**Conceptual Framework**

In relation to the Situated Cognition Theory by Myers & Wilson (2000) that learning is where active participation and interaction happens, the following paradigm is developed.

The independent variables consist of the gadget-based review technique and the paper-and-pen or the longhand review technique. The dependent variable is the grades of the students in a given test on Oral Communication skills.

Independent variables Dependent Variable

Review Techniques

* Gadget-based
* Longhand

Level of Oral Communication Skills before and after Using Review Techniques in terms of:

* Grammar
* Vocabulary

Figure 1. Research Paradigm

**Statement of the Problem**

The purpose of this study is to compare the exam grades of grade 11 learners who will utilize a gadget-based review technique to those who will use longhand/paper-and-pen review technique. The study was conducted at Christian School International, Los Baños, Laguna. The independent variables are as follow: (a) gadget-based review technique as any reviewer or notes that are stored (softcopy) in an electronic gadget; and (b) longhand/paper-and-pen review technique as any reviewer written on paper (hardcopy) which may be handwritten and/or a print-out form. The dependent variable is defined as the exam grades or result attained by the respondents.

The following questions served as the foundation of the study which the researcher will try to answer:

1. What is the level of oral communication skills of learners before and after using gadget-based review technique in terms of:
2. Grammar, and
3. Vocabulary?
4. What is the level of oral communication skills of learners before and after using longhand review technique in terms of:
5. Grammar, and
6. Vocabulary?
7. Is there a significant difference between the level of oral communication skills of learners before and after using gadget-based review technique?
8. Is there a significant difference between the level of oral communication skills of learners before and after using longhand review technique?
9. Is there a significant difference between the level of oral communication skills of learners using gadget-based and longhand review technique?

**Hypotheses**

## The following hypotheses were tested in this study:

1. There no significant difference between the level of oral communication skills of learners before and after using gadget-based review technique.
2. There is no significant difference between the level of oral communication skills of learners before and after using longhand review technique.
3. There is no significant difference between the level of oral communication skills of learners using gadget-based and longhand review technique.

**Definition of Terms**

To fully understand this study, the following terms are defined conceptually and operationally:

**Average learner(s).** Average is a level that is typical of a group, class, or series; a middle point between extremes. In this study, it is defined as a student whose midterm grade in Oral Communication will fall in the mean range.

**Gadget-based reviewer**. An often small mechanical or electronic device with a practical use but often thought of as a novelty. In this study, it refers to any softcopy of the lecture notes of a learner saved in an electronic device such as smartphones, tablets, laptops, and desktops which can be used as reviewers.

**Grammar.** The set of rules that explain how words are used in a language. In this study, it means the rules in forming sentences which will be given to the learners.

**Longhand/Paper-and-pen reviewer**. It is defined as the use of paper and pen or pencil in an activity. In this study, it refers to anything that is written down on a paper. It may be handwritten, printed-out, notes from notebooks, and textbooks or reference books used as a reviewers of a learner.

**Oral Communication Skills.** These are the skills involved in the process of verbally transmitting information and ideas from one individual or group to another (study.com>academy>oral communication). This refers to skills used in the Oral Communication subject such as grammar and vocabulary in this study.

**Review Technique.** A way of carrying out a particular task, especially the execution or performance of an artistic work or a scientific procedure. In this study, it is the way on how a learner will study for a test. It may be gadget-based or long hand.

**Vocabulary.** Is a sum or stock of words employed by a language, group, individual, or work or in a field of knowledge. In this study, it is the prior or stock knowledge of the learner in the definition of terms. These definitions may be both connotative and denotative.

**CHAPTER 3**

**RESEARCH METHODOLOGY**

This chapter discusses the methods and procedures that were used for the study. It includes research design, sampling techniques, respondents of the study, research instrument, research procedure, and statistical treatment of idea.

**Research Design**

A quantitative quasi-experimental approach was used in this study.

Quantitative research, as the term suggests, is concerned with the collection and analysis of data in numeric form. It tends to emphasize relatively large-scale and representative sets of data, and is often presented or perceived as being about the gathering of `facts'. (Blaxter, Hughes and Tight, 1996)

Quasi-experimental research is similar to experimental research in that there is manipulation of an independent variable. It differs from experimental research because either there is no control group, no random selection, no random assignment, and/or no active manipulation. (Abraham & MacDonald, 2011)

Based on an article in webcourses.ucf.edu, “the pretest - post-test nonequivalent control group design controls some for group differences by measuring participants in both groups before and after treatment. There is no random assignment, but since the groups are measured before and after treatment there can be greater confidence in the similarity of the groups and thus that the treatment alone is responsible for any differences observed post treatment.”

**Participants of the Study**

The participants of the study are the grade 11 learners of Christian School International (CSI), at Los Baños, Laguna. These learners belong to Science, Technology, Engineering, and Mathematics (STEM); and Accountancy and Business Management (ABM) tracks. Participants are 30 ‘average’ learners, 15 from each section. “Purposive sampling is used to determine the ‘average’ learners. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study” as defined by Ashley Crossman (2019). These ‘average’ learners were ascertained based on the score mean in Oral Communication midterm grade from each section.

**Sampling Techniques**

After the private school was selected, a cluster sampling was employed based on the section of the respondents. Cluster sampling is defined as a [sampling method](https://www.questionpro.com/blog/types-of-sampling-for-social-research/) from a population where multiple clusters of people are created. These clusters indicate the same characteristics and have an equal chance of being a part of the [sample](https://www.questionpro.com/audience/). A [simple random sample](https://www.questionpro.com/blog/simple-random-sampling/) is created from the different clusters in the population in this sampling method.

To get the mean score, the highest and lowest scores in each section are added and the sum is divided by 2. From the computed mean score, seven (7) learners above and seven (7) learners below were counted as participants.

**Research Instrument**

Teacher or researcher-made tool was validated by experts and used for this study. Sets of reviewers, gadget-based and longhand, were utilized by the respondents in preparation for a series of tests. Rules in subject-verb agreement and vocabulary are the topics included in both reviewers. Gadget-based reviewer is the softcopy of the lecture notes of a learner saved in an electronic device such as smartphones, tablets, laptops, and desktops which were used as the learner’s reviewer for the test given. These softcopy lecture notes are made presentations provided by the teacher. On the other hand, longhand reviewer is anything that is printed down on a paper. It may be handwritten, printed-out, notes from notebooks, and textbooks or reference books used as a reviewer of a learner. In this study, the learner used a printed-out version of the same reviewer used in the gadget reviewer. The test will be made as standard assessment tool to evaluate students’ performance in written works. This is based on the topics given. The test will follow a table for specifications (Appendix 5).

**Research Procedure**

After identifying the private schools through stratified random sampling, a letter to the school head/president/director was given requesting permission to conduct the study (Appendix 1).

Once approved, the respondents were determined based on their final grades in Oral Communication (see Sampling Technique, Chapter III).

After determining the respondents of the study, each section/group was labelled as ‘gadget-based group’ and ‘longhand group’, respectively. Both groups were given a pretest. Afterwards, the gadget-based group was instructed to review for a test using a provided softcopy reviewer using their gadgets only (Appendix 2). On the other hand, the longhand group was instructed to review for the same exam using a printed/hardcopy reviewer on papers only (Appendix 3). The reviewers discuss Oral Communication skills (grammar and vocabulary). Both groups reviewed for a specified number of minutes. Afterwards, an exam on Oral Communication skills (grammar and vocabulary) were answered by the learners (Appendix 4).

After which, the papers will be checked by the researcher. Their scores will be recorded and computed based on the DEPED prescribed transmutation table. The raw scores and their transmuted scores will be evaluated and analyzed.

**Statistical Treatment of Data**

The researcher used weighted mean to determine the exam results of two groups of learners. Mean refers to the mean or average that is used to derive the central tendency of the data in question. It is determined by adding all the data points in a population and then dividing the total by the number of points. The resulting number is known as the mean or the average (https://www.techopedia.com/definition/26136/statistical-mean).

After determining the mean, standard deviation was employed. According to investopedia.com, standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the [variance](https://www.investopedia.com/terms/v/variance.asp). It is [calculated](https://www.investopedia.com/ask/answers/021115/what-difference-between-standard-deviation-and-z-score.asp) as the square root of variance by determining the variation between each data point relative to the mean. If the data points are further from the mean, there is a higher deviation within the data set; thus, the more spread out the data, the higher the standard deviation.

Paired t-test was used to test the significant difference between the results of pretest and post-test of each group (gadget-based and longhand). According to statisticssolutions.com the paired sample *t*-test, sometimes called the dependent sample *t*-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample *t*-test, each subject or entity is measured twice, resulting in *pairs* of observations.

An independent t-test was used to test the significant difference between the results of pretest and post-test of the two groups (gadget-based and longhand). According to statistics.laerd.com, the independent-samples t-test or independent t-test compares the means between two unrelated groups on the same continuous, dependent variable.

Cohens d was employed. It is typically used to represent the magnitude of differences between two (or more) groups on a given variable, with larger values representing a greater differentiation between the two groups on that variable ([Neil J. Salkind](javascript:void(0);), 2010).