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**Effect of Problem-Based Service Learning on the Civic Consciousness of Students
enrolled in the National Service Training Program of De La Salle Lipa**

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ABSTRACT

As the required service learning subject for all Filipino college students, the National Service Training Program (NSTP) seeks to continually enhance their civic consciousness by making them active participants in the decision-making and problem-solving processes of their partner communities. This research study aimed to look into the extent by which a problem-based approach in service learning can enhance the civic consciousness of students enrolled in NSTP. A descriptive research in the form of pre-test-post-test equivalent groups was utilized. One NSTP section with 37 students under the Health and Nutrition (feeding) program in Bolbok Elementary School in Lipa City served as the respondents. Primarily, the students were oriented about the concepts of problem-based learning and service learning, with a discussion on the step-by-step procedure of creating a written project proposal. During the pre-test phase, they answered the Scale on Civic Consciousness (SCC), the data gathering instrument. Afterwards, they carried out actual service learning by implementing the feeding program and creating a proposal based on an identified need of the partner school. Oral presentation and final submission of the proposals were accomplished in class on the last meeting alongside the re-answering of the SCC as post-test. The results showed that NSTP students who are engaged in PBL as manifested by the completion of a written project proposal develop a deeper sense of civic consciousness. Positive results are noted in all five dimensions of civic consciousness based on the scale: *personal identity and citizenship, national identity, moral consciousness, ecological consciousness* and *social citizenship*. Statistically significant differences were determined between the pre-test and post-test scores in these three dimensions: *national identity, ecological consciousness* and *social citizenship*. The strategy of making them write a project proposal as manifestation of being immersed in problem-based service learning is considered effective in carrying out the projects of NSTP.

Keywords: Community service learning, problem-based learning, National Service Training Program, civic consciousness, De La Salle Lipa

Introduction

According to Republic Act 9163 which was signed into law in 2002, the National Service Training Program (NSTP) is the mandatory community service subject of Filipino students in the college level starting school year 2002-2003 in exchange of the Reserve Officer Training Corps which comes in the form of exclusive military training for males. NSTP opened the doors for both male and female college students to engage in community-oriented activities, not only by means of providing military service to the country but also by taking active part in activities for the environment, for the general health and education of people in the community and for enhancing the literacy and numeracy skills of students.

NSTP is a subject that utilizes a problem-based service learning approach. Service learning and problem-based learning are two highly related learning strategies (McDonald

and Ogden-Barnes, 2013). *Service learning* is an approach by which students are required to comply with specific academic requirements while attending to the needs of the partner community where they are expected to provide service (Ross, 2012). NSTP is a form of service learning that integrates classroom instruction into the delivery of community service to further enhance the civic consciousness and community responsibility of the students (Balmeo et al., 2015). At the same time, service learning brings together students and community members in addressing community problems and issues as an avenue for connecting the community experiences with specific learning objectives (Gibson et al., 2011). This feature of service learning – that of contributing to the problem-solving capacity of the community – enhances its relevance to problem-based learning (PBL), which Permaul (2009) considers being much just like service learning.

PBL is a constructivism-based learning approach that lets students think, collaborate and create solutions to problems they encounter in a real-world setting. These solutions may reflect their personal, interpersonal and professional skills, as well as their academic learning (McDonald and Ogden-Barnes, 2013). The motivation to learn with this approach is the identification of a problem and there is a need for students to work collaboratively among themselves or with other people to arrive at a solution (University of Delaware, 2010). PBL is more comprehensive than *problem-solving learning*, since PBL goes beyond the mere provision of answers to questions or given problems relative to the curriculum (Savin-Baden, 2000).

The National Service Training Program Act of 2001 is signed into law primarily to develop and inculcate among the youth the value of civic consciousness as manifested in their physical, mental, social and spiritual being (LAWPHIL, 2002). In De La Salle Lipa (DLSL) this school year 2015-2016, NSTP is being implemented in two program components to realize this aim: the Civic Welfare Training Service (CWTS) component for its feeding program, computer tutorial and project for differently abled students in a public elementary school; and the Literacy Training Service (LTS) component for activities related to reading and numeracy programs among students in public elementary schools. NSTP at DLSL is a subject for service learning and is continually utilizing a problems-based approach as students are additionally required to make analyses of the current condition of their partner communities, to identify problems or needs the community members might be facing and to think of a class project to address such needs. While it may be so, no previous study looking into the influence of problem-based service learning on the civic consciousness of NSTP students at DLSL has been carried out. Perhaps if similar studies have already been conducted in other higher education institutions in the Philippines, access to them is still limited. As of the moment, there is limited research focusing on the expectations and experiences of students who engage in PBL through service learning activities (McDonald and Ogden-Barnes, 2013).

Taking into account the limited existence of research studies on problem-based service learning, the researcher seeks to determine the effect of problem-based service learning on the civic consciousness of students enrolled in the National Service Training Program for the first semester of school year 2015-2016.

Objectives/Research Questions

The study aimed to determine the effect of problem-based service learning on the level of civic consciousness of selected NSTP students of De La Salle Lipa for school year 2015-2016. Specifically, it sought to answer the following questions:

- 1) What is the level of civic consciousness of the respondents before the community

service learning (CSL) experience in terms of *personal identity and citizenship; national identity; moral consciousness; ecological consciousness; and social citizenship?*

- 2) What is the level of civic consciousness of the respondents after the CSL experience in terms of the same dimensions as above?
- 3) How do the pre-test results and post-test results compare with each other in terms of the five aforementioned dimensions?
- 4) Based on the results, what is the effect of problem-based service learning on the civic consciousness of the NSTP students of De La Salle Lipa?

Scope and Limitations

The results of this study were confined to the responses of thirty-seven students enrolled in the NSTPone subject for the first semester of school year 2015-2016. They were NSTP students who are conducting the feeding program at Bolbok Elementary School as their partner community once a week during their required 3-hour NSTP time. Throughout the course of the study, the researcher determined the levels of civic consciousness of the respondents before and after conducting their community service learning activities in the said public school.

The study was limited to the measure of civic consciousness of the NSTP students in the following areas or dimensions: *personal identity and citizenship, national identity, moral consciousness, ecological consciousness and social citizenship*. It was not used to generalize about civic consciousness based on other dimensions that might be discussed in other existing literature. Likewise, it was confined to the responses of NSTP students who were assigned to just one partner community, which is Bolbok Elementary School. The study bore no control on the effects of certain demographic data to the measure of the level of civic consciousness of the NSTP students. These may include their sex, gender, age and college affiliation, among others.

Theoretical Framework

This study adapted the four-phase *Search, Solve, Create and Share (SSCS)* Model (as cited in Chen, 2013) which is a framework attributed to problem-based learning. Although it is directed towards science instruction, its concepts are basically applicable in most disciplines. The simple concept of the SSCS model is illustrated on the next page:

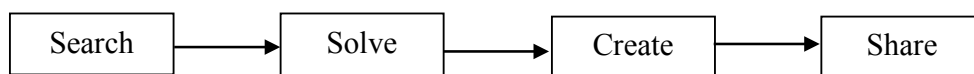


Figure 1.: The SSCS Model

The model begins with students *searching* for an existing problem that they can later propose a solution to. This may come in the form brainstorming and generating a list of pressing issues or problems. Next, the students attempt to *solve* the problem by creating a draft of actions on how to arrive at a solution. This can be done by utilizing their critical and creative thinking skills. Third, students *create* a product (for instance, a formal write-up or the actual implementation of the plan) to solve the problem identified. Lastly, students *share* what they have accomplished to their teacher and peers, and in the process receive feedback for their work and an opportunity to make the necessary modifications to the plan.

The framework was used in this research paper because the conduct of this study went through the same stages of the SSCS model. First, the NSTP students were required to *search* for existing problems in the community which they could address in groups. An attempt to

solve these problems was accomplished by letting them brainstorm ideas on how to come up with their plans of action for the identified problem or need. After details were finalized, all groups *created* their respective written proposals. Through oral presentations, the leaders of each group then *shared* their output to the class. In the process, questions were raised and the class decided upon the group with the best project proposal in terms of effectiveness and feasibility.

Conceptual Framework

The conceptual framework of the study, which is basically in the input-process-output structure, is illustrated on the next page.

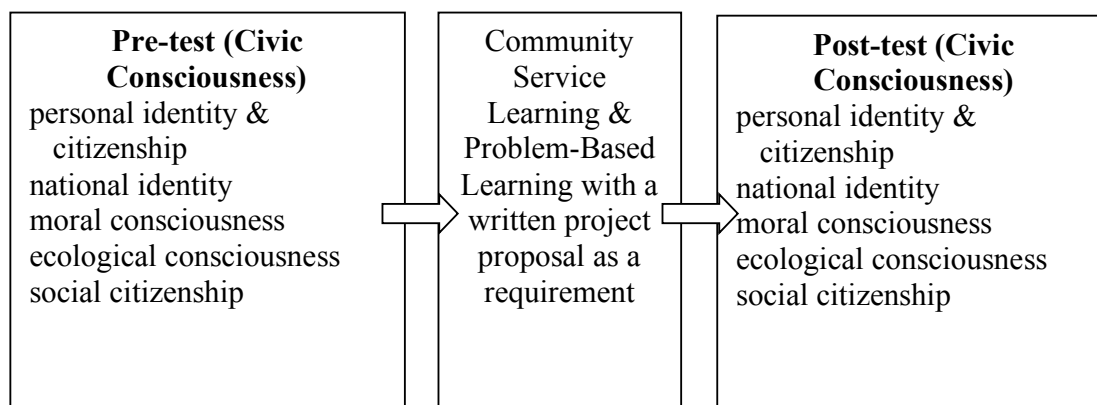


Figure 2.: The Conceptual Framework of the Study

As seen in the diagram, input was in the form of the responses of the NSTP students to the Scale on Civic Consciousness (SCC) for the National Service Training Program before exposure to CSL. This was done to measure their level of civic consciousness according to the scale's five dimensions. Respondents were then immersed to service learning using a problem-based learning approach. They were exposed to problem-based service learning by requiring them to come up with a written project proposal for the partner community (in the case of DLSL, among selected public elementary schools in Lipa City) based on an identified problem or need.

A project proposal is a requirement for all NSTP students of DLSL specifically when they take up the *NSTP two* course. Once project proposals are submitted, they are evaluated by the NSTP teachers and forwarded to the principals of the public schools where community service is rendered. The principal, in consultation with the teachers, then selects one project from the proposals which would be implemented by the class as a course requirement for *NSTP two*. Specifically for the purpose of this study, the participants were asked to come up with a project proposal during their *NSTP one* class. Implementation of one project from these proposals was nonetheless required during their *NSTP two* subject along with all other students. After the CSL experience, the respondents were required to answer the SCC again, with comparison of the pretest and posttest scores afterwards.

Literature Review

A number of studies prove the effectiveness of a problem-based learning approach. For one, Downing, Ning and Shin (2011) conducted a study to measure the impact of PBL on student experience and metacognition. They have found out that PBL provides a conducive environment for students to do metacognition and enhances the overall student learning experience as compared with the traditional method of instruction. Since PBL brings with it

new challenges for the students to face in a real-world setting, learning in it becomes more valuable. It is also useful when applied to service learning.

Hartnett (2010) found out in his study that community service becomes more politically relevant and intellectually enriching with the use of problem-based learning. Similarly, a study made by Leigh and Clavenger (2013) looked into the effects of a problem-based service learning experience among American students who were immersed to community service in an elementary school in Costa Rica. Results showed that their experience highlighted the impact of service learning as manifested in their enhanced values, thinking and international understanding, civic responsibility and social connectivity. Through collaborative problem solving, mutual exchange of ideas and respect for cultural similarities and differences; students engaged in problem-based service learning exhibited increased commitment to become active participants in community activities. Several studies also focus on the effect of service learning among students.

Einfeld and Collins (2008) examined the impact of the college students' immersion to service learning on their commitment to social justice, multicultural competence and civic engagement. Findings revealed that all respondents were committed to continue civic engagement. They also acquired several multicultural skills through the experience which include empathy, patience, attachment, reciprocity, trust and respect.

Next, Buch and Harden (2011) assessed the outcomes of service learning among the students of University of North Carolina in Charlotte. Effects were mostly positive: the experience promoted positive civic attitudes among them, raised awareness of the students about homeless people in their community and enhanced their commitment to make a difference in the society. Lastly, Prentice (2011) compared the level of civic engagement between students who take up a service learning subject and those who do not. Findings revealed that there is a statistically significant increase in the level of civic engagement among college students taking up a service learning subject as compared to non-service learners.

Methodology

The study is classified as a descriptive type of research. This is a type of research that "enumerates what behaviors occur and in what quantity and frequency" (Elmes, Kantowitz and Roediger, 2012). As pretest and posttest scores are numerical in nature, it is further classified as a quantitative study.

More specifically, this study utilized the pretest-posttest design to measure the level of change in a specific variable after a certain treatment or intervention has been made in the participating groups of respondents (Shuttleworth, 2008). This research design is used to establish a comparison of the level of behavioral change among respondents when certain variables have been modified (Dimitrov and Rumrill, 2003).

Participants

The participants of the study were thirty-seven freshmen students enrolled in NSTPone (the first NSTP subject required to be taken up before NSTPtwo) during the first semester of school year 2015-2016. The participants were selected based on the following criteria: they belonged to just one section of NSTP with classes scheduled on Monday afternoons; they were all enrolled in just one degree program which is Accountancy; they were assigned in Bolbok Elementary School as their partner community; and the researcher was the NSTP teacher of these students as they accomplished the feeding program in the said public elementary school.

Data Gathering Procedures

Prior to this study, the researcher developed a Scale on Civic Consciousness (SCC) for the National Service Training Program on a separate research study.

Before the start of the CSL by the students in Bolbok Elementary School, they were oriented about problem-based learning, with an additional discussion on how a written project proposal is accomplished. Administration of SCC was done afterwards (pretest).

Based on the SSCS model of PBL, the respondents were constantly reminded of the need to search for an issue or a problem existing in the partner community which they can possibly address in the form of a written project proposal. The students were reminded to employ direct observation and oral interviews to determine a pressing problem or need of the community.

After the CSL experience, the respondents were required to present the output they have had based on PBL. This was done on the last NSTP meeting of the semester which was just held in the classroom. The respondents submitted their respective written project proposals which were also briefly shared in class. Re-administration of the SCC was done as posttest.

Instrument

The data gathering instrument is the Scale on Civic Consciousness (SCC) for the National Service Training Program developed by the researcher through a separate research study. The tool is a twenty-item questionnaire with positively stated statements expressed in the first-person perspective. Through confirmatory factor analysis, items were proven effective and five dimensions have been identified to be measurable by the scale: *personal identity and citizenship, national identity, moral consciousness, ecological consciousness and social citizenship*.

Statistical Treatment of Data

The following statistical tools were used: frequency to determine the total number of responses for each dimension of SCC; arithmetic mean to get the average scores obtained by the participants for each item of the SCC and to acquire the mean scores of all items belonging to each dimension; and t-test to determine whether PBL and a written project proposal as evidence of their participation in one problem-solving process of the community can enhance the level of civic consciousness of NSTP students for the first semester of school year 2015-2016.

Results and Discussion

The responses made by the NSTP students to each item of the Scale on Civic Consciousness (SCC) during the pre-test and post-test phases were tallied, compared and interpreted. The five factors measured by the SCC were likewise compared in terms of the mean scores of the responses for both pre-test and post-test to identify any statistical significance.

Table 1

Mean Scores for Factor 1 of the Scale on Civic Consciousness

Factor 1: Personal Identity & Citizenship	Weighted Mean	Pre-test	Post-test	Verbal Interpretation
		Verbal Interpretation		
Item 1	4.62	Strongly Agree	4.73	Strongly Agree
Item 2	4.68	Strongly Agree	4.81	Strongly Agree

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Factor 1: Personal Identity & Citizenship	Pre-test		Post-test	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
Item 6	4.76	Strongly Agree	4.81	Strongly Agree
Item 7	4.51	Strongly Agree	4.41	Strongly Agree
Item 8	4.54	Strongly Agree	4.62	Strongly Agree
Item 9	4.70	Strongly Agree	4.70	Strongly Agree
Composite Mean	4.64	Strongly Agree	4.68	Strongly Agree

Table 1 presents the mean scores of the responses made for the first factor being measured by the Scale on Civic Consciousness which is *personal identity and citizenship*. The table above shows that almost all indicators increase on the post-test as compared with the pre-test results except for item 7, *I am willing to participate in politically related activities especially if they will be for the benefit of the Filipino people*, which also has the lowest mean scores for both pre- and post-tests. Item 6, which states “*I am proud to be a Filipino wherever I go*,” has the highest pre- and post-test mean scores. Item 2, *I protect my rights and interests as a citizen of this nation*, ties with item 6 at 4.81 for the highest mean score in the post-test phase. Based on the composite mean, both the pre-test and post-test results showed that the respondents *strongly agree* on the above indicators. All these positive findings on the effect of problem-based service learning on personal identity and citizenship coincide with the findings made by Tapia (2010) that service learning is intended to improve *student citizenship* and *academic achievement* while attending to the needs of the community. Similarly, Melaville, Berg and Blank (2006) have found out that by addressing problems or concerns in the community they serve, students are better able to acquire the necessary knowledge, skills and attributes of effective citizenship.

Table 2

Mean Scores for Factor 2 of the Scale on Civic Consciousness

Factor 2: National Identity	Pre-test		Post-test	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
Item 3		Strongly Agree		Strongly
	4.24		4.62	Agree
Item 4.	3.49	Agree	3.76	Agree
Item 5	3.86	Agree	4.11	Agree
Item 18	3.70	Agree	4.14	Agree
Composite Mean	3.82	Agree	4.16	Agree

Table 2 shows the mean scores of the items belonging to factor 2, which is *national identity*. Item 3 (*I subscribe to the decisions made by persons in authority, especially those in the government*) has the highest mean among the given indicators both on the pre-test and post-test results. All the mean scores on the post-test increased as compared with the pre-test. The indicator *I believe that the current system of government in the Philippines is most suitable for its national conditions* has the lowest mean score both on the pre- and post-test phases. Nevertheless, the composite pre-test and post-test mean scores reveal that the respondents agree on the indicators for this factor, as evidenced by per-item mean scores which just fall either on *strongly agree* or *agree*. Results agree with the study conducted by Foran (2004) which found out that when concepts of social studies are integrated with service learning, students are better able to connect their perspective of *national identity* at the local-

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school level. Service learning and social studies facilitate the intertwine of present-day realities into the curriculum, thereby providing opportunities for students to solve problems in their community and be active participants in matters relating to democracy and the government.

Table 3

Mean Scores for Factor 3 of the Scale on Civic Consciousness

Factor 3: Moral Consciousness	Pre-test		Post-test	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
Item 10	4.59	Strongly Agree	4.46	Strongly Agree
Item 11	4.57	Strongly Agree	4.62	Strongly Agree
Item 12	4.38	Strongly Agree	4.51	Strongly Agree
Item 14	4.76	Strongly Agree	4.84	Strongly Agree
Item 15	4.46	Strongly Agree	4.65	Strongly Agree
Composite Mean	4.55	Strongly Agree	4.62	Strongly Agree

Mean scores of the indicators for factor 3 which is *moral consciousness* are shown in table 3. All items under this factor have mean and composite mean scores that fall under *strongly agree*. Item 14 which states, “*I believe that for the society to practice morality, it must start with individual citizens,*” garners the highest scores for both pre- and post-tests. The lowest mean is computed for item 12, *I put my full trust and confidence in the integrity and abilities of my fellow Filipinos*, both for pre-test and post-test. The results coincide with the findings made by McDonald and Ogden-Barnes (2013) who, as previously discussed, considered service learning and problem-based learning as relevant disciplines. According to them, there are indeed various literatures proving the positive effect of active service learning involvement on student moral development. Likewise, positive ratings brought about by problem-based service learning as reflected on this factor agree with the findings made by Park, Helm, Kipley and Hancock (2009) on their study regarding the relationship between Christian faith and personal values and community service learning. According to them, students make good sense of their service learning experience when they exhibit moral behavior based on the ideals of their faith.

Table 4

Mean Scores for Factor 4 of the Scale on Civic Consciousness

Factor 4: Ecological Consciousness	Pre-test		Post-test	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
Item 16	4.24	Strongly Agree	4.51	Strongly Agree
Item 17	4.41	Strongly Agree	4.57	Strongly Agree
Composite Mean	4.32	Strongly Agree	4.54	Strongly Agree

Table 4 presents the fourth factor, *ecological consciousness*, with the mean scores of its two indicators. Both indicators yielded higher post-test mean scores as compared with their respective pre-test mean. Higher mean scores were obtained by item 17 (*I am cautious about my actions especially if they will have hazardous effects on nature*) both on pre- and post-

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tests. Composite mean scores of both pre- and post-tests show that the respondents strongly agree on the above indicators. These results also agree with what Melaville, Berg and Blank (2006) have presented on the positive effects of community-based problem solving which includes *environmental education*. They presented a study showing that one of the most immediate results of community-based learning is an increase in the students' knowledge about the natural environment and its issues. Likewise, in a study conducted by Eisenhut and Flannery (2005) to establish connections between service learning and environmental education, they concluded that students' active participation and engagement in service learning improved their environmental responsibility and conviction to decide on issues in favour of saving the environment.

Table 5
Mean Scores for Factor 5 of the Scale on Civic Consciousness

Factor 5: Social Citizenship	Pre-test		Post-test	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
Item 13	4.65	Strongly Agree	4.84	Strongly Agree
Item 19	4.08	Agree	4.51	Strongly Agree
Item 20	3.81	Agree	4.27	Strongly Agree
Composite Mean	4.18	Agree	4.54	Strongly Agree

Table 5 shows the mean scores of indicators that are categorized under factor 5 of civic consciousness, *social citizenship*. Highest mean scores for pre- and post-tests were obtained by responses in item 13, *I follow the values and virtues which my family upholds*. Lowest pre-test and post-test mean scores belong to item 20, *I often update myself with issues happening in Asia or in the world*. Improvement in the composite mean is seen in the table as the score for the pre-test falls under *agree*, while composite mean for post-test shows that respondents *strongly agree* with the indicators. Positive effects of problem-based service learning as reflected on the table results coincide with the outcomes of service learning enumerated by Bandy (2016). According to him, the social outcomes of service learning include improved social responsibility and citizenship, and greater awareness of social issues.

Table 6
Comparison of the Scores for Each Factor of the Scale on Civic Consciousness

Level of Civic Consciousness	Mean		t- value	p- value	Verbal Interpretation
	Pre-test	Post-test			
Personal Identity & Citizenship	4.6349	4.6795	-.704	.486	Not Significant
National Identity	3.8243	4.1554	-3.229	.003	Significant
Moral Consciousness	4.5514	4.6162	-.993	.327	Not Significant
Ecological Consciousness	4.3243	4.5405	-2.462	.019	Significant
Social Citizenship	4.1803	4.5411	-4.287	.000	Significant

Table 6 shows that there is a statistically significant difference between the mean before and after the community service learning specifically on three factors being measured by the scale on civic consciousness: *national identity*, *ecological consciousness* and *social citizenship*. It was revealed that all mean scores on the post-test were greater than their

counterparts for the pre-test, which means that respondents have a significantly higher level of civic consciousness after immersing themselves in problem-based learning as part of their community service learning experience. This finding agrees with the study made by Hartnett (2010) that community service learning becomes more rewarding for students if problem-based learning is integrated into it. It also agrees with the results of the study conducted by Leigh and Clavenger (2013) that problem-based learning as part of students' community service experience has the capacity to develop civic responsibility, social connectivity and international understanding and to sustain their active participation and commitment in community-oriented activities.

Conclusion and Recommendations

This study evaluated the effect of the community service learning experiences of Lasallian students enrolled in the National Service Training Program to their level of civic consciousness. Specifically, problem-based service learning was employed as both PBL and service learning are found to complement each other. In the conduct of community service, the respondents were additionally tasked to formulate a written project proposal as proof of employing PBL in the course of the service learning experience. Findings have revealed that problem-based service learning increased the level of civic consciousness of students enrolled in the National Service Training Program (NSTP) of De La Salle Lipa. Improvement in all five factors of civic consciousness are evident from the pre-test to the post-test responses of the NSTP students who answered the Scale on Civic Consciousness (SCC). The five factors of civic consciousness which were positively affected by the students' problem-based service learning experiences are *personal identity and citizenship*, *national identity*, *moral consciousness*, *ecological consciousness* and *social citizenship*. Additionally, statistically significant differences in the pre-test and post-test mean scores are reflected in three factors: *national identity*, *ecological consciousness* and *social citizenship*. This means that problem-based service learning really yielded a positive effect on the level of consciousness of students enrolled in the NSTP subject. The way NSTP was taught to the respondents with a final requirement of a written project proposal as evidence of active participation in a problem-solving activity of the community became effective in improving their level of civic consciousness.

Based on the findings of this study and the method employed among the participants, it is thus recommended that as early as NSTP one, the students of De La Salle Lipa must already be required activities or outputs reflective of problem-based service learning, in order to enhance their civic consciousness and general commitment to community service. For one, the required topics during the 25-hour NSTP common module phase (when students are required to initially attend lecture classes before going out into the community) can include case analyses on topics such as drug education, environmental protection and disaster management. Also, as NSTP one students are entailed to submit an accomplishment report as a final requirement which highlights the service learning experiences through SWOT analyses; perhaps more or equal focus to the analyses of the problems encountered during the experience and the possible solutions to them can be made.

As regards the conduct of future similar studies, the researcher makes the following recommendations: to conduct an experimental research to identify the effect of problem-based learning on two different groups of NSTP students; to initiate a similar study in other higher educational institutions in Lipa City or in nearby cities and municipalities; to assess the level of civic consciousness of NSTP alumni of De La Salle Lipa; and to conduct a comparative study on the levels of civic consciousness of selected NSTP students and their benefactors in the community. ♣

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