

# The Effect of Web-Enhanced Learning Activities (WELA) on the Achievement in English of First Year High School Students

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**Abstract** - The study was conducted to verify the effects of Web-Enhanced Learning Activities (WELA) on the achievement in English of first year high school students. The research combined the quantitative approach using the quasi-experimental design, with the qualitative approach involving immersion learning. A total of 66 respondents from the two first year classes, 34 under the experimental group and 32 under the control group, were used as subjects of the study. Results indicate no significant difference between the experimental and control groups in pretest scores but show significant difference in posttest scores. While the respondents gained knowledge in both approaches, students under the WELA displayed higher achievement level in the posttest, significantly outperforming the students in the control group. Moreover, the following positive behaviors were observed among the students under the WELA: (a) increased interaction among the students, between

the students and learning materials, and between the students and the teacher; (b) decrease of absenteeism cases; (c) independent learning; (d) enhanced and structured learning styles; and (e) more defined focus in learning. The WELA clearly appears to be very effective approach in enhancing English achievement levels of first year students.

**Keywords** - Web-Enhanced Learning Activities (WELA), English Language Achievement, Quasi-Experimental Design, Immersion Learning, Enhanced Learning Styles

## INTRODUCTION

In a traditional classroom, some instructors give lectures, while others demonstrate. Some focus on theories, others focus on application of principles. There are professors that emphasize memorization of facts, while others focus on comprehension.

As the cyber age progresses, innovations, in all aspects of life, are constantly introduced. Along with the rise of information technology are new approaches in education. The multimedia characteristics of Information and Communications Technology (ICT) provide an array of approaches which have never been made possible in traditional teaching and learning. Now, it offers wealth of teaching and learning materials that are interactive and participatory-oriented.

Wheeler and Jarboe (2001) state that a combination of online and traditional classroom instruction has become the most popular way to use Internet teaching and learning tools. The combination of online activities with traditional classroom instruction is commonly referred to as web-enhancement. With the use of the technology to enhance teaching and learning, content (substance) and approach (method/strategies) become equally important to address. Web-based instruction in education has grown exponentially.

Arinto (2005) developed a workshop, *Web-Enhanced Learning Activities (WELA)*, to enable high school teachers to design curriculum-appropriate and effective learning activities that use resources that are carefully chosen from the World Wide Web, which provides access to thousands of informational and educational resources. Some teachers instruct students to augment their research reports with information

found on the Web. However, *systematic use* of the Internet in the classroom is not widespread.

In Arinto's training manual, it is explicitly stated that web resources can be used more systematically to motivate student learning in the various subject areas, help students master key concepts, develop higher order thinking skills, foster collaborative and cooperative learning. This resource-based learning provides the opportunity for all students to develop independent learning skills, in conjunction with the acquisition of a basic body of knowledge which will enable them to become life-long learners.

It is notable, however, that only a handful of schools in the country are with computers that are connected to the Internet. Fortunately, the Nueva Vizcaya General Comprehensive High School (NVCCHS) is one of them. Teachers and students, therefore, must make use of these computers and the Internet to enhance the teaching and learning process.

## OBJECTIVES OF THE STUDY

This study sought to determine: (1) the profile of the first year study; (2) the achievement level of the respondents in terms of pretest and posttest; (3) if there is a significant difference between the pretest of the Experimental and the Control Groups; (4) if there is a significant difference between the pretest and posttest of the Control Group; (5) if there is a significant difference between the pretest and posttest of the Experimental Group; (6) if there is a significant difference between the posttest of the Experimental and the Control Groups; (7) the feedback and reaction of the respondents on the use of Web-Enhanced Learning Activities (WELA) in learning English

### *Research Design*

This study was conducted mainly to try-out the use and to study the effects of the Web-Enhanced Learning Activities in teaching First Year students of Nueva Vizcaya General Comprehensive High School. This study was designed to compare the pretest and posttest of the experimental and control groups. The study covered only the third

grading period of the school year 2007-2008. It ranged from November 2007 to January 2008.

This study is a combination of two approaches, the quantitative approach (Positivist) and the qualitative approach (Interpretivist). The Positivist Approach is that which seeks causal laws to explain objectively viewed phenomena, whether it uses survey methods, [questionnaires], or detailed case studies to do so. The Interpretivist Approach, by contrast, is that which adopts the broad goal of illuminating a set of social meanings that reflect cultural beliefs and values (Roth and Mehta, 2002).

Under the quantitative approach, this study employed the Quasi-Experimental Design, specifically pretest-posttest non-equivalent control group design. This involves two different groups, one with a pretest, treatment and a posttest and the other two sets of observations (one representing pretest and the other the posttest).

Group A	01	x	03
.....			
Group B	02		04

The comparison of the two groups is not based on random assignment but on the pre-existing or pre-selected groups which were chosen because they were similar (or comparable) but not necessarily equivalent (in this research, the groups are grouped homogeneously based on their elementary grades).

In this study, the intervening measure (x) for the experimental group was Web-Enhanced Learning Activities (WELA), while the control group was treated without any intervention but the normal classroom setting.

Under the qualitative approach, however, the researcher was an active participant immersed in the setting, became a part of the group under study in order to understand meaning and significance. Techniques used include participant observation, in depth interviews, and documentation. The collected data were analyzed and interpreted by the researcher (Matthews, 2003).

## MATERIALS AND METHODS

As mentioned earlier, the study was conducted for one grading period (two months), specifically the third grading period (November 2007 – January 2008). The preliminary activity was to validate the evaluation instruments and the interview schedules. A request letter to conduct a study was requested from the Schools Division Superintendent of the Department of Education in the province. Upon approval, the validated evaluation instrument, as pretest, was immediately administered.

The respondents in the experimental group were oriented on the use of the computer laboratory and a step-by-step use of the computers. Then the researcher identified those who had computer skills and assigned them to be the leaders of the subgroups. The students were divided in subgroups of three. One computer was assigned to each subgroup; thus facilitating cooperative learning among students. Those, who were found wanting of computer skills, were asked to report to the teacher to be tutored during her consultation hours. The teacher-in-charge of the computer laboratory made her services available to the students.

There were three (3) actual hands-on interaction between the respondents of the experimental group and the World Wide Web. During these laboratory sessions, the students were given topics to independently browse over the Internet for a period of ten to fifteen minutes per session. Thirty minutes was used per session for guided learning; that is, the teacher, using the projector, directed the students' search on specific topics, what website to browse on and what activities to answer.

The topics browsed by the experimental group during laboratory sessions were those lectured by the teacher to the control group. Quizzes and other exercises given to the experimental group were online and electronically interactive, while those in the control group were in the form of task sheets or photocopies from workbooks.

In addition, there were eight (8) classroom sessions using the projector to enhance learning. During these classroom sessions, resources were already pre-selected by the teacher and were presented to the students in the form of PowerPoint presentations (softcopy) or

printed text and illustrations (hardcopy). Other remaining sessions were left for other activities in developing other macro skills such as listening, speaking, reading, and writing. After the third grading period, the posttest was administered in the form of Third Periodical Test. The test results were analyzed and interpreted. The following week, after the posttest administration, the researcher assigned a co-teacher to interview students with regard to their reactions and opinions in the use of computers and equipment and the Internet and the World Wide Web. The data obtained from the interviewees were analyzed and interpreted. There was also interview with other teachers who use WELA. The teachers were asked to give their comments and opinions about WELA and their experiences about it.

### *Statistical Treatment of Data*

For the student characteristics of the selected first year students in terms of age, gender, birth order, number of children in the family, religious denomination, ethnic group, and type of elementary school graduated from, *mean*, *frequency distribution*, and *percentage* were used.

To describe the achievement level of the respondents, *frequency distribution*, and *percentage* were used. To find if there was any significant difference between the pretest and posttest of the experimental and control groups, raw scores were compared through the use of *t-test*.

## **RESULTS AND DISCUSSION**

### *Pretest of the Experimental and Control Groups*

The mean of the experimental group is 0.93 points higher than the control group. In terms of variability, the raw scores of the control group are more dispersed ( $SD=8.41$ ) than the experimental group ( $SD=5.67$ ). The computed t-value 0.655 has a t-score of 0.511 which is not significant. This means that from the very beginning the groups were already comparable, equivalent and very suitable for experiment. Despite the similarity, the result of learning depends on the teaching method that would be employed by the teacher.

### ***Pretest and Posttest of the Control Group***

There is a difference of 7.66 points between the means of the pretest raw scores (24.81) and the posttest raw scores (32.47) of the control group. However, the pretest scores are more distributed (SD=8.41) than the posttest scores (SD=7.27). The computed t-value 6.31 has a t-score of 0.000 which is highly significant. This means that there is a significant difference between the results of the pretest and posttest of the control group. In addition, the teaching method used, which is the traditional method, is also effective in teaching English to first year students, specifically those in the control group. The use of traditional visual aids, books, and lectures are still valuable in the teaching-and learning process. This method must still be enhanced as per subject of this research.

### ***Pretest and Posttest of the Experimental Group***

There is a difference of 11.26 points between the means of the pretest raw scores (25.74) and the posttest raw scores (37.00) of the experimental group; however, the posttest scores are more distributed (SD=8.03) than the pretest scores (SD=5.67). The computed t-value 8.42 had a t-score of 0.000 which is highly significant. This means that there is a significant difference between the results of the pretest and posttest of the experimental group. Therefore, the teaching method used, which is WELA, is effective in teaching English to first year students, specifically those in the experimental group. The students have developed not only language and communication skills but computer skills as well. This is proven by the increase in their academic performance, higher interaction among students and the materials, and enhancing personal learning styles.

### ***Posttest of the Experimental and Control Groups***

The posttest was administered to the respondents of both the experimental and the control groups after the conduct of the study. The raw scores were tallied and were categorized into the same levels used in the pretest results. It is noted that the experimental group's

mean of 37.00 is classified as High while the control group's mean of 32.47 is classified as Moderate or Average. Most of the students in both groups, however, scored between 36-47, described as High. Four (11.76%) respondents from the experimental group scored between 48-60, which is Very High, while there is no one from the control group who scored in the same level. In the experimental group, 14 (41.18%) of the respondents' scores lie between 36-47 which is High, another 14 (41.18%) scores lie between 24-35, which is Average, and only 2 (5.88%) scores lie between 12-23, which is Low. In the control group, most of the scores (14 or 43.75%) lie between 36-47 which is High, 12 (37.50%) scores lie between 24-35, which is Average, and 6 (18.75%) scores lie between 12-23, which is Low. The mean of the experimental group is 4.53 points higher than the control group. In terms of variability, the raw scores of the experimental group are more dispersed ( $SD=8.03$ ) than the experimental group ( $SD=7.27$ ). The computed t-value 2.16 has a t-score of 0.039 which is highly significant. This means that there is a significant difference between the strategies employed by the teacher in both groups.

Both the experimental and control groups had displayed increase in academic performance. Nonetheless, this does not insinuate that the outcomes of teaching English in two different methods are the same. The computed t-value suggests that there is a significant difference in favor of the experimented approach. The respondents in the experimental group displayed a higher extent of learning compared to those in the control group. Therefore, WELA is proven more effective compared to the traditional method.

### *Feedback on the Use of WELA*

#### Respondents' Ratings on WELA

More than half (20 or 58.82%) of the respondents consider WELA as an interesting approach in learning English I. These students admitted that the aid of Internet had enhanced the learning process and had helped them understand English lessons better.

Eleven (32.35%) respondents, who think that learning English through the Internet is fun and enjoyable, rated WELA as Satisfactory.



However, three (8.82%) respondents, declared that they are still hesitant learning English through the use of computers and Internet because of the noise of their classmates when they get excited over the lesson with the use of computers, and because they also enjoy the traditional method, and because some of them are still uneasy using the computers.

### Informal Interview with Teachers who use WELA

A few teachers of the other subjects, especially Science & Technology and Araling Panlipunan, have started using WELA in their classrooms. They observed that using WELA has given them more time for other activities because they spent lesser time in the preparation of web-enhanced lessons. They worked faster with the computer compared to printing visual aids on manila paper.

Interestingly, they remarked that they have spent lesser time lecturing, while students have increased time in active learning and group work. One teacher commented, "Gone are the days with lesson planning with piles of books." On the other hand, these teachers also felt the need for more updated equipment and more number of computer units for this kind of learning.

### Observations of the Researcher

During the first laboratory session, the researcher noticed the excitement among the respondents of the experimental group. At first, five to eight students were apprehensive because it was their first time to operate a computer, though they are grouped with students who have experience in using the computer and have enough computer skills. To solve this problem, the researcher asked them to observe first. This was helpful because their excitement triggered their enthusiasm to learn basic computer skills.

Since the computer room was only available once a week, the researcher made use of an LCD projector as an aid in the teaching and learning process. Again, the attention of the students was captured by

the colorful and animated pictures shown. It is true that a teacher can use bright and colorful pictures drawn in manila paper or cartolina, but animated pictures capture the interest of the learners.

This approach lessened absenteeism among experimental students. During the first two grading periods, there was an average of 3-5 absences per session. During the third grading period, an average of 1-2 absences was incurred; and during the fourth week of the third grading period, there were lesser absences (or none at all) among them. Compared to the control group, the consistent number of absences was 3-5 per session.

Student-to-student, student-to-teacher, and student-to-material interactions were also remarkable. Students who were once uneasy during the first and second grading periods have actively participated in the discussions and cooperated well with their classmates. With regard to grades (even though there are other criteria to be considered like projects, individual and group performance, theme writing and reports), the researcher found that the experimental group attained lower academic performance than the control group during the first two grading periods. During the third grading period, the experimental group had achieved higher academic performance than the control group. This positive response was due to the modification of the teaching method, which was WELA.

## CONCLUSIONS

In light of the salient results of this study, the following conclusions are drawn:

The pretest scores of the two groups indicated both are very much suitable for experiment; between the results of the pretest and posttest of the experimental group. The web-enhanced learning strategies improved their scores; therefore, WELA is an effective approach in teaching high school students in English I.

The study achieved significantly both in the experimental group than in the central group. There is also a positive response of the respondents with regard to the method used, the traditional method. Another significant difference is noted between the strategies employed by the teacher in both groups. While the respondents gained

knowledge in both approaches, students under the WELA displayed higher achievement level in the posttest, significantly outperforming the students in the control group.

Aside from the increased achievement performance of the experimental respondents relative to the scores, the following positive behaviors were observed: (a) increased interaction among the students, between the students and learning materials, and between the students and the teacher; (b) decrease of absenteeism cases; (c) independent learning; (d) enhanced and structured learning styles; and (e) more defined focus in learning.

The WELA clearly appears to be very effective approach in enhancing English achievement levels of first year students.

## RECOMMENDATIONS

Based on the results of this study, the following are recommended:

Since the preparation of web-enhanced activities is not that difficult, administrators should encourage their teachers to be involved in updating their teaching and learning methods and strategies. Teachers should be more open to new techniques and styles so that they would not be left out. They should also join trainings, seminars, and workshops on this regard.

More trainings, seminars, and workshops on web-enhanced learning and ICT integration should be widespread. Moreover, these should be conducted locally with minimal registration fees, or better yet, free of charge, so that would-be trainees will no longer worry about their expenses. Communications and memoranda regarding this matter should be properly disseminated.

Schools should tap government and non-government people to donate communications equipment such as computers, LCD projectors, Internet servers, and Internet connection. Educators should take advantage of the eagerness of students to learn. Most public elementary schools are not yet computer-equipped. When students from these schools enter high school, they are likely to be interested in anything new them; including the use of computers and the Internet in studying the English language.

The main evaluation instrument used in this study was a periodical test, which is just one factor in determining academic performance of students in English. Researchers should therefore conduct other studies to determine the possible effects of WELA on the other factors such as: recitation, group work, reports, projects, etc. In this way, educators would identify strengths and diagnose needs, and would be able to properly address them. Further researches using WELA could still be conducted in other subject areas like Mathematics, Science, Social Studies, etc., and in other year levels.

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