

Relationship Between Service Learning And Self-Directed Learning

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서비스러닝자기주도 학습과의 관계

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Abstract This study examined the effect service learning combined with self-directed study had on transferring skills from the university classroom to their practical application in local community centers. The subjects of this study were students who took service learning classes from September 1, 2019 to December 28, 2019. The research question in this paper is 'What is the relationship between service learning-based general classes and self-directed learning?'. That is, how do service learning-based general classes affect sub-elements of self-directed learning? We then tried to determine how the variables of individual learners can affect self-directed learning ability. The results showed that autonomy and problem solving were the greatest at $r=.66$. Openness and self-assessment ($r=.60$), autonomy and self-assessment ($r=.55$) had significant correlation. Learner autonomy had a significant correlation with facilitation and collaboration of service learning ($**p<.01$). According to this result of the study, it is possible for learners to deepen what they have learned at school and to practice and gain experience through community service. Further, practical problem solving and self-assessment through reflection are possible. Learners were able to inspire responsibility as members of society and increase self-esteem as democratic citizens.

요약 본 연구의 목적은 서비스러닝을 통한 교실 안의 학습이 지역사회에 실용적으로 전이될 수 있는 자기주도 학습과의 관계를 탐구하는 것이다. 본 연구의 대상은 2019년 9월 1일부터 2019년 12월28일까지 교양 과목 수강 학생을 대상으로 하였다. 본 논문의 연구 문제는 서비스러닝 기반 교양수업과 자기주도 학습과의 관계는 어떠한가? 즉, 서비스러닝 기반 교양수업이 자기주도 학습의 하위 요소인 개방성, 자율성, 문제해결력, 자기평가에 어떠한 영향을 미치는가이다. 그렇다면 학습자 개인의 변인은 자기주도 학습 능력에 어떻게 영향을 미칠 수 있는지를 알아보고자했다. 연구결과, 자율성과 문제해결능력 $r=.66$ 으로 높은 상관관계를 보여주었고, 개방성과 자기평가($r=.60$) 자율성과 자기평가($r=.55$)가 통계적으로 유의미한 상관관계의 결과를 가져왔다. 서비스러닝에 있어서의 학습자 자율성은 서비스러닝 활동의 학습 촉진 및 협력과 유의미한 상관관계를 보였다($**p<.01$) 이 연구의 결과를 통해, 향후 학생들은 자기가 학습한 내용을 심화하여 지역사회기관 봉사를 통해 실천하고 경험하며 학교에서의 배움이 강의실에 머물러 있지 않고 사회로 환원이 가능한 개방성, 자율성, 봉사의 실천을 통해 실질적 세계에서 부딪힐 수 있는 문제해결 그리고 성찰을 통한 자기평가가 가능하다. 또한 학습자들은 사회 구성원으로서의 책임감과 민주시민으로서의 자존감을 고취시킬 수 있었다.

Keywords : Service Learning, Self-Directed Learning, Community, Autonomy, Problem Solving Ability, Self-Assessment

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1. Introduction

Service learning means implementing student-centered, experimental learning in the community while addressing community needs. Learners are encouraged to gain a deeper understanding of what was studied in class through practical application in the community [1]. Service learning began in the United States in the late 1980s and has been incorporated into various academic disciplines [2]. Service learning is the concept of integrating community service and learning, and major courses or general education courses are a form of experiential education that enables learning to take place by structurally setting service activities and reflective considerations [3]. Research on service learning in Korea has been conducted steadily. However, a lot of research has not been done on the research and development of service learning programs combined with education. In this study, service learning has these traits: it looks at the balance of performance between learning and the community [4]. It emphasizes mutually beneficial principles between universities and communities [5] and attempts to create mutually beneficial value through services, such as teaching in the community center, wall painting in the rural area, and helping the old spend time making something, connected with learning.

The process of integrating 'services' with the school curriculum is a reflection process [6]. It suggests that students can try to solve problems through reflection, or have a broader view of the meaning, experience, and feeling of learning.

Self-directed learning is distinguished from self-regulated learning. Self-directed learning is facilitated by the student with or without the help of others: learner is primarily responsibility of the learning objectives, content, methods and processes [7]. There are eight components of self-directed learning, Openness to learning opportunities, self-concept as being a highly

proficient learner, self-independence in learning, responsibility for self-learning, affection and enthusiasm for learning, future orientation, creativity, basic learning ability and ability to use problem-solving skills [8]. These characteristics are not only needed for learners to start the learning process but also are a necessary condition to increase practicality in terms of enhancing the transfer and validity of learning [9]. In this case practicality refers to the idea that the students will be able to finish the process in a reasonable amount of time. Many prior studies argue that the concept of Self-directed learning represents many important factors related to students' responsibility for learning and independence [10]. Therefore, it is worth studying the relationship between service learning and self-directed learning.

The goal of this research project was to discover if any connection existed between the use of service learning combined with self directed learning and the increase of transferable skills to the real world. This study aims to deepen the knowledge that students have studied in the classroom and to give back to the community through service learning-based [11] general education course, which combines education at school and service activities in the community, and has a positive influence on the increase of self-directed learning through experience and reflective practice. The key questions of this study were as follows.

- 1) What is the relationship between service learning based general education classes and self-directed learning?
- 2) How can the variables of individual learners affect self-directed learning?

2. Method

The purpose of this study is to find out if there is any connection between the use of service

learning combined with self-directed learning and the increase of transferable skills to the real world. The research method of this study is as follows.

2.1 Subjects

The subjects of this study were 48 students in the first, second, third and fourth year of undergraduate school. These students completed 3 hours and 3 credits of elective general education courses per week at University of A city (EFL). Table 1 below shows the variables of the study subject. Female students are 22(45.8%) and male students are 26(54.2%). In case of major, there are 20(41.7%) students of humanity and social majors, 17(35.4%) of engineering majors, and 11(22.9%) of others. There are 8(17%) freshmen, 12(25%) sophomores, 14(29%) juniors, and 14(29%) seniors.

Table 1. Variables and numbers

Variables		Numbes	%
Gender	Female	22	45.8
	Male	26	54.2
Major	Humanities & Social	20	41.7
	Science Engineering	17	35.4
	Others	11	22.9
Grade	1	8	17
	2	12	25
	3	14	29
	4	14	29
Total		48	100

2.2 Research Period and Procedures

The specific steps and procedures of planning, preparation, data collection, data analysis and organization of this study are as follows. The research period was from September 1, 2019 to December 28, 2019, the students took a service learning based general education classes, which they participated in 15 hours of the service activity in a community as student teachers.

For the research on self-directed learning proficiency using service learning, interviews

were conducted to collect the students' background. During the beginning of the semester each class participated in a general orientation on how to effectively conduct service learning. At the end of the semester, there was a self-directed learning survey.

Service learning based general education classes are divided into service and learning. Knowledge acquisition in undergraduate programs is primary goals, which is usually theory based learning. In addition, activities were conducted, including lesson plans, class demonstrations, and instructor and peer feedback. In the second stage, the service, such as, detailed instructional activities in the regional centers, or schools (Table 2). In the third stage, students who participated in service learning returned to the university after service activities, used feedback to reflect on opportunities for improvement and revised their lesson plans.

Table 2. Service learning procedures

Step	Service	Learning
1		Course Learning Lesson plans class demonstrations instructor and peer feedback
2 15hrs	Pre class	Service Activities (Community center)
	In class: Learner-centered class activities	
	Post class	
3		Reflection Feedback

2.3 Instrument and Data Analysis

The instrument consisting of four factors from self-directed learning and three factors from the features of service learning is used by grouping sub-factors with high correlation among factors.

Based on eight factors of self-directed learning characteristics of self-directed learning readiness developed by diagnosing self-directed learning [8], the instrument is composed of four sub-factors self-directed learning: openness, autonomy,

problem-solving ability and self-assessment and three factors from the features of service learning: activity facilitation, inhibition, and cooperation. A The Likert 5 point scale was used.

All Cronbach's alpha levels were over .80, indicating that each subscale met the recommended criteria. The SPSS 18.0 program was used for the above-mentioned analysis. A simple correlation analysis was performed to examine the relationship between the two variables, service learning and self-directed learning ability. Two independent sample t-tests and One way ANOVA were performed to analyze the average difference between gender, grade, and major variables of the subjects.

Table 3. Reliabilities

Variables	Items	α
Openness	Interest in learning	.89
	Attitude to learn	
	Curiosity	
	A persistent effort	
	Accept criticism	
Autonomy	Learning time organization ability	.83
	Learning Resource Utilization	
	Do not give up difficult problems	
	Recognize my mind about learning	
	The ability to plan and execute alone	
Problem Solving	Problem solving ability	.77
	Strong Learning Foundation	
Self Assesment	Willingness to study on topics of interest	.79
	Desire for learning plan	
	Responsibility for Learning	
	Self assessment of learning progress	
Service Learning Facilitation	Facilitate learner interaction	.80
	Celebrate relationship between teacher and learner	
Service Learning Inhibition	Information gap between learners	.76
	Possibility of inaccurate learning information distribution	
	Learning information and knowledge variant	
	Deviate from the original purpose of the class	
Service Learning Cooperation	Learners organize their own knowledge	.87
	Promote collaborative learning activities	
	Embody the ideas	
	Active Learning Participation	
Total		.82

3. Results

3.1 Correlation of Sub-factors among Self-directed Learning

The results of correlation analysis of sub-factors among self-directed learning ability, that is to say, openness, autonomy, problem solving ability, self-assessment and facilitation, inhibition and cooperation of service learning are as follows (Table 4).

Table 4. Simple correlation analysis

	O	A	P	S	SL/AF	SL/IH	SL/C
O		.57**	.43**	.60**	.14**	-.09	.17**
A			.66**	.55**	.12**	-.07	.18**
P				.47**	.10*	-.07	.16**
S					.18**	-.11	.17**
SL/AF						.41**	-.08*
SL/IH							.02
SL/C							

(*p<.05,**p<.01)

(O: Openness, A: Autonomy, P: Problem solving

S: Self-assessment, SL/AF: Service Learning Activity Facilitation, SL/IH: Service Learning Inhibition, SL/C: Service Learning Cooperation)

First Autonomy and problem solving was the highest at r=.66. Openness and autonomy were r=.57. Openness and self-assessment were r=.60, and autonomy and self-assessment r=.55 resulted in a significant correlation. Problem solving and self-assessment were r=.47.

3.2 Correlation between Sub-factors of Self-directed Learning and Service Learning

According to the result of correlation between sub-factors of self-directed learning and service learning (Table 4), autonomy was relatively correlated with facilitation and cooperation in learning activities of service learning, the correlations among the remaining variables, facilitation and inhibition, and inhibition and cooperation, were not very significant(**p<.01).

3.2 Variables

Here are the results of three variables of individual learners: gender, grades, and majors which affect self-directed learning.

3.2.1 Gender Variables

As a result of analyzing the data, there was a statistically significant difference between females and males in 'openness' and the facilitation of service learning activities ($p < .05$). The result shows that male students' openness and facilitation of service learning were higher than female students'.

As a result of the grade analysis, there were statistically significant differences in 'autonomy ($p < .05$)' and 'problem solving ability ($p < .05$)'. The higher the grade, the higher the result.

According to the analysis of major groups, the mean of most of the group was not statistically significant ($p < .05$). There was a statistically significant difference between the different majors in the facilitation of service learning activities ($p < .05$).

Table 5. Gender variables

	gender	M	SD	p
Openness	female	18.0	3.2	.00*
	male	19.7	3.7	
	female	18.1	3.6	
Autonomy	male	17.7	2.9	.19
	female	6.5	1.4	
Problem Solving	male	6.6	1.6	.64
	female	13.6	2.4	
Self Assessment	male	14.0	2.9	.52
	female	23.2	4.8	
Service Learning Facilitation	male	24.0	3.2	.00*
	female	8.9	2.8	
Service Learning Inhibition	male	8.4	2.5	.06
	female	14.0	3.9	
Service Learning Cooperation	male	15.5	3.1	.06
	female	15.5	3.1	

(* $p < .05$, ** $p < .01$)

Table 6. Grade variables

	grade	M	SD	p
Openness	1	18.4	3.1	.06
	2	18.5	3.7	
	3	18.3	3.4	
	4	19.2	3.6	
Autonomy	1	16.2	2.9	.02*
	2	17.0	2.9	
	3	17.5	3.2	
	4	18.8	3.2	
Problem Solving	1	6.0	1.3	.01*
	2	6.3	1.4	
	3	7.1	1.7	
	4	7.1	1.7	
Self Assessment	1	14.1	2.4	.57
	2	14.4	2.7	
	3	14.9	2.7	
	4	15.0	3.0	
Service Learning Facilitation	1	6.4	2.1	.47
	2	6.6	1.8	
	3	6.8	2.0	
	4	6.4	2.1	
Service Learning Inhibition	1	9.3	3.0	.32
	2	8.4	2.5	
	3	8.5	2.0	
	4	8.8	3.1	
Service Learning Cooperation	1	14.5	3.7	.61
	2	14.5	3.7	
	3	15.2	3.9	
	4	15.3	3.9	

(* $p < .05$, ** $p < .01$)

Table 7. Majors variables

	Majors	M	SD	p
Openness	humanity/social	18.1	2.9	.12
	science/engineering	17.9	4.0	
	others	18.3	4.1	
Autonomy	humanity/social	16.3	2.9	.24
	science/engineering	18.2	3.5	
	others	18.1	3.4	
Problem Solving	humanity/social	6.6	1.4	.85
	science/engineering	6.3	1.6	
	others	6.5	1.5	
Self Assessment	humanity/social	14.8	2.4	.20
	science/engineering	14.9	2.9	
	others	14.7	2.7	
Service Learning Facilitation	humanity/social	24.4	2.7	.03*
	science/engineering	25.2	5.5	
	others	23.7	4.0	
Service Learning Inhibition	humanity/social	8.5	2.3	.08
	science/engineering	9.2	2.9	
	others	8.7	2.7	
Service Learning Cooperation	humanity/social	14.5	3.0	.58
	science/engineering	13.4	3.7	
	others	13.9	3.3	

(* $p < .05$, ** $p < .01$)

4. Conclusion

This study has examined the relationship between service learning-based general education and self-directed learning. We examined whether there is a difference in self-directed learning ability according to learner variation.

The result of the study has shown that openness, autonomy, problem solving, and self-assessment are closely related to each other. Autonomy was relatively correlated with facilitation and cooperation in learning activities of service learning. This means that learners can do something autonomously and promote learning practices. Also, in the case of gender variables, the result of male students' openness and facilitation of service learning activities were higher than the female students'. In the case of openness and problem solving, the older the students, the higher the results. The service learning facilitation of science-engineering major students was higher than the other majors. As a result of this study, learners who are open and autonomous, and the older, are more likely to be able to work effectively.

In conclusion, autonomy is closely related to learning facilitation, so teachers should encourage learners to do their own learning activities. This suggests that student-centered learning and practices can guarantee a higher level of self-directed learning and skill transfer rather than teacher-centered learning based solely on theory. In the case of service learning facilitation, teachers should set meaningful learning goals and provide an educational environment that focuses on creating lessons and goals that are engaging, compelling and within the ZPD (Zone of Proximal Development) of the learners. To do this, teachers should analyze the skill level and content knowledge of each learner before the class and service learning. According to the data analyzed in this study, it is possible for learners to attain a better understanding of

what they have studied when they put it into practice and gain experience through community service. Also, the students who engaged in service learning were able to solve practical problems and perform self-assessment through demonstrating a high rate of transfer from theory to practice. In addition, learners were able to develop a sense of responsibility as members of successful and productive academic programs within their community.

The current study is somewhat limited in its generalization. Foremost, it is important to discuss the sample size of only 48 students surveyed. Therefore, further research could include more varied subjects and a bigger sample size and research environments.

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Teaching and learning strategies