



Activity-based learning in developing writing skills of undergraduates; a study based on physical science students of faculty of applied sciences at south eastern university of Sri Lanka

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Abstract

The English language plays a vital role nowadays in human beings' day to day life. The following era will have to arise where no one survives without knowing the English language. Regarding this arena, while accumulating the concentration on the undergraduates' ability on writing skills, it reveals that rather than the use of theoretical knowledge, the more practice in writing only may produce them perfectly. The Research objectives are to promote English writing skills based on the activity process point. The English language as it should be put into practice to be excelled. The study explored that the students do not pay much attention to enhancing their writing skills to improve themselves. Writing skill is one of the most powerful drugs which is used by human beings. Writings have the power to change the dignity of society. Hence the undergraduates who are going to pass out from the universities should be possessed standard and polished writing skills, especially in the English language. Because writing in the English language may be read, observed, and absorbed almost by everyone all around the world. Thus activity-based learning urged the students to go forward in writings and probably polish their ability in writing through the Activity-based learning process. It is not only at the faculty of Applied Sciences but every university student has to be trained through this process to promote their writing skills further. The 50 students were divided into two groups and the first group is called as experimental group and the next group students were called a control group. The direct observations, questionnaires, interviews, tasks, exercises, and the activities had been given to them and the data had been collected as the primary data. And the secondary data had been collected from their previous examination records. Activity-Based learning, continuous practices and varieties of activities shall make them perfect in writing at English and surely bestow them the great benefits to shine with powerful writings now and hereafter.

Keywords: Activity-Based learning, Accumulating, English Language, Undergraduates, Writing skills

1. Introduction

The title of this research is obviously conveying the arena of this research. "Activity based learning in developing writing skills of undergraduates: A study based on the first year students of applied sciences at South Eastern University of Sri Lanka". Activity based learning or ABL describes a range of pedagogical approaches to teach. Activity based learning is one kind of stimuli for learning and doing search more. In this competitive world each and every child wishes to beat another one in any kind of activities, especially in learning and sports. On this basis, to uplift the standard of the writing of the students of physical Science, by providing the exercises, practices and tasks of writings within the lecture hours, let them to do the exercises themselves and pair works without browsing the internet and without using some other aids.

If the students are provided the opportunity to explore their own and an optimum learning environment then the learning becomes joyful and long lasting and it will assist their brain to increase their creative thinking as well.

Therefore, the activity-based learning may be very helpful to the students comparatively merely teaching with notes of modules and handouts at lecture hours. Writing skills are the one of the most powerful drugs which is used by human beings. Writings may change the atmosphere and the dignity of a society. Hence the undergraduates who are going to pass out from the universities should be possessed standard and polished writing skills, Especially in English language. Because writing in English language may read, observe and absorb almost by everyone all around the world. English is a language, it cannot be taught the same way as how the other subjects are taught in universities. English language is essential to lead a standard lifestyle and it indeed is a necessary requirement for a country like Sri Lanka which has multilingual dwellers.

Hence, English Language should be grown up along with its four kinds of skills. Such as reading, writing, speaking and listening. When we try to enhance the writing skills, we may use some mechanisms like providing more activities, let the students to arise the questions regarding to the lesson, and check their grammar errors also.

Further, most of the first-year students are the freshers to the English Medium. When they asked to write reports, records for their subject related materials; perhaps they face many difficulties to write with proper grammar and language. Hence, through the activity-based learning they will be trained more and more. It may structure questions, essay type questions and varieties of writing practices. Whatever it is, all the activities will make the students perfect.

1.1 Aim of the research

The aim of this study is to promote the English writing skills based on activity process point. The theoretical methodology cannot be fully applied in teaching writing English language as it should be put into practice to be excelled. The study explored that, the students don't pay much attention on enhancing their writing skills in order to improve themselves. In contrast, writing skills based on activity processes are should be done by themselves or it should be practiced to them by their guides. Only reading and practicing the activities of their syllabus lead to decrease their language proficiency and will be limited the capacity of the student's writings skill.

When they had been observed, it was found that the students writing skills are should be enhanced by providing the activities more than their syllabus limited portion and the theories are also ought to focus more and more to obtain the effective writings among the students. Furthermore, this is modern and student-centered learning era, so that they should realize the values and the importance of English around the world and they should try to overcome across the world's challenges towards the students, specially the physical science students who have great challenge to fetch the world in its turning point and are going to lead the future world in overall part, the future world will be fully covered only by English language. So that, the undergraduate students should have possessed well packed knowledge in way of various writing skills. This curiosity of writing skill going to emerge by providing verities of activities and find out the drawbacks of the students and help the students to develop the writing

skills further.

1.2 Research background

Promoting English writing skills based on the activity process point is one of the most essential proficiency to be acquired by the undergraduates. The theoretical methodology cannot be fully applied in teaching writing the English language as it should be put into practice to be excelled. The study explored that, the students do not pay much attention to enhancing their writing skills to improve themselves.

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So that, the undergraduate students should have possessed well-packed knowledge in ways of various writing skills. This curiosity of writing skill going to emerge by providing verities of activities and find out the drawbacks of the students and help the students to develop the writing skills further.

1.3 Objectives

The research objectives are,

- To identify the problems of writing in English among First-year physical science students of the South Eastern University of Sri Lanka.
- To understand how students, attempt to overcome their problems through an activity-based learning process.
- To identify what kind of support students, expect from their lecturers to enhance their writing proficiency.

1.4 Limitations of the research

This research area has been limited to about 50 students at the Faculty of Applied sciences from the first-year students of physical science. Some of the students studied in English medium whereas most of the students studied in their mother tongues (Tamil/Sinhala). Hence when they enter the university they tent to learn in English medium. Suddenly they have turned into another medium of learning, there they face more struggles to write and to communicate with other students. Therefore, to enrich the writing proficiency of the students by giving relevant activities and make the activities based on writing will increase their abilities in writing skills.

2. Literature Review

Some researches had been conducted by some scholars and researchers related to Activity-based learning. It also had been cited in this research. Such as Zahoor Ul Haq 'Development of Language Skills Through Activity-based

learning at Grade-VI (February 2016) when he explains in his research publication ‘Development of language skills through activity-based learning at Grade-VI in Khyber Pakhtunkhwa’ that Activity-based learning was a new study. The study was designed to investigate the effectiveness of activity-based learning methods while teaching English as a second language. The study reflected that activity-based learning is a method of teaching where the learners are actively involved in the course of knowledge. Further, stated that activity-based learning is a method in which learners are vigorously contributing to all learning activities while they do not participate merely as unreceptive spectators. Similarly, believes that if these activities are related to learning on practical experiences of life will support the learners in converting their information into their acquaintances and that can be used in many diverse circumstances. The research study depicts that there are two reasons based on which active and conventional approaches are different from one another such as; firstly, on the active engagement of the student and secondly, on the cooperation among the students. While considering about other secondary school related researches indicate that many teachers connect writing to speaking, suggesting that a written piece consolidates language used in class. And yet, writing which is properly integrated with other classroom activities can become a great way of consolidating language acquired in class. Students can be motivated to write when topics are interesting and relevant to them and when teachers allow them some choice: this choice may be a choice of a topic or of how to present their topic or regarding how much they should write. Writing can be a nice way to engage and motivate our shyer and quieter students. That is why many students think that it's better to give the writing task in the classroom rather than giving it for homework, as when writing is done in class, teachers can guide their students through the whole process. The teacher will be able to facilitate and fix so students can gain many things aside from the practice of writing itself emphasizes the importance of various activities and their relevance in everyday activity-based teaching methodologies. He brings light to the fact that ABL is a cognitive-based learning technique that works on constructive learning. Constructive learning comprises prior knowledge along with personal experiences. This theory emphasizes that learning is a process that comprises the psychological environment of an individual along with interactions with various other structures of the society. It is vital for learners in ABL classrooms to share personal experiences that enhance the whole constructive atmosphere. Using a constructive method of teaching is believed to be far more effective than a traditional classroom setup as it enhances the learning process.

Churchill (2003) ^[8] propagates that activity-based learning aids students and learners to construct mental models that allow for higher-order performance such as applied problem solving and transfer of information and skills.

Moreover, when he elaborates on the effectiveness of activity-based learning that A classroom project is a good way to motivate students to write because it offers the opportunity to match tasks with interesting topics that are relevant to the students. In this article, we offer you some specific ways that project-based work can help students become active, involved participants in writing tasks. Tasks

are characterized by students collaborating in pairs and small groups.

When Teo and Wong (2000) ^[16] state that the traditional technique of teaching does not incorporate the utilization of previous knowledge and also does not let creativity bloom. On the contrary argue that the impact of ABL as a tool is to motivate students to encounter the HOW of learning by using various techniques and activities. Activity-based learning facilitates students to learn self-direction and develop critical thinking skills for problem-solving at all levels of education. Having reviewed the previous studies related to this current study, the researcher concluded that there are a variety of factors that affect students' writing skills performance. The literature reviewed in this chapter has also given a clear picture for the researcher to further investigation of the problems for this study.

3. Methodology

The mixed-method both the qualitative and quantitative methodologies had been used to analyze these data. The students were selected randomly from first-year physical science students at the Faculty of Applied Sciences. The 50 students of the faculty of Applied Sciences were divided into two groups and the first group is called as experimental group and the next group students were called a control group. The direct observations, questionnaires, interviews, tasks, exercises, practices, and the activities have been given to them and the data had been collected as the primary data. And the previous examination records had been collected as secondary data. While previous examination records, journals, articles, and websites are the secondary data sources used for this study. Collected data were analyzed by using qualitative methods and presented in texts descriptively and effectively.

3.1 Research design

According to Cohen *et al.* (2011, as cited in Aloysius 2015) research is a process of arriving at a dependable solution to the problems through a planned and systematic collection, analysis, and interpretation of data. The method employs and determines the type of either as quantitative or qualitative, “whereas, quantitative research refers to counts and measures of things, qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things’ Anderson (2006.3, as cited in Aloysius). The research design is intended to provide an appropriate framework for a study. A very significant decision in the research design process is the choice to be made regarding the research approach since it determines how relevant information for a study will be obtained; however, the research design process involves many interrelated decisions.

3.2 Research Participants

3.2.1 Selection of population

Table 1: Distribution of the sample according to gender (Experimental group)

Classification	Amount	Percentage
Male students	10	40%
Female students	15	60%
Total	25	100%

Table 2: Distribution of the sample according to gender (Control group)

Classification	Amount	Percentage
Male students	15	60%
Female students	10	40%
Total	25	100%

In addition to the purpose of the study and population size, three criteria usually will need to be specified to determine the appropriate sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976). Nov 6, 1992

3.3 Data collection

Data collection is a methodical process of gathering and analyzing specific information to proffer solutions to relevant questions and evaluate the results. It focuses on finding out all there is to a particular subject matter. Data is collected to be further subjected to hypothesis testing which seeks to explain a phenomenon. Hypothesis testing eliminates assumptions while making a proposition from the basis of reason. Research cannot be completed without “Data”. The data is the most prominent thing when it comes to research. Without proper data, the study or the research will be invalid and less likely to be appreciated when it comes to decision making. Therefore, it is more important to have proper data collection when conducting research. According to Sapsford and Jupp (2006), data collection is a significant mechanism in any research. It allows a researcher to assemble exact information prudently, to achieve the objectives of the study. This section briefly explains how the data for the study were collected using different research instruments. The term “primary data” refers to data we collect ourselves, rather than data we gather after another party initially recorded it. Primary data is information obtained directly from the source. We will be the first party to use this exact set of data.

Secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their research. It is a type of data that has already been collected in the past. A researcher may have collected the data for a particular project, then made it available to be used by another researcher. The data may also have been collected for general use with no specific research purpose like in the case of the national census.

Data classified as secondary for particular research may be said to be primary for another research. This is the case when a data is being reused, making it a primary data for the first research and secondary data for the second research it is being used for. Sources of secondary data include books, personal sources, journals, newspapers, websites, government records, etc. Secondary data are known to be readily available compared to that of primary data. It requires very little research and the need for manpower to use these sources. With the advent of electronic media and the internet, secondary data sources have become more easily accessible. Some of these sources are highlighted below.

3.5 Research Instrument

This is the fact-finding strategy. This is the tool for data collection. They include Questionnaires, Interviews, Observation, and Reading. Essentially the researcher must ensure that the instrument chosen is valid and reliable. The

validity and reliability of any research project depend to a large extent on the appropriateness of the instruments. Whatever procedure one uses to collect data, it must be critically examined to check the extent to which it is likely to give you the expected results. This study employed both quantitative and qualitative research as a mixed method. The design using questionnaires as one of the research instruments along with a focused-groups discussion to collect in-depth information from different points of view.

A research instrument is a tool used to obtain, measure, and analyze data from subjects around the research topic. We need to decide the instrument to use based on the type of study we are conducting: quantitative, qualitative, or mixed-method. For instance, for a quantitative study, we may decide to use a questionnaire, and for a qualitative study, we may choose to use a scale. While it helps to use an established instrument, as its efficacy is already established, we may if needed use a new instrument or even create your instrument. We need to describe the instrument(s) used in the Methods section of the paper.

Table 3: Five-point Likert scale marking criteria

Scale	Agreement	Mean Range	Level of problem
5	Strongly agree	4.50 – 5.00	Very high
4	Agree	3.50- 4.49	High
3	Neither agree / disagree	2.50- 3.49	Moderate
2	Disagree	1.50 – 2.49	Low
1	Strongly disagree	1.00 – 1.49	Very Low

Table 4: Four-point Likert scale marking criteria

Scale	Agreement	Mean Range	Level of problem
4	Strongly agree	3.50 – 4.00	Very high
3	Agree	2.50 – 3.49	High
2	Disagree	1.50 – 2.49	Low
1	Strongly disagree	1.00 – 1.49	Very low

4. Data Analysis

This chapter explores the findings which were found out through the experiments, questionnaires, task sheets from the students, and form the focus group, interviews conducted with the students. First, it clearly explains the students’ attitudes towards writing in English and their opinions about major problems in writing. Then the research questions were analyzed. All three research questions are answered to subjects. Finally, this chapter presents an overview of the research findings as a discussion. The sample of students was divided equally, 50 into experimental and control groups through pair random sampling technique on the source of instructor-made pre-test scores. Low achiever, high achiever students were divided into both groups equally. Pre-test, post-test equivalent group design was used. The experimental group was treated with the designed ‘activity-based learning method’ while the control group was taught through conventional/traditional language learning methods for seven weeks. When the treatment was over, the researcher made post-test was administered to compute the success of the students in language skills. This following grid shows the sample participants of this research process. The percentage also has been calculated according to their crowd. The participants are the most important elements in the research process.

For the sake of this research process, both male and female students were included without any discrimination. As

physical science students, girls are also studying mostly in the field of mathematics nowadays. And comparatively, girls have more enthusiasm towards learning the English language than the male students. In addition to this, female students' writings are finer and neater hand-writing than their opposite gender. There are some real facts to understand that the most prominent factor is the mother tongue influences. Not only their speaking but its influence can be seen in their writing too. For instance,

Ex:- “ I am hungry” can be said in Sinhala as “මම බඩගිනිසි” in Tamil “எனக்கு பசி”

When we take look into the above examples it indicates that all three languages are the same in meaning but the structure of languages different. When the students start to write in English they try to change or translate English into the same structure of their mother tongue. There, the problems arise.

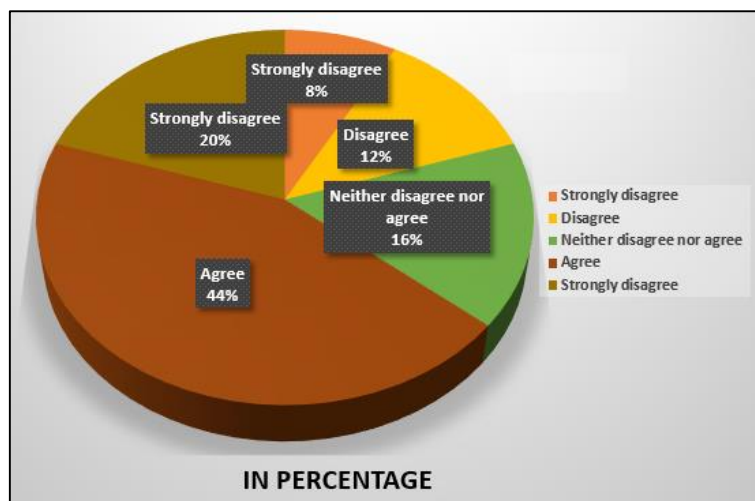


Fig 1: It clearly shows in the percentage chart how the students express their willingness towards writing in English

The participants were having the passion to write more in English after several types of activities and tasks, which urge them to write further. They said that “English is the easiest language on the Earth which is easy to speak, write and read than our mother tongues because it contains just 26 letters and the linguists and grammarians put all these alphabets together and called it English”. All our past time with English was ruined without knowing the easy ways of learning English. It was noticed the improvements not only in their writings but also in their speaking too.

The questionnaire was given to the experimental group after several activities, task sheets, exercises, and practices are given to them. There are 25 students were included in this experimental group. Various types of questions were given to them and after four weeks of practice they able to write the essay type question and gradually learned to write properly professional writings. Hence, continuous writing practice with standard activities promote the learning processes quickly and accurately.

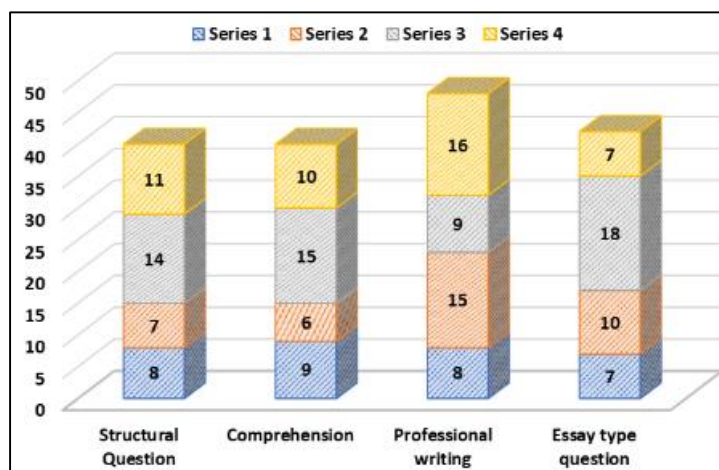


Fig 2: Below chart shows the percentage of results gained after activity-based learning in writing

It can be observed several improvements in the writings of the experimental group and they were trained to write in a proper way and formal ways comparatively with non-experimental groups. There are several kinds of tasks that can be given to the focus group to test them. This is only four tasks are here. All these four types of tasks were classified

into some more branches or types. Giving a talk, multimedia programs, group discussions, live practicing and so on.

Q2: Which of the language skill do you feel more difficult?

When students were asked to select a language skill which they feel more difficult to compare to other skills. 63.3% of the students selected the speaking skill. Following that

writing skill ranked second with a percentage of 25%, While reading 6.6 % and listening in the last position with 5%. According to figure 4.2 given below, most of the students confirmed that speaking was more difficult than other language skills. During the interview, the vast majority of them stated that speaking was a more difficult skill to be

mastered. Although they liked to speak in English (as shown in figure 4.1) they considered it as a difficult one. When discussing the reasons, the majority of them stressed that they had insufficient opportunities to practice speaking from their childhood. Also, only in the English lectures/classes, they meet English.

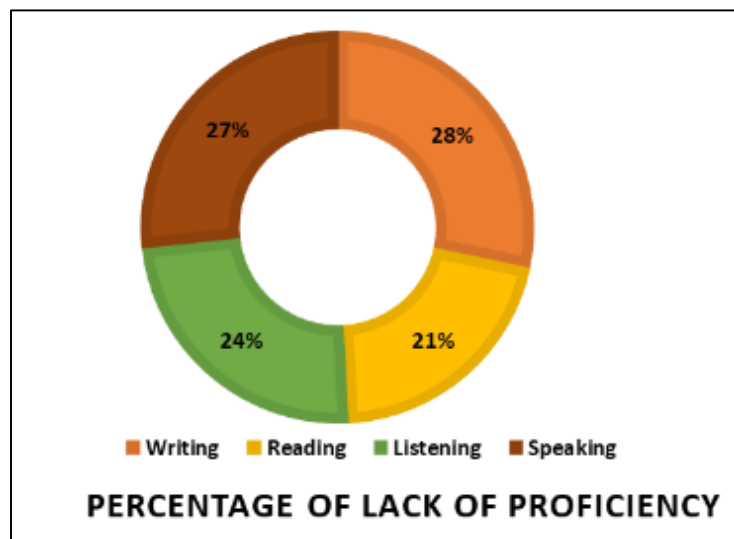


Fig 3: Percentage of lack of proficiency

Q3: How do you describe your level of proficiency in writing English before the activities?

According to table 4.1, 12.0% of students reported that their fluency in writing was poor, and 32.0% stated good and the remaining 28.0% of them mentioned very poorly in writing before the experiment. Only 12.0% of students said that they were very good at writing. When they were asked the same question in the interview, they reported that their proficiency in writing English was poor. When discussing the reason, they stated that they face difficulties in grammar, vocabulary,

sentence structure, and pronunciation.

Q4: How often do you use English for writing at the university?

This question was asked for students to understand whether they use in formal writing in English at the University. As shown in figure 4.3, 58.3% of students reported that they write in English rarely, while 21.6% mentioned that they write sometimes. Only 11.6% write often in English.

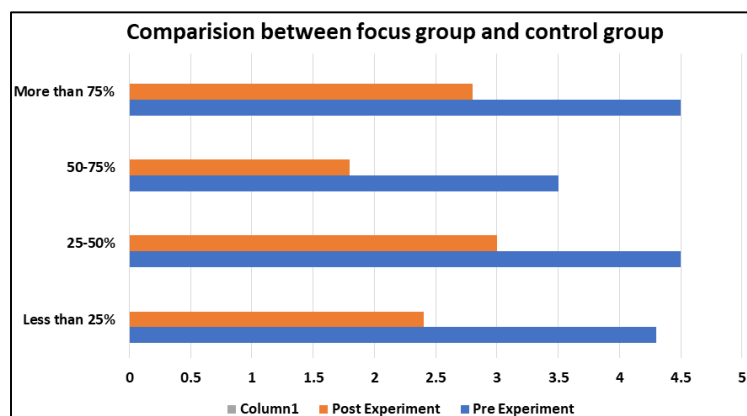


Fig 4: Comparison chart between experimental group & non-experimental group

Here the sketch of both two graphs. This bar chart exhibits the successful signs of progress of the students' after several days' efforts. It was such a colossal victory of this research. But this situation continues the students ultimately can see a durable victory in their writing style further. On the other hand, it will be defeated if the condition will be dropped out by them. The hierarchical challenge has been faced by the researcher when she was conducting the activities, evaluation tests and exercise.

5. Result and Conclusion

This study has attempted to investigate the problems of writing faced by first-year physical science students of SEUSL and tested them with the number of activities. The research objectives of this study were to identify the main problems, causes, students' strategies to overcome and the support they expect from their lecturers. It was found that students have different kinds of problems in writing English, like fear of making mistakes, lack of vocabulary, difficulty in choosing words appropriately and unable to write within

time. The main factor that caused those problems were reported as a lack of vocabulary and difficulty in choosing words appropriately and poor reading and writing. To overcome their problems students used different strategies like; increasing their daily writing activities, watching comprehensible TV programs, remembering easy and everyday vocabularies, memorizing the words, read the novels, short stories, newspapers, magazines, using some android applications and increase even their informal writing in English such as writing the diary, personal notes, study short materials, short notes, etc. Also, they expect their Instructors/lecturers to provide more collaborative works, conduct some exciting games regarding writing and use the mother tongue to give instructions for writing activities to enhance their writing proficiency.

Conclusion

The study aimed to explore writing challenges among first-year physical science students at SEUSL and tested various interventions. It identified issues such as fear of errors, limited vocabulary, word selection difficulties, and time constraints. These challenges stemmed largely from inadequate vocabulary and poor reading habits. Students employed strategies like daily writing practice, watching educational programs, and using language apps to improve. They also sought instructor support through collaborative activities, interactive games, and bilingual instructions to enhance writing skills. Addressing these findings can better equip educators to assist students in overcoming writing barriers effectively.

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