning process related to a specific building or a classroom. It extends the learning process to be available at homes, offices and in any other place in the world. With the efficient use of advanced technologies, teaching and studying at distances can be effective as the traditional instruction method. Therefore, there is a motivation for developing E-learning system (El-Bakry, H.M. & Mastorakis, N., 2009).

This study focuses on providing intervention opportunity with the aid of VML or voice mail learning as an alternative tool in the teaching and learning process to addressing the learning difficulties of students notably in the modality modular distance learning. VML is a product inspired from continuous development of E-learning system that gives promising results. In the study of Zabala, D., Sangangbayan, A., & Salamatin, L. (2017) providing different intervention strategies secure great impact on the academic performance of students. These interventions together with teachers' collaboration play important role on students' success. This study seeks light to help struggling learners to coping in the new pedagogy of acquiring knowledge in the most convenient way. The researcher found hope to addressing this timely academic concern of learners to be able to grapple in this new bedded academic system. This study will focus on the use of VML or Voice Mail Learning as a tool in bridging learning difficulties in science 10 particularly Biology.

Action Research Questions

The primordial aim of this study is to investigate the use of VML or Voice Mail Learning as aid in the learning difficulty in Biology among grade 10 students of ECNHS, this sought to answer the following questions:

1. What is the pre assessment test of students in Biology based on the most essential learning competencies prior to the implementation of VML?
2. What is the post assessment test of students in Biology based on the most essential learning competencies after the implementation of VML?
3. What is the post posttest assessment scores of students in Biology based on the most essential learning competencies after the implementation of VML?
4. Is there significant difference in the pretest and posttest assessments of students in Biology based on the most essential learning competencies?
5. Is there significant difference in the posttest and post posttest assessments of students in Biology based on the most essential learning competencies?

Proposed Innovation, Intervention, and Strategy

The VML or Voice Mail Learning has been an alternative learning platform to aid teaching notably in distance education. This became a tool to tailor learning gaps and aid difficulty in a particular subject matter. In the study conducted by Lee, H-M & Huang, C-H (2010) through the use of VML it decreased the learner's anxiety about English oral practice and further help the learner learning. Also, Keil, M, & Johnson, R.D. (2002) revealed that students appreciated higher the voice mail as social preference medium as feedbacking mechanism. Additionally, Wang, A.Y., & Chang, W.J. (2011) concludes that the use of voicemail creates an impact on the English-speaking performance of intercultural awareness of EFL students and increase motivation in learning. The aforementioned results only insinuate that the use of voice mail learning is essential in learning and can aid learning difficulties.

The proposed study vividly shows that learning Science alone is a struggling phenomenon to students particularly in Biology the most essential learning competencies fueled the researcher to address difficulty and provide avenue to make learning get through in its place. This VML will be an intervention platform for these struggling students, thus, application of intervention through the help self-made intervention program greatly increase students' academic achievement (Bautista, H. 2017). To materialize this messenger a common and widely used social media application and readily available and free of use will be utilized. Through a GROUP CHAT select students will be added. Instructions on the utilization of VML group chat will be immediately uploaded. The uploading of voice mail lessons will also in parallel based on the schedule stipulated on weekly home learning plan.

The voice mail lessons are anchored on teacher made contextualized and localized video lesson validated by the school based LR coordinators. VML related concerns will be addressed on separate group chat- "VML-Ask". After of 7 weeks of learning through voice mail students will be assessed and will be given post-test. Results on the post-test will be utilized as the by product on students' progress.

ACTION RESEARCH METHODS

a. Participants and/or Other Sources of Data and Information

The participants of the study are grade 10 students of Eugenio Cabezas National High School who will be purposively selected for they are struggling in learning Science particularly in Biology. The study is only limited for 10 students per section a total of 50 students that constitutes the respondents for the School Year 2021-2022. The selection is through the help of data lifted from program POWER IT UP those who were enrolled in intervention and remediation program will be prioritized.

b. Data Gathering Method

This study will use google form as mean of gathering data from pre-test. The pre-test to be administered is based on the MELCs extracted from PIVOT module with the approval of Science Key teacher and inputs of other science teachers where the teacher-researcher is connected. Same procedure will be used in gathering response from post-test. Post-test to be administered will be the same used in the pre-test.

TELEKAMUSTAHAN a Phone-based communication will be utilized to reach out these respondents to verify parental consent as well as explaining instructions about the intervention and remediation to be done.

c. Data Analysis Plan

Pre-experimental research design or One-group Pretest-posttest research design will be used where a group or various groups, are kept under observation after implementing the factors of cause and effect. This is to understand whether further investigation is necessary for this particular groups.

The data to be extracted from the google forms respectively analyze using MEAN to statistically describe the results of pre-test and post-test. The t-Test as an inferential statistic will be used to compare the means of pre-test and post-test and also identify if there is a significant difference.

DISCUSSION OF RESULTS

1. What is the pre assessment test of students in Biology based on the most essential learning competencies prior to the implementation of VML?

Table 1 Pre-test scores of respondents					
	N	Minimum	Maximum	Mean	Std. Deviation
PRETEST	50	12	28	20.62	4.08
Valid N (listwise)	50				

Table 1 shows that the mean scores of the respondents in the pre-test was 20.62 with the 28 as the maximum score and 12 as the minimum with the standard deviation of 4.08. This means that the pre-test scores of the respondents is predominantly lower based on the 70 total number of items given which only received 29.46 percent.

2. What is the post assessment test of students in Biology based on the most essential learning competencies after the implementation of VML?

Table 2 Post-test scores of respondents

	N	Minimum	Maximum	Mean	Std. Deviation
POSTTEST	50	41	60	51.32	4.20
Valid N (listwise)	50				

Table 2 shows that the mean scores of the respondents in the post-test was 51.32 with the 60 as the maximum score and 41 as the minimum with the standard deviation of 4.20. This means that the post-test scores of the respondents is significantly higher based on the 70 total number of items given which received 73.31 percent.

3. What is the post posttest scores of students in Biology based on the essential learning competencies after the implementation of VML?

Table 3 Post post-test scores of respondents

	N	Minimum	Maximum	Mean	Std. Deviation
POSTPOSTEST	50	48	67	59.32	5.04
Valid N (listwise)	50				

Table 2 shows that the mean scores of the respondents in the post post-test was 59.32 with the 67 as the maximum score and 48 as the minimum with the standard deviation of 5.04. This means that the post post-test scores of the respondents is significantly higher based on the 70 total number of items given which received 84.74 percent.

4. Is there significant difference in the pretest and posttest assessments of students in Biology based on the most essential learning competencies?

t-Test: Paired Two Sample for Means		
	Pre-Test	*Post Test*
Mean	29.46	73.31
Variance	33.98	35.94
SD	5.83	5.99
Observations	50	50
Pearson Correlation	0.24901086	
Hypothesized Mean Difference	0	
df	49	
t Stat	13.19	
P(T<=t) one-tail	1.51918E-35	
t Critical one-tail	1.68	
P(T<=t) two-tail	3.03836E-35	
t Critical two-tail	2.010	

Table 4 Difference between pretest and posttest

The above table shows the comparison of means between the pre-test and post-test scores of the respondents which had a pre-test mean of 29.46 and post-test of 73.31 with standard deviation of 5. 83 and 5.99 respectively. The t stat of 13.19 as the reference to the t critical value of 2.010 revealed that the posttest is significantly higher that the pretest. If the t stat is found between the -2.010 and +2.010 then the hypothesis of there is no significant difference on the pretest and posttest of using VML should be accepted, since 13.19 is found beyond the region of 2.010 then the hypothesis is rejected. This simply means that the implementation of Voice Mail Learning is indeed an aid in the learning difficulty of students. This study strengthens the study of Pereira et al., (2019) services in the form of text or voice dialogs can effectively improve both the typical learning and the peer-to-peer evaluation process of a massive open on-line course.

5. Is there significant difference in the posttest and post posttest assessments of students in Biology based on the most essential learning competencies?

Table 5 Difference between posttest and post posttest

t-Test: Paired Two Sample for Means		
	Post Test	*Post posttest*
Mean	51.32	59.32
Variance	17.60979592	25.44653061
SD	4.20	5.04
Observations	50	50
Pearson Correlation	0.396120639	
Hypothesized Mean Difference	0	
df	49	
t Stat	11.03	
P(T<=t) one-tail	3.47798E-15	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	6.95595E-15	
t Critical two-tail	2.010	

The above table shows the comparison of means between the pre-test and post-test scores of the respondents which had a posttest mean of 51.32 and post posttest of 59.64 with standard deviation of 4.20 and 5.04 respectively. The t stat of 11.03 as the reference to the t critical value of 2.010 revealed that the post posttest is a bit higher than the posttest. If the t stat is found between the -2.010 and +2.010 then the hypothesis of there is no significant difference on the posttest and post-posttest of using VML should be accepted, since 11.03 is found beyond the region of 2.010 then the hypothesis is rejected. This simply means that the implementation of Voice Mail Learning is indeed an aid in the learning difficulty of students. In the study of Jacob Kola | (2018) Due to the students' ability to learn independently and at their own speed, m-learning promotes authentic learning such as audio and video conferencing.

CONCLUSION AND RECOMMENDATION

Based on the data presented, it is evident that the implementation of Voice Mail Learning (VML) has a significant positive impact on the learning difficulty of students. The study compared the mean scores of respondents in pre-test, post-test, and post post-test conditions, and the results showed a consistent increase in scores from pre-test to post-test and further to post post-test. The post-test scores were significantly higher than the pre-test scores, and the post post-test scores were also significantly higher than the post-test scores.

The study's findings align with previous research (Pereira et al., 2019) that indicated the effectiveness of text or voice dialog-based services in improving learning outcomes, particularly in the context of massive open online courses

(MOOCs). The use of VML seems to be an effective aid in facilitating learning and overcoming difficulties faced by students.

Considering the positive impact of Voice Mail Learning on learning outcomes, it is recommended that educational institutions and instructors incorporate VML into their teaching methodologies. By leveraging VML, instructors can promote authentic learning experiences, such as audio and video conferencing, enabling students to learn independently and at their own pace.

Furthermore, as technology continues to advance, exploring and integrating various mobile learning (m-learning) approaches, including VML, can enhance the overall learning experience for students. It is essential for educators to stay updated on the latest advancements in educational technology and adapt their teaching methods to cater to the diverse learning needs of students.

However, while the results are promising, further research could be conducted to delve deeper into the specific aspects of VML that contribute to its effectiveness. Understanding the factors that make VML successful can lead to even more targeted and efficient implementation in educational settings. Additionally, investigating the long-term effects of VML on student learning and retention would be valuable for assessing its sustainability and overall impact.

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