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A Look Back: Assessment of the Learning Outcomes of the Community-Based Research Experiences of the Senior High School Students of a Higher Education Institution in Batangas

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Abstract. To increase the impact of student output for the betterment of people's lives in the community, a higher education institution (HEI) in the Batangas province has established four institutional strategic directions. This includes social innovation, a goal aimed at delivering 21st century education so that students are empowered to respond to wider issues in their respective communities. Guided by designs on community-oriented capstone initiatives for requirements in all student levels, community-based research is deemed instrumental in the planning of concrete products or programs to help people in need. This study aimed to assess the learning outcomes of the community-based research (CBR) experiences among senior high school students of this HEI in their Practical Research II subject. A descriptive method of research was utilized. A framework for community-based participatory research was used as the theoretical framework. Items from the Community-Based Research Course Survey by Lichtenstein, Thorme, Cutforth and Tombari comprise the data gathering instrument. Findings revealed that the students have a positive assessment of their experiences as the extensive influence of CBR is noted among four out of five CBR learning outcomes. Significant relationships were identified between the strand in which the students are enrolled in and their CBR learning outcomes, as well as between the theme of the accomplished paper and the CBR learning outcomes. All these findings were deemed useful in recommending the continued conduct of CBR in the HEI, and in formulating an action plan for the future conduct of CBR in the Practical Research subjects.

Keywords: community-based research; community service learning; higher education institution; Philippine senior high school

1. Introduction

Higher education institutions (HEI) in the Philippines are at the forefront of transformation. Spearheaded by major administrative changes, an HEI in the

Batangas province embraced four strategic directions or initiatives to ensure the delivery of relevant and quality education. They are likewise geared towards attaining the seven C's of 21st century lifelong skills: critical thinking, creativity and innovation, collaboration, cross-cultural understanding, communication, computing technology and career learning (Law, 2021). The four directions are social innovation, sustainable futures, stakeholder engagement and shared humanity. In this HEI, the concept of capstone projects has been contextualized through the adoption of an acronym for CAPSTONE: Community-Based Action Projects Addressing Strategically-Themed Learning Objectives through Networked Environments. Capstone initiatives by the students are community-based, offering real-world solutions to real-world problems (Francisco, 2017). In the senior high school, the practical research subjects of the students are identified as concrete avenues to help them gradually plan for their capstone product or program. Through community-based research writing, senior high school students accomplish qualitative and quantitative research papers to address a societal need or concern in a partner community.

1.1 Related Literature

Community-based research is defined as a collaborative learning enterprise between academic researchers and members of the community (Thorme & Hackett, 2014). Khanna (n.d.) has specifically identified community-based research capstone as an effective strategy to increase student engagement in community service, by letting students work with different communities in the design and implementation of survey projects. A number of studies have already proven the effectiveness of employing community-based research in schools. For one, Malerba (2014) identified that community-based research helps students identify problems that are directly relevant to the lives of their community partners. By sharing such findings, people in the community are empowered to employ further evaluation on their own. The activity enhances their research-writing, community relations and community understanding skills. Next, Stenger (2013) reported that according to both K-12 and higher education studies, students benefit from their participation and conduct in high-quality community service. These benefits include improved performances in school subjects; better commitment to finish their high school program; enhanced problem-solving skills; improved ability to work within a team; and more effective skills for community planning. Third, Downey (2018) assessed the benefits of conducting community-based research (CBR) and capstone to the undergraduate students and their partner communities. Conducting CBR and capstone reinforced and culminated the students' educational experiences by providing them opportunities to apply what they learn in the classroom. It also enhanced their research writing and professional skills based on the programs they are taking. The conduct of CBR also increased their service motivation; students were more committed to research activities knowing that they contribute to creating dynamic changes in their partner communities. Similarly, Mayer et al. (2018) conducted a study on the impact of integrating CBR into the school curriculum. Findings revealed that by utilizing CBR, students improve their self-efficacy, research skills and scientific motivation. Fifth, Kornbluh et al. (2020) explored the outcomes of an interdisciplinary CBR course. Student

outcomes were positive in the following domains: collaboration, application of knowledge to real-world issues, critical thinking, civic development and enhanced self-concept. In a recent study by Zeydani et al. (2021) which explored the effect of community-based education on the skills of undergraduate nursing students, the authors discovered reinforcement of the following skills: professional, communication, self-confidence, knowledge, critical thinking and teamwork. Lastly, George et al. (2017) assessed the impact of partaking in community-based research among undergraduate and graduate students. Using the same survey utilized in this study, findings revealed that the students' CBR experiences reinforced four of the five outcomes: civic engagement, educational experience, professional skills and personal growth.

Additionally, there are studies related to select demographic profiles of students and their civic engagement. In a study that assessed the relationship between participation in community service and students' academic success, Grubisich (2017) found that female undergraduate students are more likely to take an active part in community service than males. Additionally, females are more likely to answer surveys than their male counterparts. On the contrary, Kim (2012) found no significant relationship with gender and age and students' attitudes towards community service and engagement. Lastly, Geringer et al. (2013) found no significant difference in gender as far as service learning experiences are concerned.

1.2 Objectives of the Study

The study aimed to assess the learning outcomes of the SHS students who have engaged themselves in community-based research through their Practical Research II subject. Specifically, it sought answers to three research objectives. The first focused on the profile of the students in terms of gender, SHS strand and general theme of the research paper they accomplished. The second assessed the outcomes of their community-based research experiences in terms of academic skills, educational experience, civic engagement, professional skills and personal growth. The third objective determined any significant relationship between the profile of the respondents and their CBR learning outcomes.

1.3 Scope and Limitation

This study enjoined 345 SHS students for SY 2017-2018. This research assessed the five outcomes of their CBR experience based on the Community-Based Research Course Survey by Lichtenstein et al. (2011), four American professors whose research interests include CBR. In that year, they convened for this project to construct a valid and statistically reliable survey that codifies student learning outcomes in CBR. Academic skills comprise the cognitive skills for school learning. Educational experience pertains to various affective outcomes. This includes one's passion and interest in the course or program where one is enrolled. Civic engagement is composed of the cognitive, affective and behavioral outcomes relative to participation in community development. Professional skills relate to the capacities for workplace efficacy. Lastly, personal growth comprises the affective outcomes for self-awareness.

1.4 Theoretical Framework

This study utilized the Framework for Community-Based Participatory Research which is presented through the Community Tool Box (n.d) by the Center for Community Health and Development at the University of Kansas.

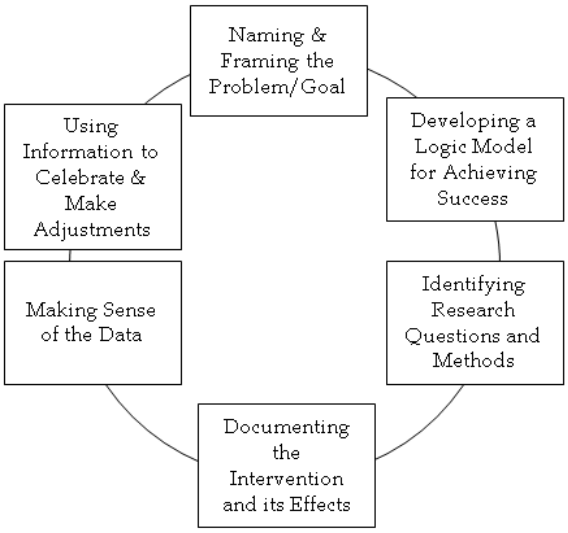


Figure 1: Framework for Community-Based Participatory Research

On the figure, there are six steps to be taken in the conduct of community-based participatory research. The first step entails the proper identification of a problem or need in a chosen community. The second step is about devising a systematic plan of action to address the problem. The next is about the formulation of research objectives, and design of effective research methodology. The fourth phase is the collection of data. The fifth step is to make sense of the data via interpretation and analysis. Lastly, use of information to celebrate and make adjustments is a two-fold phase: celebrating successes by acquiring answers for the research questions, and using the acquired data to further address the identified problem or need in the community.

1.5 Conceptual Framework

The input-process-output framework of the study is illustrated below:

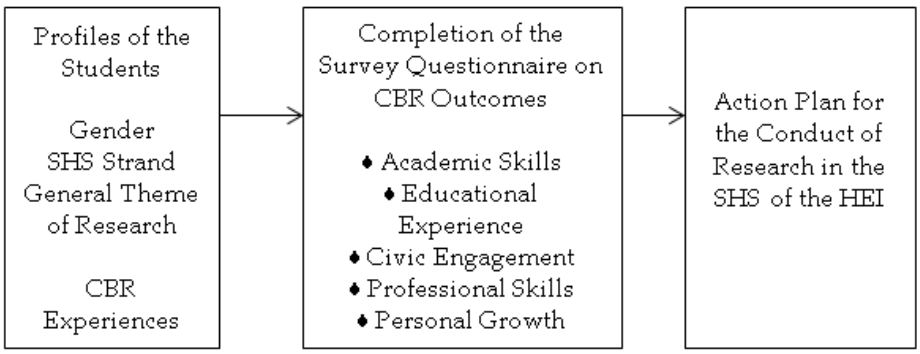


Figure 2: The Conceptual Framework of the Study

On the figure, inputs are the profiles of the respondents in terms of gender, strand and general theme of the research, and indirectly their experiences in the

conduct of community-based research. The process entailed the completion of the survey questionnaire with items adopted from the Community-Based Research Course Survey. The output of the study is an action plan to decide on the continued use of community-based research in the Practical Research subjects in preparation for the design of the students' Capstone Initiatives. Additionally, the profiles of the students were correlated with their CBR outcomes.

2. Methodology

2.1. Research Design

The study is a descriptive research, defined by Loeb et al. (2017) as a study concerned with characterizing a phenomenon by looking for emerging patterns in data to provide answers to the "W" questions. The aim of descriptive analysis is to simplify data. As data acquired are in numbers, this research is also a quantitative descriptive research study. Eyisi (2016) described quantitative research as the acquisition and analysis of numerical data and figures. Data are usually calculated with computer software such as a statistical package for the social sciences (SPSS).

2.2. Participants of the Study

Originally, 345 male and female students from the senior high school of an HEI in Batangas were targeted to take part in this study. G*Power was used to obtain the sample size (n) from the total population of the students. From a population of 1,233, the sample size was computed at 115 participants for each strand. Stratified random sampling using proportional allocation was utilized so that the sample size for each strand was comprised of selected students from all sections.

However, in coordination with the Office of Research and Publications of this HEI, it was suggested that only SHS students of legal age (18 years old and above) be included as participants. Only a total of 282 met the criteria in terms of age: 111 from ABM, 56 from HUMSS and 115 from STEM. The 282 respondents represent 81.74% of the required number of participants.

2.3. Data Gathering Procedures and Ethical Considerations

The researcher coordinated with the Assistant Principal of the Senior High School for approval to carry out surveys among the students. Coordination with the respective Practical Research II teachers of the sections to take part in the survey followed. After participants per section were determined, survey administration commenced. The respondents filled out an informed consent form which provided details about the aims of the study, the items of the survey questionnaire and their rights as study participants. The form highlighted their rights of confidentiality, anonymity, and withdrawal from the study at any point if they so wished.

2.4. Instrument

The instrument is a survey that measured the learning outcomes obtained by the students in their community-based research experience. Items were adopted from the Community-Based Research Course Survey by Lichtenstein, Thorme,

Cutforth and Tombari. Specifically for this research study, only those items under the "CBR Outcomes" section of the said questionnaire were used in the data gathering process. First, to ensure content validity despite adoption of an existing questionnaire, selected teachers handling the students' Practical Research subjects were asked to review if the items were applicable to the students' CBR experiences. They confirmed that all 23 items could be answered by the students. Consequently, reliability testing of the items was carried out through pilot testing. Thirty undergraduate college students who had researched writing experience in school were selected to answer the draft of the questionnaire. After the responses were tallied, Cronbach's alpha value was computed at a mean of 0.914 for all 23 items, interpreted as having excellent internal consistency (Statistics How To, n.d.). All items were retained for the actual data gathering process.

The survey used in this study is made up of three sections. The first allowed respondents to fill out consent for the research. The second section provided the options for profile components: age, gender, SHS strand and general theme of accomplished paper. The last section contained the 23 items for assessment of the CBR learning outcomes of the students. The first four items measured academic skills. The next seven items were related to civic engagement. The succeeding four items referred to educational experience. The next five measured professional skills. The last three items of the questionnaire related to personal growth. To interpret the mean scores of the responses to the survey items, the following ranges for the verbal interpretations were used: extensively – 3.25 – 4.00; moderately – 2.50 – 3.24; minimally – 1.75 – 2.49; and not at all – 1.00 – 1.74.

2.5. Statistical Treatment of Data

Numerical data were gathered from the participants. Through an SPSS software, the statistical tools used were the frequency to determine the total number of responses to each item of the questionnaire; the weighted mean to acquire the average values in measuring their CBR learning outcomes; and chi-square to identify significant relationships between the profile components (which were all categorical in nature) and the CBR learning outcomes.

3. Results

The responses of the SHS students to the items of the pilot-tested questionnaire were tallied, compared and analyzed.

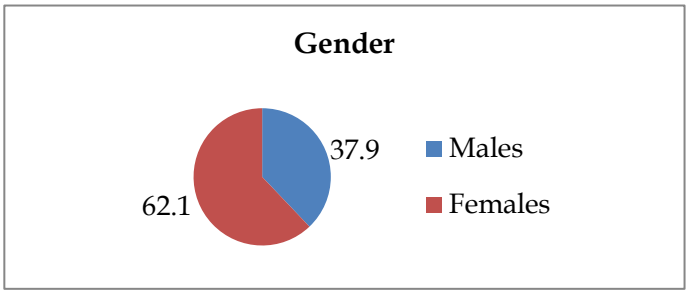


Figure 3: Profiles of the Students in terms of Gender

As presented on Figure 3, most of the students who took part in this research study were female, accounting for 62.1 percent of the respondents.

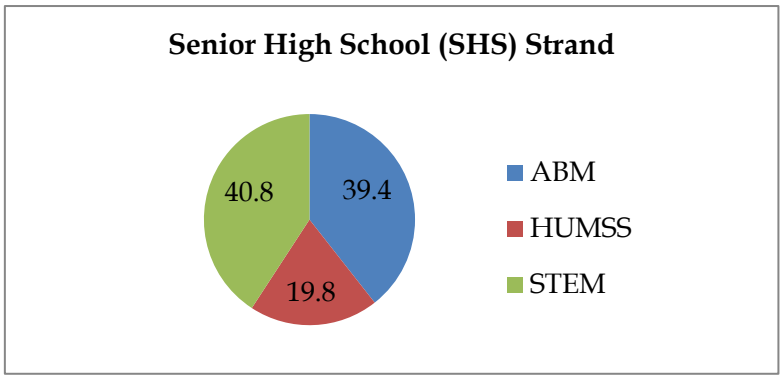
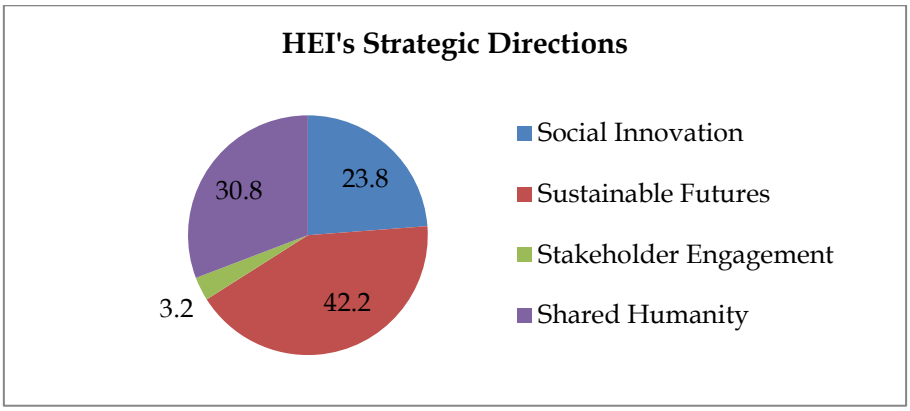


Figure 4: Profiles of the Students in terms of SHS Strand

As presented on Figure 4, most of the students who took part in this research study came from the strand of Science, Technology, Engineering and Mathematics (STEM). They comprise 40.8 percent of the total number of respondents, closely followed by those enrolled in the Accountancy, Business and Management (ABM) strand at 39.4 percent.



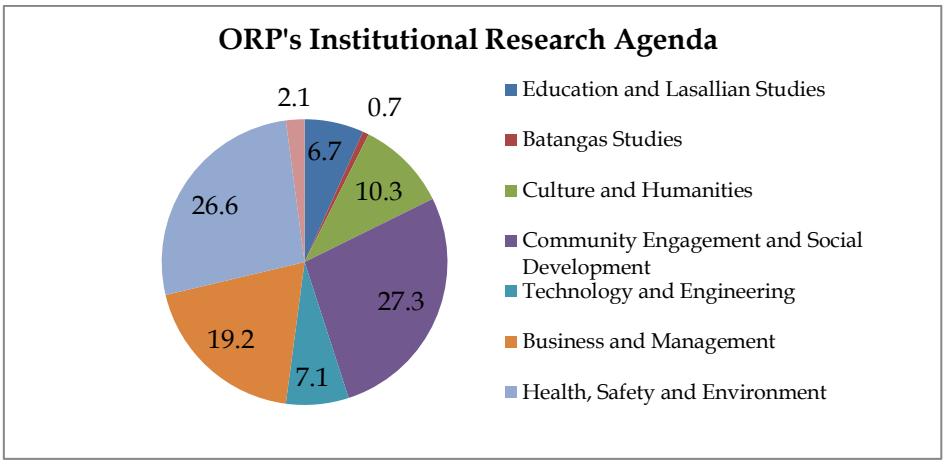


Figure 5: Profiles of the Students in terms of General Themes of Accomplished Paper

Figure 5 shows, in two diagrams, the general themes of the CBR papers accomplished by the students through their Practical Research II subject. On the one hand, the majority of the papers are in line with Sustainable Futures, accounting for 42.2 percent of the total responses. On the other hand, in terms of the research agenda, the majority fall in Community Engagement and Social Development at 27.3 percent, closely followed by papers on Health, Safety and Environment at 26.6 percent.

Table 1: Outcome of CBR in terms of Academic Skills

Academic Skills	Mean	Verbal Interpretation
Improved my analytical skills	3.35	EXTENSIVELY
Improved my academic writing skills	3.33	EXTENSIVELY
Improved my research skills	*3.54*	EXTENSIVELY
Enhanced my understanding of academic content	3.36	EXTENSIVELY
Composite Mean	**3.40**	**EXTENSIVELY**

On Table 1 are the mean scores of the responses of the participants to items of the questionnaire which measured the CBR learning outcomes in terms of academic skills. Academic skills consist of analytical, academic writing and research skills, as well as content understanding. The mean scores for all items of the outcome are positive, falling on the verbal interpretation *extensively;* specifically, it is highest for the statement "improved my research skills."

Table 2: Outcome of CBR in terms of Civic Engagement

Civic Engagement	Mean	Verbal Interpretation
Enhanced my understanding of local/ community issues	3.49	EXTENSIVELY
Enhanced my understanding of social issues	3.57	EXTENSIVELY
Deepened my understanding of others who are not like me	3.39	EXTENSIVELY
Helped me empathize with those from racial or religious backgrounds different from my own	3.23	MODERATELY
Enhanced the likelihood that I will participate in civic activities	3.15	MODERATELY
Enhanced the likelihood that I will vote.	3.15	MODERATELY
Helped clarify my values	3.45	EXTENSIVELY
Composite Mean	**3.35**	**EXTENSIVELY**

Presented on Table 2 are the mean scores of the perceptions of the participants on the outcome of their CBR experiences in terms of civic engagement. On this note, civic engagement is characterized by items focusing on the understanding of local, community and social issues; empathic understanding of other cultures and racial backgrounds; participation in community activities; and clarification of values. Similarly, positive influence on civic engagement is reflected on the mean scores that fall on *extensively* or *moderately*. The mean is highest for the statement "enhanced my understanding of social issues," and is relatively lowest for the following two items: "enhanced the likelihood that I will participate in civic activities," and "enhanced the likelihood that I will vote."

Table 3: Outcome of CBR in terms of Educational Experience

Educational Experience	Mean	Verbal Interpretation
Increased my interactions with faculty	3.15	MODERATELY
Increased my interest in my major	3.09	MODERATELY
Improved my interest in college	3.09	MODERATELY
Clarified my career path	2.98	MODERATELY
Composite Mean	**3.08**	**MODERATELY**

Table 3 presents the mean scores of the responses on items focusing on the outcome of CBR in terms of educational experience. This learning outcome may be distinguished from academic skills in that the former focuses more on the affective influence of school experiences while the latter relates more to the cognitive effects of course works. Items on this outcome center on the interest and commitment to finish schooling and the clarification of career paths. Data show that all mean scores fall *moderately* on the interpretation.

Table 4: Outcome of CBR in terms of Professional Skills

Professional Skills	Mean	Verbal Interpretation
Improved my conflict resolution skills	3.13	MODERATELY
Improved my ability to run meetings	3.02	MODERATELY
Improved my ability to delegate	3.10	MODERATELY
Improved my ability to listen to others	3.65	EXTENSIVELY
Improved my ability to work as part of a team	3.63	EXTENSIVELY
Composite Mean	**3.31**	**EXTENSIVELY**

As presented on Table 4, the mean scores for the items focusing on professional skills fall on *extensively* and *moderately*. The mean is highest for the statement "improved my ability to listen to others," and is lowest for "improved my ability to run meetings."

Table 5: Outcome of CBR in terms of Personal Growth

Personal Growth	Mean	Verbal Interpretation
Helped improve my personal qualities	3.53	EXTENSIVELY
Improved my ability to consider others' perspectives	3.63	EXTENSIVELY
Deepened my understanding of myself	3.43	EXTENSIVELY
Composite Mean	**3.53**	**EXTENSIVELY**

As seen on Table 5, the mean scores are high for all items focusing on personal growth as they fall on the verbal interpretation *extensively*. Specifically, the mean is highest for the statement "improved my ability to consider others' perspectives."

Table 6: Relationships between Gender and CBR Learning Outcomes

CBR Learning Outcomes	Gender		
	X^2-value	p-value	Verbal interpretation
Academic Skills	9.26	.41	NOT SIGNIFICANT
Civic Engagement	13.81	.46	NOT SIGNIFICANT
Educational Experience	7.36	.83	NOT SIGNIFICANT
Professional Skills	16.89	.11	NOT SIGNIFICANT
Personal Growth	3.04	.88	NOT SIGNIFICANT

Table 6 presents the relationships between the CBR learning outcomes and gender as a profile component of the respondents. There is no significant relationship between gender and any of the five learning outcomes of CBR.

Table 7: Relationships between SHS Strand and CBR Learning Outcomes

CBR Learning Outcomes	SHS Strand		
	X^2-value	p-value	Verbal interpretation
Academic Skills	27.84	.06	NOT SIGNIFICANT
Civic Engagement	25.89	.58	NOT SIGNIFICANT
Educational Experience	47.37	.01	SIGNIFICANT
Professional Skills	34.99	.04	SIGNIFICANT
Personal Growth	15.76	.33	NOT SIGNIFICANT

As presented on Table 7, there are two significant relationships when the specific strand in senior high school of the participants is correlated with their CBR learning outcomes. Significant relationships are yielded between the SHS strand and educational experiences as well as the SHS strand and professional skills.

Table 8: Relationships between the General Theme of Accomplished Paper and CBR Learning Outcomes

CBR Learning Outcomes	Strategic Directions		
	X^2-value	p-value	Verbal interpretation
Academic Skills	55.38	.02	SIGNIFICANT
Civic Engagement	70.61	.09	NOT SIGNIFICANT
Educational Experience	70.16	.02	SIGNIFICANT
Professional Skills	122.57	.00	SIGNIFICANT
Personal Growth	22.54	.76	NOT SIGNIFICANT
CBR Learning Outcomes	**Institutional Research Agenda**		
	X^2-value	p-value	Verbal interpretation
Academic Skills	61.83	.52	NOT SIGNIFICANT
Civic Engagement	88.40	.75	NOT SIGNIFICANT
Educational Experience	94.20	.21	NOT SIGNIFICANT
Professional Skills	65.15	.83	NOT SIGNIFICANT
Personal Growth	37.82	.88	NOT SIGNIFICANT

Presented on Table 8 are the relationships between the profile components relating to the general theme of the research paper accomplished by the respondents, as well as both the HEI's strategic directions and its ORP's institutional research agenda. Significant relationships can only be noted between the school's strategic directions and academic skills, educational

experience and professional skills. No significant relationship can be noted between the institutional research agenda and the CBR learning outcomes.

4. Discussion

From the results presented in the previous sections, the majority of the respondents were females, enrolled in the STEM strand, and have accomplished CBRs relating to community engagement, social development, health, safety and the environment. Having more female participants seems to coincide with the finding by Grubisich (2017) that female undergraduate students were more likely to answer surveys than men. As previously mentioned, each strand was expected to yield 115 participants but due to the limit in age, the other two strands had fewer participants. The figures were expected, as the majority of the grade 12 students belong to STEM (654), followed by ABM (410) and lastly HUMSS (169). In relation to the majority of the respondents belonging to the STEM strand, data are reinforced by the concept of Environmental STEM (E-STEM). One article recounted that STEM students immersed in environmental education are better expected to initiate steps to take care of the Earth in various ways (Engaging Every Student, 2015). Mcguire (2018) likewise reported that STEM courses have real-world applications and can help mitigate climate change. It is by way of STEM lessons where students are offered better opportunities to identify real-world problems and provide equally real solutions (Jolly, 2014). Lastly, in terms of profile, the majority of the research papers were expected to focus on Community Engagement and Social Development, because community-based researches have been required among all SHS classes. More interestingly, use of Sustainable Futures as the strategic direction to address the need for young generations to act on environmental issues and concerns complements the institutional research agenda focusing on Health, Safety and Environment.

In regard to the participants' learning outcomes, academic skills are extensively reinforced by their CBR experiences. As students take part in research activities for a partner community, they acquire skills that enhance their school performance. These findings coincide with the study by Malerba (2014) which found that CBR enhances the research-writing skills of students. They also agree with one of the findings of Stenger (2013) that engagement of K-12 students in genuine community service leads to better performance in subjects such as reading, history, science and mathematics. Similarly, CBR has extensive benefits on the students' civic engagement. They become more committed to community participation through CBR experiences. The data are similar with the finding that a community-based research capstone increases student engagement in community service (Khanna, n.d.). Next, they also relate to the finding by Malerba (2014) that CBR experiences enhance student understanding of the community. Third, this result affirms the finding by Kornbluh et al. (2020) that civic development is enhanced through CBR. While results for the students' educational experience are relatively lower than the two aforementioned outcomes, they still display a positive influence on the CBR experiences of the students. Engaging in research for a partner community helped the students

discover opportunities to apply the theories they learn in the classroom to more practical situations. As such, students become more committed to education.

This coincides with one of the findings of the study by Stenger (2013) that community-based experiences provide students with a better commitment to finish their high school program. Likewise, data are comparable with the findings made Downey (2018), who reported higher educational experiences among students previously immersed in CBR. Community-based research experiences likewise have extensive benefits on the students' professional skills. As such, the data once again relates with a finding by Stenger (2013) that working with the community in the resolution of a problem enhances the problem-solving skills of students as well as their ability to work well within a team. This is reinforced by a recent finding by Zeydani et al. (2021) that community-based education enhances the students' professional and teamwork skills. Likewise, this finding agrees with the study of Downey (2018) which found increased professionalism among students who accomplished CBR, and with the findings by Mayer et al. (2018) that reveal how CBR enhances student self-efficacy and research writing skills. Similarly, CBR experiences extensively reinforce their personal growth which relates to higher self-awareness. The positive impact of CBR experiences on the last four learning outcomes all relate with the study by George et al. (2017) which identified reinforcement of civic engagement, educational experience, professional skills and personal growth through the students' CBR experiences.

CBR learning outcomes do not significantly correlate with gender. This result coincides with the findings by both Kim (2012) and Canton et al. (2013) that gender is not significantly correlated with community service learning experiences. However, it disagrees with another study by Grubisich (2017) that shows female students could otherwise better exhibit qualities for civic engagement. Next, only educational experience and professional skills significantly correlate with the SHS strands the students are enrolled in. The results could be expected, as the different academic strands of the senior high school program are really intended to make distinctions in relation to the learning experiences of the students in preparation for college and the world of work. The Department of Education (2015) has made this explicit when it stated in its guidebook for students that applied and specialized track subjects are based on students' strengths, interests, passions and career goals after college. Also, Mangaluz (2018) reported that the Department of Education had planned that the K-12 and SHS program better prepare senior high school students for their future career and goals depending upon the track and strand of choice. Although all strands will have common core subjects, the specialized subjects are geared to contextualize the learning experiences and enhance specific skills among the students.

Lastly, in relating CBR learning outcomes with the general theme of the students' accomplished research, significant correlations can only be found among academic skills, educational experience and professional abilities. The data suggest that the strategic direction addressed by the research paper of the

students relates with the learning outcome acquired from the experience. This concept seems to agree with the statement by Cai et al. (2017) in an editorial clarifying the impact of educational research on student learning. There is a need for research to effectively identify the goals needed to be addressed for alignment with the learning goals and opportunities of its beneficiaries, which would include students. Similarly, as the data suggest, there is a need for the identification of the issue addressed by the students' research related to the learning outcomes acquired from the research experience.

In relation to these results, an action plan or proposal with recommendations on the future conduct of CBR in the Practical Research subjects (I and II) of the Senior High School department of the HEI in Batangas is presented on the next page.

Table 9: Proposed Action Plan for the Future Conduct of CBR in the Practical Research Subjects of the HEI's Senior High School (SHS)

Goals / Objectives	*to give the students the option to choose their own community as a locale and beneficiary for CBR and CAPSTONE Initiatives *to assign topics for CBR among students to ensure equal or proportional representation of the HEI's strategic directions
Activities / Strategies	* Review the current guidelines in the conduct of CBR in the Practical Research subjects of the Senior High School * Review the existing guidelines of the Department of Education and the compliance of the HEI in the conduct of independent or facilitated out-of-the-campus activities * Make modifications on the guidelines of community selection as a beneficiary for CBR and Capstone Initiatives * Identify the strategic directions that relate with the different academic strands offered in the SHS * Formally assign a strategic direction to be addressed by students enrolled in a particular academic strand
Persons Involved	Assistant Principal for Administration of the SHS, Learning Area Coordinator for Research, Practical Research Teacher, Representative from the Community Involvement Office
Resources Needed	Copy of the CBR guidelines for the Practical Research subjects, Copy of the DepEd guidelines for out-of-the-campus activities, Manual for the strategic directions of the HEI, Copy of the total number of students enrolled in the different SHS academic strands
Time Frame	August to December 2018
Success Indicator/s	Inclusion of an option in the Practical Research I subject for the students in a group to choose one of their own communities as a locale for CBR and a beneficiary for CAPSTONE Each Grade 11 section is identified to prioritize a strategic direction for the Practical Research I subject to be taken up for the next semester

5. Conclusion

This research study assessed the learning outcomes of community-based research (CBR) experiences of the senior high school students of an HEI in Batangas to evaluate the effectiveness of the conduct of CBR through the Practical Research II subject. The majority of the respondents were females, belonged to the STEM strand, completed research papers focusing on sustainable futures, and addressed community engagement and social development. In terms of the learning outcomes from the CBR experience, the majority of the respondents identified extensive influence in their academic skills, civic engagement, professional skills and personal growth, and a moderate influence on educational experience. No significant relationship is noted between gender and the CBR learning outcomes. In terms of the strand to which the students were enrolled in and the CBR learning outcomes, significant relationships were identified with educational experience and professional skills. For the relationships between the general theme of the accomplished paper and the CBR learning outcomes, three significant relationships were identified with the strategic directions (academic skills, educational experience and professional skills), and no significant relationship was identified with the institutional research agenda. It is recommended that community-based research be continued as a requirement for the Practical Research I and II subjects in the SHS. The action plan is likewise recommended for consideration by the senior high school of the HEI in Batangas. The following recommendations are made for future studies: to conduct a similar study to quantitatively assess the learning outcomes of the students from the Practical Research I subject; to assess through qualitative research the learning outcomes and possibly the challenges encountered by the students in the conduct of CBR; and to assess the impact of CBR through each of the four strategic directions of the HEI.

6. References

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Appendix 1
Sample Survey Questionnaire
PROFILE OF THE RESPONDENT

Kindly supply the necessary information on the spaces provided for.

Age: _____ years old

Gender (please check): ☐ Male ☐ Female

SHS Strand (please check): ☐ ABM ☐ HUMSS ☐ STEM

General Theme of Accomplished Research Paper (please check):

Core Directions (please check one):

☐ Social Innovation

☐ Sustainable Futures

☐ Stakeholder Engagement

☐ Shared Humanity

Institutional Agenda (please check one):

☐ Education and Lasallian Studies

☐ Batangas Studies

☐ Culture and Humanities

☐ Community Engagement and Social Development

☐ Technology and Engineering

☐ Business and Management

☐ Health and Safety and Environment

☐ Gender and Development

	My participation in CBR :	Extensively 4	Moderately 3	Minimally 2	Not at All 1
a	Improved my analytical skills				
b	Improved my academic writing skills				
c	Improved my research skills				
d	Enhanced my understanding of academic content				
e	Enhanced my understanding of local/ community issues				
f	Enhanced my understanding of social issues				
g	Deepened my understanding of others who are not like me				
h	Helped me empathize with those from racial or religious backgrounds different from my own				
i	Enhanced the likelihood that I will participate in civic activities				
j	Enhanced the likelihood that I will vote				
k	Helped clarify my values				
l	Increased my interactions with faculty				
m	Increased my interest in my major				
n	Improved my interest in college				
o	Clarified my career path				
p	Improved my conflict resolution skills				
q	Improved my ability to run meetings				
r	Improved my ability to delegate				
s	Improved my ability to listen to others				
t	Improved my ability to work as part of a team				
u	Helped improve my personal qualities				
v	Improved my ability to consider others' perspectives				
w	Deepened my understanding of myself				