

## **AN INVESTIGATION INTO THE EFFECTIVENESS OF PROJECT BASED LEARNING ON STUDENTS' ACADEMIC PERFORMANCE IN ECONOMICS AT THE HIGH SCHOOL LEVEL**

Hninn Hninn Thet<sup>1</sup>, Than Than Hsint<sup>2</sup>

### **Abstract**

The major purpose of this research was to study the effects of project based learning on economics students' academic performance at the high school level. This study was conducted with both quantitative and qualitative research methods. Quantitatively, an experimental study was used to compare the students' economics achievement between the control group and experimental group. The posttest only control group design was used in this study. In this experimental study, the subjects were Grade Ten students selected from No.(1) BEHS Thanlyin and No.(3) BEHS Tharketa. For this study, (120) Grade Ten students were selected from both schools by random sampling method. These students were divided into two groups: control and experimental. The experimental group was treated with project based learning and the control group was taught as formal instruction. Subsequently, a posttest was administered to two groups. Independent samples *t*-test was used to test whether there was a significant difference between experimental group and control group. Examination of the means and *t*-test at No.(1) BEHS Thanlyin ( $t=12.17$ ,  $df= 58$ ,  $MD=5.10$ ,  $p <.001$ ) and No.(3) BEHS Tharketa ( $t=11.40$ ,  $df=58$ ,  $MD=4.80$ ,  $p <.001$ ). The results indicated that there was a significant difference between the two groups. The qualitative data also supported the findings from the experimentation. In this study, students from the experimental group from two selected schools were given a questionnaire. It develops of (15) items five-point likert-scale. The results showed that the students expressed their willingness to learn in project based learning and they had positive attitudes towards this project based learning. Research findings proved that project based learning has positive contribution to the economics teaching at the high school level.

**Keywords:** Project Based Learning, Attitude, Economics, Achievement

### **Introduction**

"Education is the process of living through a continuous reconstruction of experiences. It is the development of all those capacities in the individual which will enable him to control his environmental and fulfill his potentialities" (Dewey, 1916). That is why, Education is a fostering, a nurturing and a cultivating process of the human life. It is absolutely necessary in today's society. It is one of the most important things in life because without education, it cannot contribute to the world better. It gives people a knowledge of the world around them and helps them build opinions. It is the process of gaining information about the surrounding world while knowledge is something very different.

Today, economics issues are drawing the attention of every citizen directly or indirectly. It is, therefore, appropriate for economics to be included as a distinct area of study in the system of school learning particularly. The aims of teaching economics are to enable students to acquire knowledge in daily life, intellectual abilities, problem solving skills and interest in how to manage of their earn and their household management in their life. To accomplish these aims, teachers need the abilities to create some hands-on problem solving and activities based on students' experience in the teaching learning situation. Teaching of economics can be achieved

---

<sup>1</sup> Staff Officer, Curriculum Section, Department of Education Research Planning and Training, Yangon

<sup>2</sup> Lecturer, Methodology Department, Yangon University of Education

through the varieties of activities and avenues. Thus, learning becomes more flexible and dynamic. Learning is a process of active engagement with experiences. To get such experiences, students have to construct the contextual knowledge of the classroom and communicate with the world outside. To be able to do so, learners must see the world in every single moment.

Project based learning is student-centered and driven by the need to create an end-product. However, it is the route to achieving this end-product that makes project work so worthwhile. The route to the end-product brings opportunities for students to develop their confidence and independence and to work together in a real-world environment by collaborating on a task. It draws together students of mixed abilities and creates opportunities for individuals to contribute in ways which reflect their different talents and creativity (Fried-Booth, 2002). So, in order to become successful teaching-learning situation, teachers need to apply project based learning in the teaching of economics.

### **Purposes of the Study**

The main purpose of the study is to investigate the effectiveness of the project based learning on the achievement of Grade Ten students in teaching economics. The specific purpose of this study are as follows:

- To examine the effectiveness of project based learning in teaching economics,
- To compare the achievement of the students in economics between the students who receive project based learning and those who do not receive it,
- To investigate students' attitudes towards project based learning, and
- To give suggestions for the improvement of teaching learning situation of students in Grade Ten economics according to the results of the study.

### **Research Hypotheses**

1. There is a significant difference between economics achievement of students who receive instruction with project based learning and those who do not receive.
2. There is a significant difference between economics achievement of students who receive instruction with project based learning and those who do not receive, in performing knowledge level questions.
3. There is a significant difference between economics achievement of students who receive instruction with project based learning and those who do not receive, in performing comprehension level questions.
4. There is a significant difference between economics achievement of students who receive instruction with project based learning and those who do not receive, in performing application level questions.
5. There is positively students' attitude towards project based learning in the experimental group.

### **Definition of the Key Terms**

- **Project based learning** -Project based learning (PBL) is a student-centered instructional approach used to promote active and deep learning by involving students in investigating real-world issues in a collaborative environment (Yam & Rossini, 2010).

- **Attitude** - Attitude defined as a disposition to respond favorably or unfavorably to an object, person, institution, or event (Ernest, 1989, cited in Özdemir, 2006). Attitudes related to liking, enjoying, and interest in project based learning.
- **Economics**-Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses (Lionel, 1932).
- **Achievement** -Achievement is the ability to demonstrate accomplishment of some outcome for which learning experiences were designed (Özdemir, 2006).

### **Scope of the Study**

The following points indicate the scope of the study.

- This study is geographically restricted to Yangon City Development Area.
- Participants in this study are (120) Grade Ten students from selected schools during the Academic Year (2018-2019).
- This study is intended to investigate the effects of project based learning on the achievement of Grade Ten students in teaching economics.
- The content area is limited from chapter (9)" Industrial Sectors of Myanmar" from Grade Ten Economics textbook prescribed by the Basic Education Curriculum and Syllabus and Textbook Committee, 2018-2019.

## **Theoretical Framework**

### **Theoretical Framework of Project Based Learning**

Project based learning is based on the sound theoretical foundation. There are multiple theories that reside at the base of project based learning. Project based learning is in line with pragmatism, a philosophy stressing the merits of learning from the real world and concentrate things rather than abstractions constructivist framework. A theory of learning is a vision that educators have to explain the complexity of human learning. Several theorists' perspectives on learning as follows: William Heard Kilpatrick, Piaget's cognitive theory and Vygotsky's social learning theory and John Dewey's pragmatic pedagogical creed played a major role in development as well.

### **Origins of Project Based Learning**

In the first half of the 20<sup>th</sup> century, the word " project" has its roots in American philosophy. The term "project" occurs in pedagogical dictionaries and methodology books in different combinations, e.g. Project Teaching, Project Method, Project Approach, Project based Approach, Project centered Approach, Project based learning often abbreviated as PBL. Although many variations have been occurred, project based learning aims to bring practically designed experience into the classroom. The project gives students an opportunity to work in a team environment and apply theory learned in the classroom.

Project based learning is the outcome of the pragmatic educational philosophy of John Dewey, the well-known American philosopher and educationist. This method was developed and applied practically by Dr. William Heard Kilpatrick of the Columbia University (Zubair, 2012). One of the approaches suggested by such pragmatic educators as William Heard Kilpatrick is the "project approach" to learning. This is a systematization of the general approach Dewey used at

the laboratory school. According to Kilpatrick, a project approach results in the student's receiving a general education. Projects are decided by individual and group discussion, with the teacher as moderator. Children cooperate in pursuing the goals of the project (Ozmon & Craver, 1986).

Project based learning is an authentic model or strategy in which students plan, implement, and evaluate projects that have real-world applications beyond the classroom. It is an instructional method centered on the learner. Students developed question and are guided through research under the teacher's supervision. It is a comprehensive approach to classroom teaching and learning that is designed to engage students in investigation of complex, authentic, problems and carefully designed products and tasks. The use of project based learning in class is possible after providing the information that is needed for the project. The classroom activities should be student-centered, cooperative, and interactive (Moursund, 1999, cited in Bas, 2011). It engages students in gaining knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks. It enhances the quality of learning and leads to higher-level cognitive development through the students' engagement with complex and novel problems.

### **Nature of Project Based Learning**

In the field of education, the word "project" has come to mean any unit of activity, individual or group, involving the investigation and solution of problems that is planned and carried to a conclusion by a pupil or pupils under the guidance from the teacher. Project based learning defined as using authentic, real-world projects, based on highly motivating and engaging question, task, or problem to teach students academic content in the context of working cooperatively to solve the problem (Barell, 2007, 2010; Baron, 2011; Grant, 2010, cited in Bender, 2012). Student inquiry is heavily integrated into project based learning, and because students typically have some choice in selecting their group's project, and the methods they would use to solve that project, they tend to be more highly motivated to work diligent toward a solution to the problem (Drake & Long, 2009; Malon, 2010, cited in Bender, 2012).

Schneider (2005) described that project based learning is a teaching and learning model that emphasizes student-centered instruction by assigning projects. It allows students to work more autonomously to construct their own learning and culminates in realistic, student-generated products.

In every project, a pupil is facing numerous questions or problems concentrating on the same unifying idea. A project changes the school life (Chlup, 1939, cited in Rousova', 2008). Project work lends itself to many different approaches in a variety of teaching situations. The collaborative process, relying as it does on the involvement and commitment of the individual students, is the strength of a project (Fried-Booth, 2002).

### **Major Steps in Project Based Learning**

Project based learning requires multiple stages of development to succeed Zubair (2012) proposed six steps sequence of activities for developing meaningful project work in the classroom. The functions of each proposed steps are as follows.

### **Step 1: Creating/ Providing the Situation**

In this step, the students themselves should define, state and choose their problems. Of course, the teacher's function would be to provide real and worthwhile situations. The teacher has to discover the interests, needs taste and aptitudes of children according to their needs and interests.

### **Step 2: Choosing and Purposing**

The project based learning selected must be such as to satisfy a definite need or purpose. The students themselves choose the project. The teacher should not be hurry in choosing project. Many situations should be provided to children. Decision should always democratic. The teacher should merely guide and not thrust his/her opinion. The children must feel that the project is of their choice.

### **Step 3: Planning**

The teacher should draw the attention of the students to the need of the planning before undertaking the activity. The task of planning is quite difficult. Good planning leads to better result. Different proposal should be discussed and alternatives considered. Students should be tasked to write down the plan in their project diary.

### **Step 4: Executing the Plan**

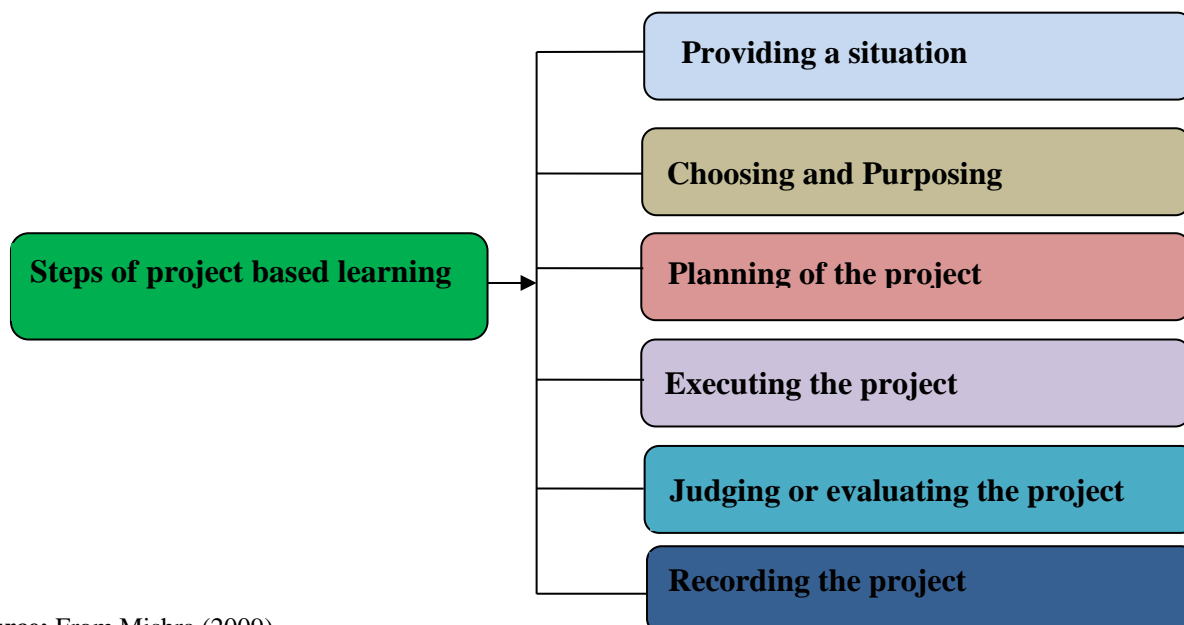
This step is the longest of all and requires a lot of work. The whole project is to be executed through the co-operative efforts of all students. The various activities of the projects should be divided according to the individual interest and abilities of the different children in the class. The teacher should give sufficient guidance to students. Teachers should not dictate them.

### **Step 5: Judging**

The work is to be reviewed when it is completed. Lessons must be learnt from the mistakes that have been made in the various steps of a project. The students must learn to criticize constructively their own work. Self-criticism is valuable form of training. The students should find out what things they have learnt from the project.

### **Step 6: Recording**

This is also an important step of the project because the work done should be recorded also. The children maintain a complete record of the project work. While recording the project some points like how the project was planned, what discussions were made, how duties were assigned, how it was evaluated etc. should be kept in mind. These steps can be shown by the following figure.



Source: From Mishra (2009)

**Figure 2.1** Steps of Project Based Learning

## Research Methodology

### Population and Sample size

Two Basic Education High Schools in Yangon Region were selected as the sample schools for the experimental design by using simple random sampling method. These sample schools were No (1) BEHS Thanlyin and No (3) BEHS Tharketa. All the participants in the sample were Grade Ten students. In both schools, only 60 students were selected by random sampling method from Grade Ten in the academic year 2018-2019.

**Table 1** Population and Sample Size

Name of School	No. of Population	No. of Student
BEHS (Thanlyin)	379	60
BEHS (Tharketa)	371	60

### Research Design

The design adopted in this study was one of the true experimental designs, namely, the posttest only control group design (Gay, 2003).

**Table 2** Experimental Design

Assignment	Group	No. of Students			Treatment (X)	Posttest (O)
		BEHS (Thanlyin)	BEHS (Tharketa)	Total		
Random (R)	Experimental	30	30	60	Project Based Learning	EA
	Control	30	30	60	Formal Instruction	
<b>Total</b>		<b>60</b>	<b>60</b>	<b>120</b>		

Note. EA = Economics Achievement

## **Instrument**

The instrument used for this study was a posttest (Achievement test). The students had to answer all questions and there was no choice. The test was constructed based on Grade Ten Economics Textbook with the advice and guidance of the supervisor. In the question used for posttest, (5) items were true or false items, (5) items were completion items, (5) items were multiple choices items, and (5) items were short questions. The allocated time for posttest was (45) minutes, and the given marks were (25) marks (see Appendix C). The test items were constructed on the first three levels of Bloom's Taxonomic levels of cognitive domain, i.e, knowledge, comprehension, and application. The posttest was validated with (5) experts in the Department of Methodology. After that, the posttest items were modified again according to their suggestions. The pilot test was administered with (64) Grade Ten students (economics combination) at No.(1) BEHS, Dawpon. The allocated time for this test was (45) minutes. To show the internal consistency of the test, the reliability coefficient, Cronbach's Alpha, was computed and its value was (0.703).

To examine the students' attitude, students' attitude questionnaire towards project based learning was constructed based on Chang\*, Wong and Chang (2011). In this research, attitude questionnaire towards project based learning was modified and constructed in Myanmar language with advice and guidance of the supervisor. It consists of (15) positive items. After preparing them, expert review was conducted by five experts who have special knowledge about the questionnaires in the field of Methodology. It consists of (15) items five-point likert-scale. The statements of these items were described by five responses: strongly disagreed, disagreed, uncertainly, agreed and strongly agreed. To examine students' attitudes, feelings, and experiences, a questionnaire was constructed with advice and guidance of the supervisor. It consists of (15) items five-point likert-scale. The statements of these items were described by five responses: strongly disagreed, disagreed, uncertainly, agreed and strongly agreed. Arbitrary scoring weights (1, 2, 3, 4 and 5) were assigned for the responses.

## **Procedure**

This study was to investigate into the effectiveness of Project Based Learning on students' academic performance in economics achievement of Grade Ten students. Students were divided into two groups in each school: the control group and the experimental group. There were 30 students in each group. For the control group, the teacher taught students as usual in the classroom. The experimental group was provided a treatment by using Project Based Learning. For the experimental group, the teacher used the phases in Project Based Learning. At the end of the treatment period, all the selected students had to sit for the posttest in both schools. And then, a follow up program was found out by a questionnaire to interpret students' attitudes, feelings, experiences and opinions about Project Based Learning.

## **Data Analysis**

The data were analyzed by using a descriptive statistics and independent samples "*t*" test. The independent samples "*t*" test was used to compare the achievement of students who learned by Project Based Learning and that of students who learned by formal instruction. In order to determine the significant differences, the independent samples "*t*" test was used with Statistical Package for Social Studies (SPSS) 22.0.

## Findings

This section is concerned with findings of the selected students' achievement on the posttest questions, the summary of the findings and interpretations of the study. The data obtained from the posttest were analyzed by using the independent samples *t*-test to compare the differences between the experimental and the control groups. Following tables show the results of *t*-test, the mean scores, standard deviations and mean differences of both groups.

**Table 3 *t* Values for Posttest Economics Achievement Scores**

School	Group	N	M	SD	MD	<i>t</i>	<i>df</i>	Sig. (2-tailed)
BEHS (Thanlyin)	Experimental	30	22.00	1.14	5.10	12.17	58	.000***
	Control	30	16.90	1.98				
BEHS (Tharketa)	Experimental	30	21.37	1.42	4.80	11.40	58	.000***
	Control	30	16.57	1.81				

Note: \*\*\**p* < .001

The mean scores of the experimental groups were significantly higher than that of the control groups in each school (see Table 3). It showed that there was a significant difference between students who were taught by Project Based Learning and those who were taught with formal instruction on the overall scores of science achievement in each school.

**Table 4 *t* Values for Scores on Knowledge Level Questions**

School	Group	N	M	SD	MD	<i>t</i>	<i>df</i>	Sig. (2-tailed)
BEHS (Thanlyin)	Experimental	30	10.33	0.80	1.55	7.13	58	.000***
	Control	30	8.78	0.89				
BEHS (Tharketa)	Experimental	30	9.97	1.13	1.00	3.75	58	.000***
	Control	30	8.97	0.93				

Note: \*\*\**p* < .001

Results of knowledge level questions showed that the mean scores of the experimental groups were significantly higher than that of the control groups in each school (see Table 4). It showed that there was a significant difference between students who were taught by Project Based Learning and those who were taught with formal instruction on the scores of knowledge level questions in each selected school.

**Table 5 *t* Values for Scores on Comprehension Level Questions**

School	Group	N	M	SD	MD	<i>t</i>	<i>df</i>	Sig. (2-tailed)
BEHS (Thanlyin)	Experimental	30	10.00	0.74	2.50	9.89	58	.000***
	Control	30	7.50	1.16				
BEHS (Tharketa)	Experimental	30	9.57	1.07	2.24	6.94	58	.000***
	Control	30	7.33	1.40				

Note: \*\**p* < .001



According to the scores on comprehension level questions, the mean scores of the experimental groups were significantly higher than that of the control groups in each selected school (see Table 5). It showed that there was a significance difference between students who were taught by Project Based Learning and those who were taught with formal instruction on the scores of the comprehension level questions in the selected schools.

**Table 6 *t* Values for Scores on Application Level Questions**

School	Group	N	M	SD	MD	<i>t</i>	<i>df</i>	Sig. (2-tailed)
BEHS (Thanlyin)	Experimental	30	1.67	0.76	1.07	4.86	58	.000***
	Control	30	0.60	0.93				
BEHS (Tharketa)	Experimental	30	1.87	0.51	1.54	9.20	58	.000***
	Control	30	0.33	0.76				

Note. \*\*\**p* < .001

As regards with the scores on the application level questions, the mean scores of the experimental groups were significantly higher than that of the control groups in each school (see Table 6). It showed that there was a significant difference between students who were taught by Project Based Learning and those who were taught with formal instruction on the scores of the application level questions in each selected school.

**Summary of Quantitative Research Findings of Experimental Study**

The results of research findings from two selected schools were as follows:

- (1) There was a significant difference between students who were taught by project based learning and those who were taught as usual in all the selected schools on the scores of overall economics achievement. It can be interpreted that the use of project based learning has significant effect on overall economics achievement of the students.
- (2) There was a significant difference between students who were taught by project based learning and those who were taught as usual on the scores of knowledge level questions. It can be interpreted that project based learning can improve students' memorization rate and recall the information more easily.
- (3) There was a significant difference between students who were taught by project based learning and those who were taught as usual on the scores of comprehension level questions. It can be interpreted that project based learning could bring about the improvement of students' ability to understand cause and affect relationships. And project based learning can also encourage students' conceptual understanding.
- (4) There was a significant difference between students who were taught by project based learning and those who were taught as usual in all the selected schools on the scores of application level questions. It can be interpreted that project based learning can bring about the development of students' ability to apply their learning in new situation. Therefore, project based learning has positive contribution to economics teaching at the high school level.

**Students' Attitudes towards Project Based Learning**

The attitudes, feelings, experiences and opinions of students were examined by a questionnaire which consists of 15 items four point Likert-scale. For (15) items, strongly agreed,

agreed, disagreed and strongly disagreed percentage were shown in two selected schools such as No (1) BEHS Thnlyin and No (3) BEHS Tharketa.

- (1) The first item deals with the students selecting the topic in accordance with their interest. In both schools, (46.7%) of the students strongly agreed and others over half of the students (53.3%) agreed to this item.
- (2) The second item deals with by Project based learning increases their interest in learning Economics. In both schools, (70.0%) of the students strongly agreed, (28.3%) agreed, but some others were uncertain about (1.7%) to this item.
- (3) The third item deals with students who can easily ask their peer about what they do not understand about project work. In both schools, (45%) of the students strongly agreed, (48.3%) agreed and only (6.7%) uncertainly to this item.
- (4) The fourth item deals with students who are easy to work collaboratively with other students to finish project work successfully. In both schools, (35%) of the students strongly agreed and some others were (65%) agreed to this item.
- (5) The fifth item deals with students who exchange ideas with their peers during the project work procedure. In both schools, (46.7%) of the students strongly agreed and over half of the students were (53.3%) agreed to this item.
- (6) The sixth item deals with students who like working on projects in a group. In both schools, (55%) of the students strongly agreed, (41.7%) agreed and others (3.3%) uncertainly to this item.
- (7) The seventh item deals with by Project Based Learning helps them to transfer what they learnt in the classroom to outside the classroom. In both schools, over half of the students were (61.7%) strongly agreed, but some others were (36.7%) agreed and only (1.6%) uncertainly to this item.
- (8) The eighth item deals with students who think project based learning can improve their information searching skills. In both schools, most of the students (60.0%) strongly agreed but some others were agreed (40.0%) to this item.
- (9) The ninth item deals with students who think project based learning can facilitate their active learning. In both schools, (65.0%) of the students strongly agreed, (35.0%) agreed to this item.
- (10) The tenth item deals with students who think project based learning can promote their learning motivation. In both schools, (55.0%) of the students strongly agreed, (43.3%) agreed and (1.7%) uncertainly to this item.
- (11) The eleventh item deals with students who think project based learning can foster their problem solving skills. In both schools, most of the students (66.7%) strongly agreed and almost one-third of the students (31.7%) agreed and only (1.7%) uncertainly to this item.
- (12) The twelfth item deals with students who think project based learning can help them to learn the important subject knowledge. In both schools, (45.0%) of the students agreed, (45.0%) agreed and (10.0%) uncertainly to this item.
- (13) The thirteenth item deals with students who think project based learning can promote their interpersonal skill. In both schools, (63.3%) of the students strongly agreed, (35.0%) agreed and (1.6%) uncertainly to this item.

- (14) The fourteenth item deals with students who think project based learning can enhance their future learning..In both schools, (58.3%) of the students strongly agreed, (35%) agreed and (6.7%) uncertainly to this item.
- (15) The fifteenth item deal with students who will suggest that the course could continue to use the project based learning in the future. In both schools, (70.0%) of the students strongly agreed but (23.3%) of them agreed and only (6.7%) uncertainly to this item.

According to the results of (15) items five-point likert-scale, the attitude of students have positive attitudes towards project based learning in both selected schools.

### **Summary of Qualitative Research Findings**

In this research, the qualitative study for students from the experimental group of two selected schools was carried out with a questionnaire. It consists of (15) items five-point likert-scale. In this study, it was found that learning by doing increased students' conceptual understanding. Moreover, this learning also developed students' self-reliance and self-confidence. Most of students expressed that they were very happy by using hands-on activities. They gained the habit of cooperation with others. By relating previous experiences with the new experiences, it can promote their logical thinking skills. Moreover, students learned economics concepts with extra activities that were related to the lesson. Therefore, they had mastered their learning. Moreover, students expressed that their knowledge was increased and they had willingness to learn more from experience than as usual. Therefore, project based learning has positive contribution to the economics teaching and learning at the high school level.

### **Discussion**

According to the results, there were significant differences between the experimental and control groups according to the comparison of the mean scores on knowledge, comprehension and application level questions for two selected schools. The mean scores of economics students who were taught by project based learning were significantly higher than that of students who were taught with formal instruction in each achievement level. It can be concluded that students who were taught by project based learning improve knowledge retention, interest in inquiry and conceptual understanding. All the students in the project based learning group performed in solving the problems which are presented in the classroom and give the benefit of all members of the group. When learners are confronted with problems which they must solve, they are forced to reason and think critically in order to solve the problems. The activities of project based learning were very active, interesting, and enjoyable for the students.

In addition, the students' ability to use learned material in new and concrete situations to answer correctly. The students need to be able to apply the rules, methods, concepts, and principles in new situation. This could be achieved because the students who got the treatment by the teacher using the project based learning helped to easily resolving dissensions that arise during their learning process. As a result, they had to think in an active manner in order to blend their thoughts in answering the comprehension and application level questions.

Project based learning activities should play significance, beneficial role in any economics classroom. Moreover, observation skills can improve. Social skills can also develop as the students share perceptions and knowledge with others. Students may begin to look forward to classes and connect previous knowledge and experiences with the new concepts. In this

research, as shown above project based learning has significant effect on the economics achievement of the students. They can apply the knowledge and skills to their everyday life. The findings point out that the means of students who were taught by project based learning was significantly higher than those who were taught as usual.

To know students' attitudes, feelings, and experiences about project based learning, (15) items five-point likert-scale were used. They felt that they were very happy by using project based learning. They gained the habit of collaboration with others. They also developed self-confidence and self-esteem. Moreover, they actually introduce economics concepts not only memorization but also promote their interpersonal skills. By using project based learning, students' learning rate and their attitudes toward learning economics were promoted. Students become more interested in economics learning. According to these students' attitudes, feelings, and experiences, it is significant that project based learning has positive effect on economics learning.

### **Suggestions**

Today, economics education demands experience that lead towards the intellectual, psychological and social growth of high school level students. Learning from experience or step by steps learning as project based learning can achieve these growths. This project based learning focuses on learning by doing. Students must be involved in hands-on activities to improve their knowledge and experiences. In Myanmar schools, teacher should endeavor to provide a variety of experiences and activities for students.

Project based learning engages students as active learners, fostering a high degree of participation and relevant student's contribution to class discussion. It encourages students to improve 21st century skills. In order to achieve this learning successfully, small class size is required. Small classes can help students engage in their activities more widely and teachers can facilitate those classes more easily. Thus, decreasing the number of students in the classroom enables the teacher to implement modern methods of teaching, especially project based learning.

### **Conclusion**

Project based learning promotes critical thinking, and decision making skills. Nowadays, many educators have suggested that many benefits mount up from engaging students in project based learning. The project based learning is the strategic use of challenging outdoor and indoor experiences to stimulate insight and interest. This learning makes learners to be active in the classroom, self-explorative, gain insight into situation, acquire problem solving skills and have self-understanding of the environment. Students can get better chances for learning to interact with real life experiences.

To improve economics education, teaching learning situations and learning approaches are very important. Students' engagements are central role to improve economics education. The project based learning is not only the bridge between theory and practices but also connect between the classrooms and outside the classrooms. Students can apply theory in their real life situations. This learning promotes deeper understanding of economics concepts. Moreover, this project based learning is applicable to all students who have different learning styles. Thus, it is an applicable and useful for the development of economics teaching. Furthermore, many economics teachers to reach their teaching learning situation more effectively by using project

based learning. The effective use of the project based learning has significant effect on the overall economics achievement of the students. Therefore, project based learning surely has positive contribution to the economics teaching at the high school.

### Acknowledgements

First of all, we would like to express our respectful gratitude to Dr. Khin Mar Khine, Associates Professor and Head, Department of Methodology, Yangon University of Education for his invaluable guidance and suggestions throughout M.Ed program. We also want to express our thanks to all participants in our study. We are indebted to all those who provided us with insightful suggestions. Finally, we are grateful to our beloved parents who give us opportunities to learn the valuable education.

### References

- Bas, G. (2011). *Investigation the Effects of Project-Based Learning on Students' Academic Achievement and Attitudes towards English Lesson*. Retrieved August 15, 2018, from <http://www.tojned.net/pdf/tojnedv01i04-01.pdf>
- Bender, W.N (2012). *Project- Based Learning. Differentiating Instruction for the 21<sup>st</sup> Century*. California: Corwin A SAGE Company.
- Chang\*, C-S., Wong, W-T., & Chang, C-Y (2011). *Integration of Project-Based Learning Strategy with Mobile Learning: Case study of mangrove Wetland Ecology Exploration Project*. Retrieved September 13, 2018, from <http://www2.tku.deu.tw/~ykjse/...10-IE9934.pd...>
- Dewey, J. (1916). *Democracy and Education*. New York: Teddington: Echo Library.
- Fried-Booth, D. L. (2002). *Project Work* (2nd ed.). New York: Oxford University press.
- Gay, L.R. (2003). *Educational Research: Research Competencies for Analysis and Application*(7th ed.). New Jersey: Merrill Prentice Hall.
- Lionel, R. (1932). *An Essay on the Nature and Significance of Economic Science* (2nd ed).London: Macmillan Company., Ltd.
- Mishra, L. (2009). *Teaching of Mathematics*. New Delhi: APH Publishing Corporation.
- Özdemir, E (2006). *An Investigation on the Effects of Project-based learning on Students' Achievement in and Attitude towards Geometry*. Retrieved July 6,2018, from <http://www.etd.lib.metu.edu.tr/upload/3/12607166/index.pdf>
- Ozmon, H.A., & Craver, S. M. (1986). *Philosophical Foundations of Education*(3rd ed.). Columbus: Merrill Publishing Company.
- Rousova, V. (2008). *Project-Based Learning: Halloween Party*: Diploma Thesis, Brno, Masaryk University Brno Faculty of Education.
- Schneider, D. K. (2005). *Project-Based Learning*. Retrieved August 24, 2018, from [http://edutech.unige.ch/en/Project-based learning](http://edutech.unige.ch/en/Project-based%20learning)
- Wai-man, W. (2006). *The Implementation of Project-Based Learning in Economics at Certificate Level*. Retrieved August 25, 2018, from <http://www.hdl.handle.net/10722/51374>
- Yam, L.H.S., & Rossini, P. (2010). *Implementing a Project-Based Learning Approach in an Introductory Property Course*. Retrieved August 28, 2018 [http://www.ppres.net/ .../Yam-Implementing-a-...](http://www.ppres.net/.../Yam-Implementing-a-...)
- Zubair, P. P. (2012). *Teaching of Mathematics*. New Delhi: A P H Publishing Corporation.