

# IMPACTS OF SERVICE LEARNING ON ACHIEVING LEARNING OUTCOMES IN A PRE-UNIVERSITY COURSE

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## Abstract

Conventional teaching methods pose issues in the implementation of Outcome-based education and in producing skilled graduates required of the workforce. Achieving learning outcomes through engaging teaching approaches has been an everyday challenge faced by lecturers. This research aims to examine the impacts of service learning approach on achieving course learning outcomes (CLOs) in a pre-university course. Service learning pedagogy was used in this research to encourage practical applications of Professional Communication course allowing students to communicate with professionals in the community and enhance teamwork and academic performance. A research design of two groups (service learning group and conventional learning group) with quantitative and qualitative approaches was administered. Data were collected from written and oral presentation assessments, pre and post self-assessment questionnaires and reflective journals. This study was conducted to 40 pre-university students. The results showed service learners' higher mean scores in written assessment and oral presentation compared with the conventional group. The findings from the self-assessment questionnaires also indicated that although both groups showed significant improvement, service learners were inferior to conventional groups in communications skills and teamwork. However, service learners gained higher improvement in academic development than conventional group. These self-assessment results showed contradictions from the qualitative data conveying greater improvement in communication skills, teamwork, and academic achievement among all service learners. These findings affirm that service learning approach helps attain course learning outcomes, aids conventional teaching method, and would hopefully contribute in realizing the aims of Malaysia's Outcome-based Education system.

**Keywords:** Service learning; Outcome Based Education; Conventional teaching; Course learning outcomes; Academic achievement;

## 1.0 INTRODUCTION

Engaging students and increasing retention have been widely discussed in higher education. There is a common understanding that an active and lively

environment encourages interaction and student participation (Kuh, Kinzie, Schuh & Whitt, 2005) [1]. With the need to produce highly competitive

individuals, numbers of theories have been developed into teaching and learning models.

Bringle and Hatcher (2009) [2] defined service learning as a teaching methodology that allows students to join in a planned activity. This planned activity enables students to help meet the needs of the identified community, reflect on their service learning experience, and gain a better understanding and appreciation of the course content.

The idea of applying service learning method in pre-university courses arises when the area of concern circulates around the implementation of Malaysia's Outcome Based Education system (OBE). It is a challenge for lecturers to achieve the learning outcomes imposed by Malaysian Qualifications Framework (MQF) particularly in higher education. Lecturers have to be innovative and creative in integrating varied teaching methodologies to achieve the learning outcomes aligned with the OBE system.

Conventional teaching method poses issues in the achievement of the nation's Economic Transformation Program (ETP). According to MQF (2011) [3], conventional teaching method produces a "mismatch in supply and demand of graduates". The graduates of the conventional teaching method lack the skills and abilities required of the workforce to achieve ETP. In order to help achieve the 2020 High Income Nation goal, the education system of Malaysia must be transformed to Outcome Based Education system.

Graduates of the OBE system are predicted to increase employability rate from 53% to 85% (MQF, 2011) [3]. However, according to Ismail (2014) [4], Malaysia's conventional curriculum received criticisms for not being able to produce graduates with adequate soft skills. Although the list of soft skills is already operating in the new OBE system, OBE curriculum critics still show ongoing arguments that graduates still lack the required soft skills in the achievement of the nation's ETP.

These critics are continuously debating on what soft skills need to be re-learned, how they should be taught, and assessed (Ismail, 2014) [4]. Among the skills stipulated by MQF (2011) [3] needed to be achieved by the students include practical skills, social skills and responsibilities, communication, leadership, and team skills, problem solving and scientific skills, information management and lifelong learning skills, and managerial entrepreneurial skills.

With the issues posed by traditional teaching method and the implementation of OBE system (Rakicevik, 2008) [5], service learning approach is suggested to be integrated into the delivery of

Malaysia's curriculum to help achieve OBE learning outcomes. Service learning approach has gained positive reputations on its impacts on learning in American colleges and universities through the years. Thus, this study aims to examine the effectiveness of service learning method on achieving course learning outcomes and in enhancing communication skills, teamwork, and academic development on Malaysian pre university students.

### Research Questions

This research aims to answer the questions as follows:

1. Is there a significant difference in course learning outcomes (CLOs) achievement between conventional learning (CL) and service learning (SL) approach on pre university students?
2. Is there a significant difference between pre self-evaluation and post self-evaluation scores in communication, teamwork, and academic development in service learning groups?

## 2.0 RESEARCH METHODS

This study consisted three main phases. The first phase included the elicitation of feedback from the samples in this study regarding conventional teaching method through a pre-survey questionnaire. The need to explore more student-centered teaching methodologies was determined from the result of the survey.

The second phase of this study included the instruction design phase, which applied service learning approach for experimental groups while conventional teaching method for control groups. Following that, the instructional designs were made, which service learning experience was used in both elicitation and application of the course content. On the other hand, control groups were introduced with the course content using the conventional teaching method. Both groups learned the same course materials but were taught differently.

The third phase was an implementation of the designed instruction, which involved an understanding of the instruction briefs, assessments, and expectations. Initially, the subjects in this study were grouped into eight and were asked to discuss in groups whether to stay in the conventional teaching method or opt to engage in service learning.

Following that, the effectiveness of service learning method was assessed through the

performance of the samples in this study in the assessments given (e.g. *written report or proposal and oral presentation*). To examine service learning's effectiveness, the samples participating in the service learning groups were asked to do the pre self-assessment and post self-assessment survey questionnaire of their soft skills such as communication, teamwork, and academic achievement. Their academic performances in the post assessments like the oral presentation and written report and proposal were also compared.

This research used both quantitative and qualitative design methods. In the quantitative method, quasi-experimental was used to determine the effect of the independent variables (conventional approach and service learning approach) to the course learning outcomes through the given assessments. The results of the assessments given to both groups were presumed to be the result of the independent variables.

Pre and Post Self-evaluations were also given to both groups using the American Association of Community Colleges (AACC) questionnaire. The pre self-evaluation was administered to identify the degree of learners' *communication skills, teamwork, and academic achievement* prior to the experiment.

The study had 40 students; 21 for the control groups while 19 for the service learning groups. The quasi-experimental method was used as the respondents of this study were not chosen randomly. They were a group of pre-university students registered in Professional Communication module. Additionally, this research method is the most appropriate when examining an impact of an intervention and an outcome. It can also use both pre and post measurements to non-random experimental and control groups (Harris, et. al., 2006) [6].

Moreover, in Yorio and Ye's (2012) [7] meta-analysis study, they found that the use of control group comparison research design such as quasi-experimental showed higher validity than other pre-experimental designs in service learning researches. They also found no difference between using quasi-experimental and true experimental approaches on learning outcomes achievement in service learning researches. Hence, this design was used in this study.

Qualitative data were also collected from the service learning groups' journals. The collected data were analyzed and categorized into themes according to *communication skills, teamwork, and academic achievement*. After the categorization, the number of responses under each category was counted and compared.

Service learning groups' responses to AACC questionnaire's open-ended questions were also themed and analyzed. Qualitative data were added to examine if figures and articulated ideas regarding service learning experience and learning in general show consistency.

### 3.0 RESULTS AND DISCUSSION

#### SL and CL Groups' CLOs Achievement in Written Assessments and Oral Presentation Scores

The CLOs of the module selected in this research emphasis on soft skills attainment such as communication, teamwork, and academic achievement. These were measured through the students' achievement in written assessments and oral presentation.

Table 1. Written Report & Proposal Mean Scores Comparison between Service Learning Groups and Conventional Groups.

	Service learning groups and Conventional groups	N	Mean	Std. Deviation	Std. Error Mean
				n	Mean
Written Assessment	Service Learning Groups	19	75.89	8.286	1.901
	Conventional Groups	21	56.81	25.622	5.591

Table 1., continued

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Written Assessment	Equal variances assumed	8.107	.007	3.100	38	.004	19.085	6.156	6.623	31.548
	Equal variances not assumed			3.232	24.527	.003	19.085	5.905	6.911	31.259

To answer research question 1, the groups' written assessments and oral presentation scores were being compared using independent t-test. In written assessment, SL groups scored M=75.89 while CL groups had M=56.81. There was a value of  $t(38) = 3.100$  and  $p < .05$ . This reveals that SL groups indeed gained significantly higher score in written assessment than CL groups. This result showed that service learning groups gained more knowledge of the course content through their service learning experience. It shows congruency in Kearney's (2012) [8] findings which stated that students who

participated in service learning approach had much superior knowledge gained than control groups.

Moreover, this result is also consistent with Novak et al.'s (2007) [9] findings showing that service learners gained higher in cognitive learning. Novak (2007) and colleagues found that there was 60.5% of service learning (SL) students scored above the median and only 39.5% SL students scored lower than the median. On the other hand, only 39.5% from the conventional groups scored above the median and 60.8% scored lower than the median.

To compare these results to this research's findings, SL groups gained  $M=75.89$  and  $SD=8.28$ , which means that these students scored between 67.61 and 84.17. This shows that 100% of SL groups scored higher than the median. On the contrary, CL groups scored  $M=56.81$  and  $SD=25.62$ , showing CL students gaining scores between 31.18 and 82.43. These findings indeed show consistency with Novak et al. (2007) [9], which clearly stated that service learning students did gain higher cognitive learning shown in their assessment scores.

Table 2. Oral Presentation Mean Scores Comparison between Service Learning Groups and Conventional Learning Groups.

Group Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
Oral Presentation	Service Learning Groups	19	82.36	3.141	.721
	Conventional Learning Groups	21	71.01	3.978	.868

In the oral presentation, SL groups showed consistent higher scores than CL groups. SL group scored  $M=82.36$  and  $SD=3.14$ , while CL gained  $M=71.01$  and  $SD=3.97$ .

Table 2. , continued

Independent Samples Test											
Levene's Test for Equality of Variances											
t-test for Equality of Means											
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper
Oral Presentation	Equal variances assumed	1.119	.292	9.940	38	.000	11.348	1.128	9.092	13.637	6.547
	Unequal variances assumed			10.059	37.1	.000	11.348	1.128	9.092	13.637	6.547

An independent-sample t-test was administered to compare oral presentation scores between service learning groups and conventional groups. There was a significant difference in the oral presentation scores for service learning groups gained ( $M=82.36$ ) while conventional groups achieved ( $M=71.01$ );  $t(38) = 9.940$ ; and  $p < .05$ . These results show that service learning groups significantly achieved higher scores in oral presentation than conventional groups.

Overall, because service learning method provided students more exposure in interacting with the community verbally and logically in delivering ideas or messages, it helped students develop presentation skills. This result is also similar with Kearney's (2007) [8] findings when he said that experimental groups delivered superior presentation skills about their service learning experience and successfully articulated the elements of effective communication.

In short, students who were involved in direct communication in the community have gained higher understanding of the course content reflected in their written and oral presentation assessments scores.

### The Impacts of SL Approach towards Communication, Teamwork, and Academic Development

This study attempted to examine and compare the impacts of service learning and conventional approaches towards communication, teamwork, and academic achievement. Eleven items of the self-assessment survey questionnaire were used to analyze both methods' effectiveness. The results showed that although both groups showed significant improvement in communication skills and teamwork, CL groups gained higher mean scores than SL group. Nevertheless, SL groups showed higher gains in academic development. See Table 3.

Table 3. Mean Score of Pre and Post Self-Assessment on Communication, Teamwork, and Academic t in SL and CL Groups.

	Communication		Teamwork		Academic Development	
	SL	CL	SL	CL	SL	CL
Pre Self-Assessment Mean Score	3.49	3.93	3.68	4.17	4.03	4.53
Post Self-Assessment Mean Score	4.11	4.73	4.31	4.82	4.57	4.98
Sig. (2-tailed)	.002	.000	.002	.002	.020	.035

Table 3 showed contrasting findings with Prentice and Robinson (2010) [10] in the areas of communication and teamwork. In their findings, service learning students perceived themselves significantly higher than conventional groups in communication. Moreover, in teamwork, service learning groups gained higher score than conventional groups.

On the contrary, the descriptive analysis in this study shows that SL group perceived themselves inferior than conventional groups' teamwork and communication skills. In the area of academic development in this study, CL group also scored higher in their self-assessment mean score. However, service learning group gained higher improvement in understanding the course content by gaining a mean difference of .54 while conventional groups' mean difference gained was .45. Both groups have demonstrated a significant difference.

The higher scores in academic development gained by SL groups in this study is congruent with Celio's et al. (2011) [11] meta-analysis that showed that of all the areas examined, academic achievement gained the highest mean effect for students' outcome of 0.43 (mean ESs ranged from 0.27 to 0.43). Surprisingly, SL groups gained inferior

results in communication and teamwork than CL groups based on the self-assessment questionnaire results.

It shows that service learners lack self-beliefs in these soft skills. To explain why this scenario could happen, Celio and colleagues (2011) [11] noted that self-assessment measures might provide significantly different results from objective measures due to self-biases. Hence, it was suggested to rely more on objective assessments' results.

Moreover, according to Vialle, Heaven, and Ciarocchi (2005) [12], self-assessment results are influenced by students' self-esteem. In their long-term study of 900 participants, they found out that there was no relationship between self-esteem and academic achievement. In comparison to this study's findings, SL groups perceived themselves inferior in communication, teamwork, and academic achievement than conventional groups, yet the former gained much higher mean scores in the two assessments used to achieve the course learning outcomes.

Surprisingly, when the service learning groups were asked to articulate how service learning engagement helped them improve their communication skills, teamwork, and academic achievement, they articulated contrasting results from the self-assessment survey questionnaire. Their responses were analyzed and categorized according to theme through the three areas mentioned above. The categorized responses were then counted. The result showed that all of the 19 participants claimed to have significantly improved in their communication skills, 17 said service learning helped them enhance teamwork and cooperation especially in completing the services they rendered to their chosen community, and 15 claimed to have developed academically, which means gaining a deeper understanding of the course content through constant interaction with the community. See figure 1 below.

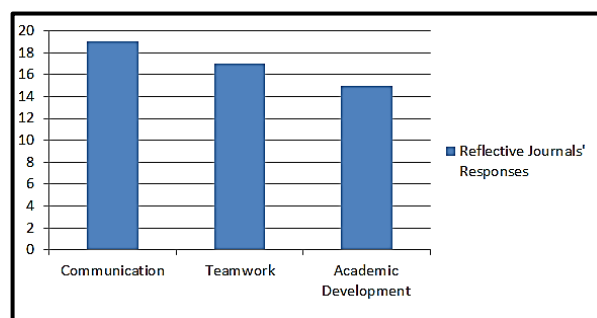


Fig. 1. Service Learning Groups' Journal Responses.

With these results, it is argued that self-assessment measures are not always reliable. When students are



asked to assess their skills through numbers, they perceived themselves inferiorly. However, when they were asked to elaborate their learning experience through reflective journal writing, they were able to specifically articulate what they had learned and gained from the service learning approach.

The findings of this study clearly show that service learners gained higher academic achievement than non-service learners. According to Bilig and Sandel (2003) [13], students engaged in quality service learning gained higher academic outcomes because of the sense of attachment they had with the school, and the drive to keep learning. The cognitive outcomes of service learning helped students achieve higher academic gains because this educational experience allows students to apply course content to a novel situation or issue. Hence, there is a deeper understanding of the learning materials, development in written assessments, and critical thinking skills (Eyler & Giles, 1999) [14].

Service learning pedagogy has also brought some positive implications towards Malaysia's Outcome Based Education system. As aforementioned, OBE system addresses Knowledge, Skills, and Attitude (KSA) (MQF, 2011) [3]. Through service learning, KSA is achieved, since service learning framework includes behavioral, cognitive, emotional, and social (Simonet, 2008) [15]. Service learning places learners to be responsible and have the sense of autonomy in their learning process and gives relevant and attainable goals. As a result, it creates realistic and meaningful learning environment and aids to the improvement of learning attitude and motivation (Simonet, 2008) [15]. Because learning experience becomes meaningful, lessons learned are retained.

Through this approach, students gain practical skills like communication, presentation, problem solving, teamwork, and others. Their interactions with their peers, lecturers, and communities also help them build relationships. Their real experience helps them see the relevance of giving respect to people of different races, cultures, and opinions. In short, service-learning framework provides students with educational experience where they have the opportunity to link the course content of their studies to the real world scenarios, and make learning more meaningful. Consequently, OBE's KSA is achieved.

Values, attitudes, professionalism, communication, leadership and team skills are enhanced through their exposure to the real professionals in the society. According to Scales and Blyth (1997) [16], service learners see themselves highly skilled socially, showed a great sense of kindness to others, developed their communication skills, gained a deeper understanding of themselves and displayed strong leadership skills. In addition to that, service learners in

this study commented that they were able to feel close to the society through service learning. They have realized the significance of communication and teamwork in completing their work as well as in practicing tactfulness in dealing with community representatives and professionals. Most importantly, through service learning, knowledge of the subject matter is broadened and higher academic gains are achieved (Hart & King, 2007 [17]; Kamuche, 2006 [18]; Strage, 2000 [19]; Astin et al, 2000 [20]; & Fredericksen, 2000) [21]. In short, service-learning methodology helps achieve OBE's KSA domains and skills imposed by MQF.

## 4.0 CONCLUSION

The findings of this research prove that service learning is an alternative approach that helps achieve course learning outcomes on pre- university students. Service learning approach brings various positive consequences towards educators, students, and most importantly contributing to achieving the learning outcomes of Malaysia's Outcome Based Education system.

With this approach, educators are diverted from the conventional teaching method, which is a typical lecture-centered approach, placing the lecturer at the centre of learning. Educators would no longer practice one-way interaction and talk for hours, instead, place the students at the centre of the learning process, and allow more interactions between students and students, students and lecturers, and students and communities. Hence, the classroom becomes an avenue for students to share and express ideas and opinion learned from their service learning experience.

However, service-learning preparation can be time consuming and challenging. It requires proper training on how to map the service learning activities and projects with the course and program learning outcomes. Eliciting course content from the service learning experience and direct application of course content to the services provided to the community also require careful planning and skills. Marking reflective journals or papers from service learners can also eat up the lecturer's time and sometimes students find scheduling community visitation conflicting with their study time. Therefore, a wide knowledge of service learning approach, skills in making a clear link between the service learning activities and course learning outcomes, and providing high quality service learning are crucial to a successful implementation of this approach.

In conclusion, service-learning approach aids conventional teaching method in making learning student-centered and in producing active learners.

Learners are exposed to diverse populations outside the classroom. This exposure gives learners wide opportunities to apply theories into practice. These active learning experiences, social and soft skills, a deeper understanding of the subject matter, appreciation and respect of different races and cultures are the aims ought to be achieved to successfully fulfill Malaysia's ETP through the new Outcome Based Education system. If service learning approach is to be adapted by Malaysian Education as one of the means of implementing successfully its Outcome Based Education system, a standard service learning model has to be created and used across Malaysia. Service learning educators also need to be more informed and educated through workshops and training to properly implement service-learning approach and not defeat the purpose of this pedagogy.

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