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## Effects of a Transformative Learning Program for Developing Active Global Citizenship among Thai Students

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**Abstract:** This experimental research aimed to examine the effectiveness of the transformative learning program (TLP) on the active global citizenship (AGC) of 60 undergraduate students who had joined student affairs engaging in community development, working with a volunteer spirit, and community service. The participants were randomly assigned into experimental and control groups (n=30 for each group). The data were collected using the AGC Scale with a reliability of .968. Assessments were conducted three times: before, after the experiment, and follow-up. The TLP consisted of five steps: (a) Review social issues and crises contributing to disorientation; (b) Reflect critically to reach solutions; (c) Reformulate the meaning of perspectives to plan a course of action based on new perspectives; (e) Accept and improve new practices; and (f) Evaluate. MANOVA was performed to analyze the data. The results showed that students in the experimental group had a higher mean score of AGC than the control group, both after treatment and at follow-up ( $p < .05$ ); the mean scores of the AGC of the experimental group after treatment and at follow-up were higher than the mean score before treatment ( $p < .05$ ); and the mean score of AGC of the experimental group at follow up was higher than the score after treatment with no statistical significance. In conclusion, educational personnel could use this TLP to promote AGC for university students.

**Keywords:** *Active citizenship, global citizenship, transformative learning, undergraduate students, educational management.*

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### Introduction

Currently, societies are experiencing disruption which is affecting the youth. Some of them are unable to cope with the challenges, resulting in maladaptive thoughts and behaviors as well as poor well-being. For example, (a) in one study of Thai adolescents aged between 10 and 19 years, 40% of them were at risk of depression and 18% had been diagnosed with depression, (b) in another study, there were 129 new cases of children and young people suffering game addiction, which was a sixfold increase during 2016-2017 (Department of Mental Health of Thailand, 2017), and (c) of the 177,731 substance users receiving addiction treatment in 2017, the proportion of young people aged 15-24 years receiving the treatment was 41.5% (Office of the Narcotics Control Board, 2020). Therefore, educational institutions must promote desirable characteristics for young people and encourage them to spend time doing activities that benefit communities.

Active global citizenship (AGC) is an important goal of educational management in Thailand. It is aimed at cultivating discipline among Thai citizens as well as encouraging them to be active and become self-directed lifelong learners. They are expected to possess knowledge and skills, positive attitudes and values, complete physical and mental health, and public-mindedness. At the same time, they are also expected to have Thai, ASEAN, and global citizenship qualities (Office of the National Economic and Social Development Board, 2017). Moreover, United Nations Educational, Scientific and Cultural Organization (UNESCO, 2015) defines global citizens as individuals perceiving that they belong to their communities and societies in terms of political, economic, social, and cultural interdependence, and the connection between local, national, and global contexts. Therefore, educational management and learning processes must be linked with social issues and promote the qualities of being a good citizen of a society, a country, and the world, that is, focusing on public-mindedness and contributions to the common good in society as well as cultivating the qualities of global citizens (Carlos, 2017).

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Generally, exploratory, and qualitative studies have been conducted to investigate the relationships and the variables related to active citizenship and global citizenship variables. For example, Hoskins et al. (2008) studied the effect of educational management based on active citizenship on the participation of students and university students at all educational levels. The data were obtained from the European Social Survey; the results showed that, overall, formal education was significantly associated with democratic and active citizenship behaviors. Morais and Ogden (2011) qualitatively studied global citizenship. They developed the Global Citizenship Scale based on grounded theory to measure global citizenship, which was categorized into three dimensions, namely, social responsibility, global competence, and global civic engagement. Woldemeleket (2017) investigated the components and factors related to global citizenship with 681 faculty and fourth-year undergraduate students at Kennesaw State University and discovered the following: global competence significantly correlated with global citizenship; the correlation between global competence and global ventures was at a moderate level; and similarly, global citizenship significantly correlated with global ventures.

In addition, several previous studies found that beliefs, positive attitudes, and behaviors were transformed successfully via transformative learning (TL) processes. For example, Battin (2017) explored challenging experiences among student affairs leaders in approaching university students with substance use problems based on the TL theory. Eight student affairs leaders having experienced challenges in approaching students with substance use problems were interviewed. The results revealed four components associated with the TL of student affairs leaders, including challenge; reflection; dialogue structure; and action. Pavlakis and Giotopoulos (2018) explored the promotion of empathy by applying TL through aesthetic experience among 44 participants. The results showed that TL through aesthetic experience could promote critical thinking and empathy among learners. Yee et al. (2019) explored types and ranges of TL associated with the design of social innovation. The results showed that those who participated in designing social innovation had a significant process of perspective change. According to the aforementioned studies, it has been found that the previous studies typically performed an exploratory study to investigate relationships and the variables 'global citizenship' or 'active global citizenship', indicating that experimental study on active global citizenship is scarcely found. Accordingly, the current study integrated a TL concept with a service-based learning concept in the development of a program to promote AGC in undergraduate students. The program focused on encouraging transformation in three domains, which were psychology (changes in self-understanding); beliefs (changes in the structure of beliefs formation); and behavior (changes in lifestyles) (Mezirow, 2012). TL holistically influences the promotion of AGC in all three domains: students can acquire knowledge and understanding of roles, duties, responsibilities, and engagement as AGC, adopt positive beliefs and attitudes towards AGC, and believe in the power to constructively change societies, and the world, and exhibit behaviors and use expressions representing the potential for AGC.

### Literature Review

#### *Active Global Citizenship (AGC)*

AGC is a concept derived from combining active citizenship with global citizenship, concerning the important characteristics of all people who live together in all societies, including realizing one's roles and duties as a global citizen; understanding the ways of living in societies; having compassion for others; expressing sympathy for those in a bad situation; and helping other people willingly, regardless of social group or country (Reysen & Miller, 2013). Moreover, Lough and McBride (2013) defined active global citizens as citizens who possess the following characteristics: belief in and desire to witness global governance in practice and a perception that engagement with a nation could force changes at the international level. Also, these citizens understand and are aware of their roles and duties. They respect and accept cultural diversity, have public-mindedness and a sense of justice, and participants are responsible for social development in the local and global context. In the current study, the researcher categorized AGC into three domains based on the concepts of Harlap (2011) and Oxfam (2015), which were (a) knowledge and understanding, (b) skills, and (c) attitudes and values.

#### *Transformative learning (TL)*

Transformative learning theory started with an investigation of one group of women who attended a college (Mezirow, 2012). TL has two learning purposes. 1) It is to enable individuals to change their problematic old frames of reference, such as sets of beliefs, rigid assumptions, and expectations (habits of mind, meaning perspectives, and mindsets), and acquire better frames of reference. It is a learning approach that cultivates the appreciation of the purposes and values of learning, which eventually leads to new principle-based perspectives and conscience. 2) It is to enable transformation from consciousness to awareness in the dimensions of beliefs, thinking, emotions, and behaviors. TL focuses on encouraging individuals to use reflective thinking in problem-solving and to analyze and synthesize knowledge through critical reflection and dialogue to make a comparison between old and new experiences. Specifically, group learning activities enable individuals to change an old paradigm and then embrace a new meaningful paradigm (Fletcher & Meyer, 2016; Kear, 2013; Mezirow, 1997). TL involves the following important steps: (a) disorienting dilemma, providing new learning situations that are unfamiliar to learners; (b) critical reflection, learning the critical reflection process through events and stories leading to perspective change; this consists of three aspects, which are content reflection, process reflection, and previous beliefs reflection; and (c) changed meaning perspective, enabling changes in thinking, emotions,

and behaviors of learners (Mezirow, 2012) at the “accept and improve the new practices” step to promote the participants’ skills of AGC. In the current study, the researcher applied TL in designing the steps for performing activities to promote AGC of undergraduate students; five steps were yielded. The research framework is presented below.

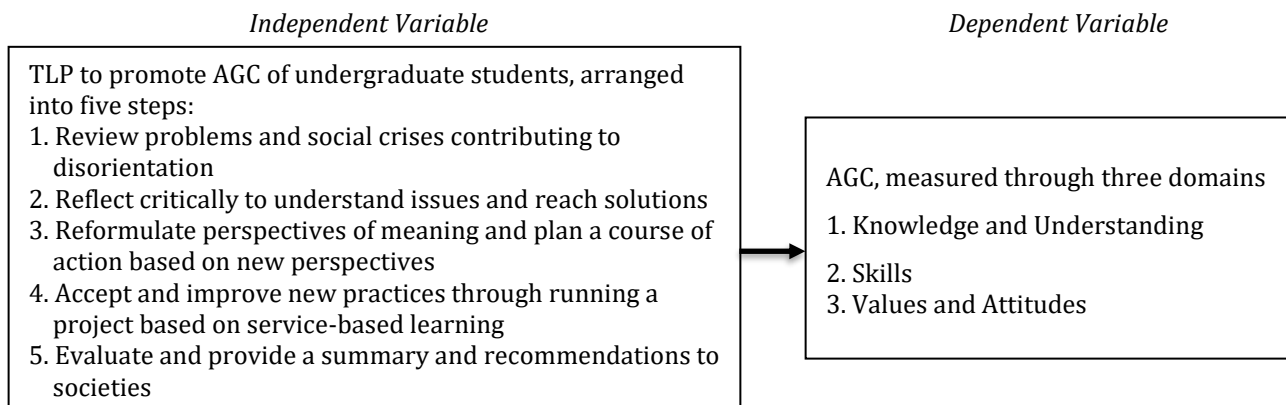


Figure 1. Research Framework.

### Service-Based Learning (SBL)

SBL is a learning process acquired from thinking and practicing in real-life situations. It is the process in which classroom knowledge is put into action in communities and societies through running social service projects. Once the projects have been completed, learners will reflect on how their thinking and actions are valuable and meaningful to themselves and societies. Thus, SBL is a learning strategy linking knowledge learned with valuable and meaningful social service (Butin, 2010). The researcher applied the concept of SBL in designing the activities conducted.

## Methodology

### Research Design

In this experimental study, the researcher conducted a randomized pretest, posttest, and follow-up using a control group design. The research question; How is the effectiveness of a TLP on AGC of undergraduate students? The research goal for testing two hypotheses such as

H1: Students who participate in a TLP have higher AGC than those who do not participate in the program, after the experiment, and at follow-up, and H2: After the experiment and at follow-up, students who participate in a TLP will have higher AGC than before the experiment.

### Sample and Data Collection

The study population was 350 undergraduate students from the departments of financial, business, commercial communication, marketing, design, computer science, and engineering, who had joined 20 student affairs in one private university and were enrolled in the 2021 academic year. The study participants consisted of undergraduate students who had joined student affairs engaged in community development, worked with a volunteer spirit or community service, and voluntarily participated in the study. The sample size was determined based on the principle of Cohen (1988) and G\*Power (Faul et al., 2009) with a power value of 0.85, an error of .05, and a medium effect size of 0.25; 54 cases were yielded. The researcher added 10% to the sample in case of resignation by the participants; therefore, 60 cases were yielded. Subsequently, students from four student affairs that ran similar activities (i.e., community development, work with Volunteer Spirit, or community service) were assigned into experimental (two affairs) and control (two affairs) groups by performing the random assignment. Each group consisted of 30 students who voluntarily participated in the study from the beginning to the end. There were 60 participants; 50 females (83.30%) were assigned to the experimental and control groups equally (25 females were in each group). A total of 10 males (16.70%) were assigned to both groups equally (five males were in each group). The majority of them (18 students, or 30%) were fourth-year students; eight students were assigned to the experimental group and 10 were to the control group. The next highest proportion (15 students, or 25%) were third-year students; nine students were in the experimental group and six students were in the control group. The experimental group participated in the program developed by the researcher, while the control group attended regular classes and did not participate in the program. This study was approved by the Institutional Review Board of Srinakharinwirot University; SWUEC-G-402/2563X.

### Instruments and Data Collection

1. The instrument used in the experiment was the TLP to promote AGC. The program was designed to promote AGC in three domains: knowledge and understanding, skills, values, and attitudes. The techniques used were group discussion, circular response discussion, game, lecture, questioning, problematization, case study, modeling, brainstorming, and

dialogue. The program included six three-hour activities and one social service project which required 30 hours of fieldwork, which was 48 hours in total.

2. The instrument used to collect data was the AGC Scale. It had 60 items constructed in Thai by the researcher based on the global citizenship concept (Harlap, 2011; Oxfam, 2015). It was a 5-point rating scale, ranging from 1 (not much like me) to 5 (very much like me). Five experts reviewed the content validity and achieved an IOC ranging between .60 to 1.00 with

an overall reliability of .968, the item discrimination ranged from .31 to .75, and the reliability coefficient for each dimension was as follows 1) Knowledge and Understanding were .896, 2) Skills were .853, and 3) Attitudes and Values were .863. The examples of the items were “I have knowledge and understanding about roles and duties, rights, and responsibility for society as a citizen of the country and the world”, “I can analyze and recognize news and issues occurring in a local and global context that is linked to one another”, and “Everyone must respect for and obey the law and social rules”

3. The program was designed to promote AGC in three domains: knowledge and understanding, skills, values, and attitudes. The techniques used were group discussion, circular response discussion, game, lecture, questioning, problematization, case study, modeling, brainstorming, and dialogue. The program included five steps: (a) review problems and social crises contributing to disorientation by group discussion and circular response discussion, (b) reflect critically to understand issues and reach solutions by questioning and problematization, (c) reformulate perspectives of meaning and plan a course of action based on new perspectives by case study and modeling, (d) accept and improve new practices by running a project based on service-based learning, brainstorming, and dialogue, and (e) evaluate and provide a summary and recommendations to societies. The program included six three-hour activities and one social service project which required 30 hours of fieldwork, which was 48 hours in total. The experimental group participated in the program developed by the researchers, while the control group attended regular classes and did not participate in the program.

The researcher experimented and collected data during the second semester of the 2021 academic year by following four steps: 1) Before the experiment, the researcher had the student participants complete the AGC Scale developed by the researcher to obtain the pre-test scores. 2) During the experiment, the researcher had the experimental group participate in the learning program and follow the activities as planned. 3) After the experiment, once the learning program had ended, the researcher had the participants complete the same AGC Scale to obtain the post-test scores. 4) Follow-up, four weeks after the program ended, the researcher had the participants complete the same AGC Scale to obtain the follow-up scores. Afterward, the pre-test scores, the post-test scores, and the follow-up scores were analyzed to test the hypotheses.

#### *Analyzing of Data*

Statistics used to analyze the data consisted of means, SD, and one-way MANOVA based on the assumption that the data had a normal distribution of analyzing techniques with testing normality and homogeneity. The results of the testing were shown that the score of AGC had a normal distribution and homogeneity of variance. MANOVA analysis could be used to test the hypothesis after checking the multivariate normal distribution. The variance of the scores in the before treatment period between the experimental and control groups, there was no statistical significance.

#### *Absolute Variation*

The results of the data analysis revealed that the AGC mean scores of the students in the experimental and control groups were before treatment of 3.96 and 4.50, after of 4.69 and 4.43, and follow-up of 4.75 and 4.27, respectively as followed in table 1.

*Table 1. Mean, Standard Deviation of AGC Score Before, After, And Follow-Up of the Experimental and Control Group*

Active Global Citizenship (AGC)	Before		After		Follow-up,	
	M	SD	M	SD	M	SD
<b>Experimental group- Total Score</b>	<b>3.96</b>	<b>0.32</b>	<b>4.69</b>	<b>0.18</b>	<b>4.75</b>	<b>0.17</b>
1. Knowledge and Understanding	3.94	0.39	4.73	0.20	4.75	0.16
2. Skills	3.85	0.35	4.64	0.23	4.75	0.20
3. Attitudes and Values	4.10	0.33	4.70	0.19	4.74	0.18
<b>Control group - Total Score</b>	<b>4.50</b>	<b>0.35</b>	<b>4.43</b>	<b>0.35</b>	<b>4.27</b>	<b>0.33</b>
1. Knowledge and Understanding	4.49	0.37	4.52	0.36	4.31	0.34
2. Skills	4.36	0.44	4.32	0.38	4.18	0.35
3. Attitudes and Values	4.58	0.29	4.49	0.35	4.30	0.35

Table 1 shows that AGC scores before treatment of the experimental and control groups were different. These results indicate that before treatment, the students in the experimental group had a lower level of AGC in all three domains than those in the control group.

### Results of Hypotheses Testing

Testing of hypothesis 1: Students who participate in a TLP have higher AGC than those who do not participate in the program, after the experiment, and at follow-up. The results were discussed below.

Table 2. MANOVA Analysis, Testing the Differences Between Groups After Treatment

Source	Dependent Variable	SS	df	MS	F	p
Group	1. Knowledge and Understanding	0.57	1	0.57	6.53*	.014
	2. Skills	1.28	1	1.28	12.45*	.001
	3. Attitudes and Values	0.54	1	0.54	6.65*	.013
Error	1. Knowledge and Understanding	4.42	50	0.08		
	2. Skills	5.12	50	0.10		
	3. Attitudes and Values	4.12	50	0.08		
Total	1. Knowledge and Understanding	1115.09	52			
	2. Skills	1047.82	52			
	3. Attitudes and Values	1100.85	52			
Corrected Total	1. Knowledge and Understanding	5.00	51			
	2. Skills	6.40	51			
	3. Attitudes and Values	4.66	51			

\* p-value < .05

Table 2 shows that through MANOVA analysis, the centroids of the knowledge and understanding, skills, attitudes and values mean scores after treatment of the experimental and control groups were found to be different at the statistical significance level of .05 (Wilks' Lambda = .794, F = 4.16, p = .011). Table 2 shows that AGC scores after treatment of the experimental and control groups were different at the statistical significance level of .05: 1) knowledge and understanding domain (F = 6.53, p = .014) 2), skills domain (F = 12.45, p = .001), and 3) attitudes and values domain (F = 6.65, p = .013). These results indicate that after the students in the experimental group had participated in the program, they had higher AGC levels than before the experiment and these levels were higher than those of the control group in all domains.

Table 3. MANOVA Analysis, Testing the Differences Between Groups at Follow-Up

Source	Dependent Variable	SS	df	MS	F	p
Group	1. Knowledge and Understanding	2.54	1	2.54	34.41***	<.001
	2. Skills	4.23	1	4.23	50.40***	<.001
	3. Attitudes and Values	2.56	1	2.56	31.07***	<.001
Error	1. Knowledge and Understanding	3.69	50	0.07		
	2. Skills	4.19	50	0.08		
	3. Attitudes and Values	4.12	50	0.08		
Total	1. Knowledge and Understanding	1070.45	52			
	2. Skills	1041.17	52			
	3. Attitudes and Values	1066.09	52			
Corrected Total	1. Knowledge and Understanding	6.23	51			
	2. Skills	8.41	51			
	3. Attitudes and Values	6.69	51			

\*\*\* p-value < .001

Table 3 shows that through MANOVA analysis, the centroids of the knowledge and understanding, skills, attitudes and values mean scores at follow-up of the experimental and control groups were found to be different at the statistical significance level of .001 (Wilks' Lambda = .497, F = 16.17, p < .001). Table 3 shows that AGC scores at follow-up of the experimental and control groups were different at the statistical significance level of .001: 1) knowledge and understanding domain (F = 34.14, p < .001) 2), skills domain (F = 50.40, p < .001), and 3) attitudes and values (F = 31.07, p < .001). These results indicate that at follow-up, or four weeks after having participated in the program, AGC levels of the students in the experimental group had continued to grow and were higher than those in the control group. Therefore, the results of the analyses confirm hypothesis 1.

Testing of hypothesis 2: After the experiment and at follow-up, students who participate in a TLP have higher AGC than before the experiment.

Table 4. MANOVA Analysis, Testing the Differences Between Phases of Assessment

Source	Dependent Variable	SS	df	MS	F	p
Test	1. Knowledge and Understanding	10.67	1	5.34	71.57***	<.001
	2. Skills	12.19	1	6.10	83.05***	<.001
	3. Attitudes and Values	6.38	1	3.19	51.21***	<.001
Error	1. Knowledge and Understanding	5.36	72	0.07		
	2. Skills	5.28	72	0.07		
	3. Attitudes and Values	4.48	72	0.06		
Total	1. Knowledge and Understanding	1518.12	75			
	2. Skills	1477.58	75			
	3. Attitudes and Values	1540.07	75			
Corrected Total	1. Knowledge and Understanding	16.03	74			
	2. Skills	17.47	74			
	3. Attitudes and Values	10.85	74			

\*\*\* p-value < .001

Table 4 shows that through MANOVA analysis, the centroids of the knowledge and understanding, skills, attitudes and values mean scores before treatment, after treatment, and at follow-up were found to be different at the statistical significance level of .001 (Wilks' Lambda = .276,  $F = 21.09$ ,  $p < .001$ ). Table 4 shows that in the three phases of assessment, AGC scores of the experimental and control groups were different at the statistical significance level of .001: 1) knowledge and understanding domain ( $F = 71.57$ ,  $p < .001$ ), 2) skills domain ( $F = 83.05$ ,  $p < .001$ ), and 3) attitudes and values domain ( $F = 51.21$ ,  $p < .001$ ).

Therefore, the results of the analyses confirm hypothesis 2: The assessment before the treatment phase was different from after the treatment phase at the statistical significance level of .001 and different from the follow-up phase at the statistical significance level of .001.

### Discussion

The results reveal that the TLP to develop AGC effectively promoted the AGC of the participants in three domains, including knowledge and understanding, skills, attitudes and values. One possible explanation might be that the program was built on the integration of the TL concept focusing on learners' transformation in three areas, namely, cognition, emotions, and behaviors. Therefore, the program facilitated the development of AGC in all three domains. It is consistent with Illeris (2014)'s viewpoint stating that adult learning contributing to change involves the combination of three dimensions, namely, cognition, social behavior, and emotion. Chiangkhong et al. (2019) applied TL for changing existing beliefs and health literacy through the use of critical reflection in self-care. By considering the steps and activities included in the program, it was found that these were the key factors facilitating TL to develop AGC among the student participants. The five steps discussed below were included in the program:

1. Review social issues and crises contributing to disorientation (disorienting dilemma). This step consists of several activities, such as watching video clips/ reading articles about social issues and crises, questioning and discussing in groups, and reflecting and discussing issues critically. These activities are used to evoke reactions and enable the participants to get to grips with existing issues, changing from their old narrow frameworks that focus merely on the issues in their communities and country. The process enables the participants to be aware of and active in seeking new broader perspectives. It enables them to understand that social issues and crises at every level, both in their local communities and global contexts, are linked and have impacts on each other. Eventually, the participants realize the values and importance of the development of AGC within themselves. When facing crises, individuals will be partially enlightened; meanwhile, they lose confidence in the previous frameworks and then become more aware of global issues. Accordingly, the crises force the individuals to notice their irrational and ineffective frames of reference, and eventually, their old beliefs or the previous frames of reference are invalidated (Mezirow, 2012).

2. Reflect critically to understand issues and reach solutions (critical reflection). This step involves learning the reflection that brings about changes in learners' perspectives. Through questioning critically, the participants are provoked to reflect on the previous frames of reference attached to traditional beliefs and values centered around their own nation to be able to embrace the new internationalized frames of reference. Through case studies and modeling activities (e.g., watching a short video clip or short film/ reading an article or the news / listening to a guest speaker), critical questioning and modeling techniques are conducted to change individuals' thinking, emotions, and behaviors. In addition, the researcher applies to dialogue, note-taking, and circular response discussion to carry out the activities within a supportive environment. That is consistent with Mezirow's learning process stating that learners create supportive relationships through a dialogue technique in the process of TL. This relationship-building process creates a space for

exchanging opinions, decreasing discrimination, and creating mutual goals (Mezirow, 2012). The process is also consistent with Taylor (2007) and Jackson and Chakraborty (2014), who proposed the factors promoting TL, and one of these factors was relationships. Specifically, supportive and trusting relationships facilitated dialogue among the participants in which they could embrace different viewpoints and human equality, or hierarchical social relationship was decreased. Similarly, the process is consistent with Osborne-Gowey et al. (2017)'s approach to promoting TL in that the provision of active learning through dialogue, discussion, and constructive reflection concerning others' opinions; acceptance of diversity; and participation in teamwork and offering assistance willingly would promote effective TL among the learners.

3. Reformulate the meaning of perspectives and plan a course of action based on new perspectives (changed meaning of perspectives). This step involves provoking individuals to integrate ideas or new perspectives into one's life by making new plans and practices aimed at acquiring knowledge and skills. Exploring new roles as well as developing potential or building confidence in the new roles and relationships are done through lecturing, brainstorming, group discussion, and planning on developing the qualities of AGC. In this step, the students exchange ideas about constructing the meanings of the qualities of AGC, both personal and collective. Also, they plan together to develop AGC. This process is consistent with Mezirow's TL process in that exchanging ideas and listening attentively are the important principles that bring about transformation. It enables learners to acquire new perspectives, gain experiences, and question their old beliefs (Mezirow, 2012). The process is also consistent with Ontas and Koc (2020) who determined the citizenship perceptions of primary school teacher candidates and their ideal citizenship narratives. The study revealed that all of the teacher candidates mentioned the courses they took during the university process in the differentiation of their ideal citizenship perceptions, and the ideal citizenship narratives were built on traditional citizenship as well as the perceptions of citizenship of the pre-service teachers.

4. Accept and improve new practices by running a social services project. In this step, the participants plan a social service project together to develop AGC through taking actions in real-life situations, in families or communities. That is consistent with Mezirow and Associates (2000) and Kitchenham (2008), who stated that exploring new roles or trying out new practices based on new perspectives enables individuals to improve new practices and eventually implement the practices in real life. It is also consistent with Kuh et al. (2015)'s concept in that SBL is experiential learning in which knowledge of the curriculum or subject is analyzed, synthesized, and applied in a social service project to solve issues or develop communities and societies in real-life situations. It is an effective approach to developing AGC for learners. The process is also consistent with Simsek (2020) who examined the impact of service learning on EFL teacher candidates' academic and personal development. The study revealed that developing effective teacher dispositions, interpersonal skills, and social responsibility, valued intrinsic rewards for their contributions to the youth's well-being, and also appreciated the informal professional learning opportunities the peer-tutoring service offered, without establishing their own learning agendas. The study revealed that democratic parenting and school environment positively affected global citizenship, whereas democratic teaching had a negative effect on global citizenship. In addition, outstanding students with a growth mindset tend to lead a positive effect and act as a mediating role through global citizenship than those with outstanding fixed mindset clearly.

5. Evaluate and provide a summary and recommendations to societies. In this step, the researcher assesses learning outcomes using the AGC Scale before and after the experiment as well as at follow-up. Based on Mezirow (2012)'s concept of TL, the researcher designs a learning process that focuses on encouraging participation and facilitating a safe space between the participants and the researcher. That is consistent with Taylor (2017)'s approach to TL which suggests that participatory learning is the key factor enabling learners to embrace TL. An instructor must adopt the participatory learning approach to enable learners to create, apply, and analyze learning issues that matter to them. At the same time, the instructor encourages the learners to share their learning, which will allow them to see different viewpoints as well as their thinking. As a result, the learners will develop self-reflection and explore their viewpoints, beliefs, and behaviors. Eventually, the learners will gradually change their viewpoints and understand themselves, others, and the world better; which will finally lead to the transformation of thinking, beliefs, attitudes, and lifestyles (Taylor, 2017).

### Conclusion

The research results revealed that: (1) the average active global citizenship score of the experimental group was higher than the control group in both the post-experiment phase and after the follow-up phase at a statistically significant level of 0.5; and (2) the average active global citizenship scores of the experimental group was higher than the pre-experimental phase, both in the post-experiment phase and after the follow-up phase with a statistically significant level of 0.5 and the active global citizenship of the experimental group remained. In conclusion, executives, instructors, and students could apply this program to develop active global citizenship for students in other universities. From the results of the data analyses coupled with theoretical evidence and evidence from previous studies, it can be concluded that the TLP to develop the AGC of undergraduate students designed by the researcher can be used to develop the AGC of students participating in the program in three domains: knowledge and understanding, skills, and attitudes and values. That confirms both hypotheses, indicating the effectiveness of the program and the strength of the current study. The activities and learning process based on TL are practical; they enable students to discover and develop one's own AGC. After the

program has been completed, these students continue to use knowledge learned from the program in daily life, resulting in an increase in AGC scores at follow-up. That is consistent with Macharaga et al. (2021)'s study which investigated the effect of TL experiences on career interest and career disinterest among pre-service teachers. It was found that pre-service teachers discovered and understood their own TL experiences, which were categorized into two domains: 1) TL which enabled the pre-service teachers to transform their perceptions, viewpoints, attitudes, beliefs, and understanding of the teaching profession, and 2) TL which fostered the acquisition of knowledge and skills that could be applied in the teaching profession.

### Recommendations

1. In a future study, systematic sampling or multi-stage sampling should be performed so that the participants have an equal chance of being placed in the experimental and control groups. Also, block design or matching the extraneous variables is recommended. Moreover, extraneous variables such as social services experience could be used as a predicting factor or interaction variable combined with a manipulated factor for the program.
2. The TLP to develop AGC of undergraduate students might be applied with a participant group consisting of students other than those who have joined student affairs engaging in community development, work with Volunteer Spirit, and community services, such as students who have joined other types of affairs and those who have not joined any organization.

### Limitations

The current study only examined one group of a population (i.e., members of student affairs engaging in community development, work with Volunteer Spirit, and community service) from one university; therefore, there is a limitation in terms of generalizability. Also, it was not possible to conduct systematic sampling because the population size was small; random assignment sampling was conducted to assign an equal number of participants to the experimental and control groups (two affairs in each group). As a result, there was a limitation in terms of control of extraneous variables (e.g., prior experiences, prior knowledge, and understanding, prior proficiency, or the differences in roles and responsibilities in student affairs). After assigning the participants into groups, it was found that the majority of participants in the control group had prior experiences in social service. They had joined an external organization, such as a Rotaract club, and already had clear concepts and were familiar with social activities. Thus, before treatment, the control group had a higher score of AGC in all domains. The researcher then used the differences in scores, or  $d$  values in the analyses to confirm that the AGC scores of the experimental group were higher than those of the control group after treatment and at follow-up.

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### Authorship Contribution Statement

Siritheeratharadol: Conceptualization, design, writing & analyzing. Intarakamhang: Design, drafting the manuscript, editing, supervising & revision the manuscript. Tuntivat: translating, proofreading, editing reference & supervision.

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