# Project V.A.L.A: the Impact of Virtual Assisted Learning Approach on Grade 10 Failing Students in Modular Distance Learning

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**Abstract**: Modular distance learning is identified as the most commonly used type of learning in the Philippines as cited in the study of Bernardo (2020). Around  % of the students in the Division of Manila opted to choose modular based type of learning and prefer to submit all outputs on a weekly basis in school.

**Keywords:** Impact of Virtual Assisted Learning, Modular Distance Learning.

## INTRODUCTION

With all the efforts of the Department of Education to provide quality education through different modalities anchored in the Basic Education Learning Continuity Plan (BE-LCP), there are still some difficulties encountered by the students and the parents. Most of them are not fully assisted by the parents or guardians as they are challenged to understand the given concepts and instructions and they do not have time to guide the students due to work and other responsibilities at home (Dangle & Sumaoang, 2020).

In the advent of the improvement and innovation of distance education weaved with the personal experiences of the author as part of the academe, it accompanied with the idea to pursue with a study on pedagogical advancement in teaching Science on modular students. Hence, the researcher supported Virtual Assisted Learning Approach (V.A.L.A) as the teaching innovation in assisting learners under modular distance learning (MDL).

VALA is a more dynamic learning assistance within the MDL which is vital in reducing the barrier of technologies and diversity of learning preferences (Costello & Shaw, 2014). It is effective to improve student's knowledge and increase their understanding and critical thinking (Betlen, 2021). Moreover , it provides a sufficient time of encouraging students to learn science concepts and set the notion of understanding it that involved knowledge and critical analysis (Costello & Shaw, 2014).

VALA focuses on the level of comprehension of MDL students who are able to comply and submit answered Science Self-Learning Modules (SLM) given by the school and be able to help their parents to surpass difficulties in this time of pandemic. This learning approach has 3 main phases: (1) Selection Method as the students are able to select and identify topics or questions were they found those difficult to comprehend; (2) Virtual Assistance method where the proper implementation of the approach; and (3) Assessment Method as students took pre and post assessments to determine and analyze the progress and significance of the VALA.

## SIGNIFICANCE OF THE STUDY/RATIONALE

The results of this study is vital to science teacher who are handled modular students. This research provides information to science teachers an approach in teaching MDL in order to perform well and comply with the given tasks. **School administrators** might deem the importance of this study; they will given wisdom on providing teachers with webinars, training and workshops to make them more equipped with innovative teaching strategies, approaches, techniques and methods regardless of their subject matter. **Future researchers** might also be benefited on this action research; this study will be the beginning of innovative research works that will be beneficial to the school.

## RESEARCH PROBLEM/QUESTION:

The research sought to answer the following specific questions?

1.  What is the pretest performance of the Non-VALA and the VALA group?

2.  What is the significant difference exists between the pretest performance of the non-VALA and the VALA group?

3.  What is the posttest performance of the Non-VALA and VALA group?

4.  What is the significant difference exists between the posttest performance of the non-VALA and the VALA group?

5.  What are the challenges encountered by the modular students and the parents from participating in the project VALA?

## METHODOLOGY

The study utilized quasi-experimental design through non-equivalent control group to investigate the impact of VALA in the performance of the modular students, whereby two intact groups of Grade 10 students was the sample population in the experiment. One section is the control group that use the usual method of accomplishing Science 10 SLM, while the other section was the experimental group that used VALA during the experimentation. The two treatment groups were pre-test, administered a treatment, and afterward a post test.

Data collected were analyzed using F-test emphasizing one-way analysis of variance (ANOVA) which enabled the researcher to partial out the initial differences from the two groups.

## A. PARTICIPANTS/DATA SOURCE

The study made use of Grade 10 modular students of Ignacio Villamor High School as the subjects, as the researcher is one of the faculty members of the Science department. Two sections consist of 23 students each took part and they were chosen randomly with parent's consent to participate in the said study.

## B. DATA GATHERING PROCEDURES AND INSTRUMENTS

In order to measure the impact of VALA in the performance of modular students, pre test and posttest were administered. A demographic profiling survey form was also used to determine the behavior towards modular distance learning and the factors that hinder the students to accomplish science modules. Moreover, the grades of participants from the previous grading period provided the basis of assigning the respondents to be part of the VALA group. Data and results of a one quarter- long experiment focusing on topics: Electromagnetic Waves, EM Spectrum, Wave Equation, and Mirrors and Lenses.

**Table 1** *Difference between the Mean Scores of the Non VALA and VALA Group in their Pretest Performance*

F-statistic value = 0.41332

P-value = 0.52363

| Data Summary | | | | |
|---|---|---|---|---|
| Groups | N | Mean | Std. Dev. | Std. Error |
| Group 1 | 23 | 22.4783 | 9.7508 | 2.0332 |
| Group 2 | 23 | 20.6087 | 9.9715 | 2.0792 |

| ANOVA Summary | | | | | |
|---|---|---|---|---|---|
| Source | Degrees of Freedom DF | Sum of Squares SS | Mean Square MS | F-Stat | P-Value |
| Between Groups | 1 | 40.1971 | 40.1971 | 0.4133 | 0.5236 |
| Within Groups | 44 | 4279.1961 | 97.2545 | | |
| Total: | 45 | 4319.3932 | | | |

One-Way ANOVA [Average ± Standard Deviation]
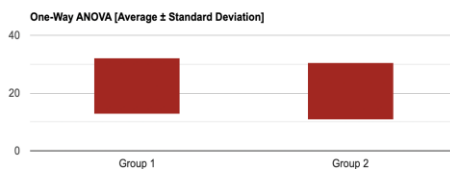


It is reflected on Table 1 that there was no significant difference between the performance of the two groups in the pretest. The analysis of variance (ANOVA) obtained an F-value of 0.4133, p = (0.5236) is greater than the alpha (.05), the research hypothesis is rejected.

**Table 2** *Difference between the Mean Scores of the Non VALA and VALA Group in their Posttest Performance*

F-statistic value = 11.88109

P-value = 0.00126

| Data Summary | | | | |
|---|---|---|---|---|
| Groups | N | Mean | Std. Dev. | Std. Error |
| Group 1 | 23 | 27.5217 | 9.7881 | 2.041 |
| Group 2 | 23 | 37.8696 | 10.5585 | 2.2016 |

| ANOVA Summary | | | | | |
|---|---|---|---|---|---|
| Source | Degrees of Freedom DF | Sum of Squares SS | Mean Square MS | F-Stat | P-Value |
| Between Groups | 1 | 1231.4089 | 1231.4089 | 11.8811 | 0.0013 |
| Within Groups | 44 | 4560.3541 | 103.6444 | | |
| Total: | 45 | 5791.763 | | | |

One-Way ANOVA [Average ± Standard Deviation]

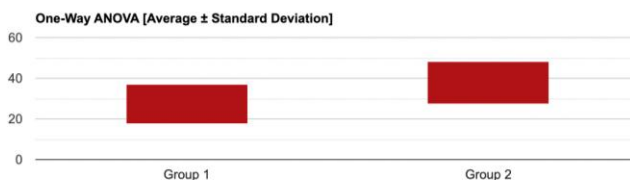

Table 2 showed a significant difference between the posttest of the non-VALA and the VALA group. The ANOVA result showed an extremely significant at F = 11.8811, p=0.0013. It revealed that VALA group (Group 2) had better performance in the posttest and it affirmed that VALA is a significant approach in increasing the motivation that led to better academic performance of Grade 10 modular students.

**CONCLUSION AND RECOMMENDATION**

**a. SUMMARY OF FINDINGS**

Consequently, the following conclusions had been encapsulated by the researcher, wherein the utilization of Virtual Assisted Learning Approach (VALA) was effective and provided significant changes in the performance of the grade 10 modular students particularly in the Second quarter.

## b. IMPLICATIONS/REFLECTIONS AND RECOMMENDATIONS

The study revealed that VALA improves student's performance and provide better learning experience through modular distance learning.

Accordingly, the following are the recommendation of this study: First, modular teachers should promote the utilization of varied pedagogical approach, methods, and teaching strategies by which modular students will learn better. Second, school administrators should provide avenues for teachers to be equipped with innovative ideas and research-based instructional approaches to be more effective in their field. Third, conduct the same study by which the time span of the VALA will be longer where all coverage of topics would be in a wider scope in order to determine the effectiveness of VALA in all grade level. Lastly, conduct an experiment on VALA to other disciplines and would not only prosper in the field of science.

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