

Community Based Extension Program of a State College in the Philippines: Environmental Education Focus

Emily T. Camalla (PhD)

Bicol State College of Applied Sciences and Technology, Philippines
etcamalla@gmail.com

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Abstract – *The conduct of extension programs/projects is a mandate among higher education institutions, both private and state colleges and universities (SUCs). The study aimed to assess the community-based extension program of a state college in the Bicol Region, in the Philippines. It sought to determine the effectiveness of the extension program which focused on the environmental education of the adopted community; the level of performance of the project implementers is also determined and establish whether there is a significant agreement on the appraisal of the respondents in terms of performance level on learners and the community. The respondents of the study were composed of the four groups, namely, the school administrators, faculty members, college students and the extension program beneficiaries. All the 8 school administrators and 29 faculty members-extensionists, while 29 student-volunteers, and 84 program beneficiaries actively participated in the conduct of the data gathering. The research adopts the descriptive-evaluative-correlational method to determine the data needed. The statistical tool used were weighted mean, 5-point rating scale and the Kendall's coefficient of concordance (W). The activities conducted has increased the knowledge and awareness of the young adults and the adopted community about the environment and further motivated them to develop skills that would elicit responsible actions and decision towards environment protection.*

Keywords – *Community-based Extension Program, SUCs, Bicol.*

INTRODUCTION

Global warming and environmental degradation poses untoward effects to man's well-being and his ecosystem [1]. The phenomenon, however, would trace back to man's attitude towards his surroundings. Thus, the need for environmental knowledge is

apparent and relevant. The synergy of strategies and resources that promote and enhance environmentally sensitive culture and skills of the community members to take caring steps for the environment should be realized [2].

Education is concerned with the shaping of men, molding their characters, their abilities, and ideas in such ways that they become effective and responsible members of the society. The educational system continues to play a vital role on aspects of development, which is dynamic and in agreement with change and transformation of people's attitudes and behavior, organizational structures and institutional processes [3].

Higher Education Institutions (HEIs), through its tri-fold functions of instruction – which is the dissemination of knowledge, research – the generation or acquisition of new knowledge, and extension services – the application of knowledge, become prime movers of the nation's socio-economic growth and sustainable development [4].

The Commission on Higher Education (CHED) defines extension as an inherent function of institutions of higher learning aside from research and instruction with the purpose of initiating, catalyzing, and sustaining the development of various communities using the institutions expertise, research outputs and available resources [5].

Community development, which is defined as the process of developing active and sustainable communities based on social justice and mutual respect, is a structured intervention that provides the community stronger control over some issues and conditions that affect their lives, and offering infinite choices to people [6].

According to Pye [7], school services need to be coordinated with outside service agencies. There is the necessity of close-community interaction. The school must be ever more closely identified with the life of the

community along political, social, civic, economic, cultural, and particularly with ethical life of the community. This means that the school on one hand should participate widely in the community projects while on the other hand will be utilizing constantly the material and personal resources of the community.

Grounded on its commitment to the community and the country, the state college offers a wide variety of extension programs and services, which are designed primarily to increase the security of livelihood, alleviate poverty, reduce illiteracy, improve health and nutrition, creates a system of governance that promotes supports and sustains human development and protecting and preserving the environment.

Another important concern in community extension services as revealed by Lee Hongkyun [8] is on environmental information which fosters environmental awareness, and promotes good environmental practices. Environmental awareness requires a shift from civilization-friendly action. Thus, as more environmental information becomes available, environmental awareness increases, which can thereby more easily translated into practice. Such environmental protection and rehabilitation are imperative to ensure a wholesome, liable, sustainable and ecologically-balanced habitat.

The State College under study is an independent government-owned college which focuses on providing advanced education, higher technological, professional and vocational instruction and training in sciences, arts, education, entrepreneurship, engineering and other related courses.

Grounded on its commitment to the community and the whole country, the College offers a wide variety of extension programs and services. These are designed primarily to increase the security of livelihood, alleviate poverty, reduce illiteracy, improve health and nutrition, creates a system of governance that promotes supports and sustains human development and protecting and preserving the environment. This is so since the school stands firm as a guardian of higher education and excellence of Bicol Region, enjoin and commit to SERVE the community. SERVE stands for Sense of Community, Excellence, Responsiveness, Vision, and Efficiency.

To effectively carry out its role in the development of the community the College provided services through extension focused on capability building through education, the conduct of livelihood skills training to adults who are unemployed, underemployed or who wanted to upgrade their skills, out-of-school

youth, technical assistance to support programs of government, and the transfer of technology to the depressed barangays where resources were available.

It is at this point where the researcher, as an extension coordinator, made the present study to determine the areas where support services are strong and weak. This is one way of showing that the College is truly committed to the continuous improvement of the program. With the results, the present research undertaking hopes to design a revitalized extension program that can enhance the extension services of the school to meet social needs or to provide the social services needed to combat social and economic ills of society.

OBJECTIVES OF THE STUDY

The general objective of the study is to assess the effectiveness of the community-based extension program of a state college in the Bicol Region; specifically, it aims to: 1. Determine effectiveness of the community-based extension program as appraised by the respondents along the environmental education area with activities such as (a) tree planting, (b) clean up drive, (c) recycling, (d) repainting and beautification, and (f) cleaning rivers and watershed; 2. Assess the the level of performance of the project implementers of the program; and, 3. Determine the significant agreement on the appraisal of the respondents of the effectiveness of the programs and the level of performance of the project implementers.

METHODS

The conduct of the study employed a descriptive-evaluative-correlational method to determine the data needed under the present investigation. According to Sevilla [9], descriptive survey method shows the analysis of appraisal of the data since it describes the situation or conditions, practices and beliefs, trends and patterns of the situation under study. It is the method that tells “what is.” Moreover, the process of descriptive research goes beyond mere gathering of tabulation of data. It involves an element of interpretation of meaning or significance of what is described.

The descriptive method was used in drawing out the status of the community-based extension program of Bicol State College of Applied Sciences and Technology; the level of performance of the project implementers; and, the project effects on learners and community. Likewise, it is evaluative in nature since the respondents made an appraisal on the level of

performance of the project implementers, and on effects of the learners and community of the community extension services.

The correlational method was also used to determine the significant correlation or agreement on the assessment of the four groups of respondents on the community-based extension program along the mentioned areas.

The respondents of the study were composed of four groups, namely: school administrators, faculty members, college students, and extension program beneficiaries. A hundred percent (100%) enumeration was applied in taking both the 8 school administrators and 29 faculty member-extensionists as respondents in the present study. Purposive sampling was employed in choosing 29 of 31 college student-volunteers and 84 out of the 106 program beneficiaries under study.

Four types of data-gathering tools were used in this study: questionnaire-checklist, documentary analysis, unstructured interview, and observation. The questionnaire-checklist was the primary source of data for this study, which was a researcher-developed questionnaire. This was done after reading different studies related to the present study which guided the researcher in preparing the questionnaire. The questionnaire was constructed in accordance with the following criteria defined by Fox: clarity of language, specificity of content, singleness of purpose, linguistic completeness, grammatical consistency, freedom from assumption, freedom from suggestion and time required to finish accomplishing the questionnaire.

Prior to running successive trial runs on the questionnaire, it was submitted for preliminary review and approval of the researcher's adviser and the Dean of the Graduate School. Every after one trial run, revisions were made until the noises, such as, vagueness of language, directions, and duplications of ideas in some items, were diminished and determined the suitability of language used in every item and ensure the clarity of directions. And final approval of the questionnaire was obtained. Validation of the instrument yielded a Cronbach's alpha of 0.7.

The respondents' perceptions on the community-based extension program were determined through the questionnaire. The questionnaire contained the following items: assessment of the four groups of respondents on the community-based extension in terms of environmental education, health-related endeavors, information and education campaign, social Services, and livelihood/ entrepreneurship program; the project/s conducted that cause improvement/

development to the target communities; and the level of performance of the team during the community-based extension program.

The questionnaire was done after reading different studies related to the present study which guided the researcher in preparing the questionnaire. The questionnaire was constructed in accordance with the following criteria defined by Fox: clarity of language, specificity of content, singleness of purpose, linguistic completeness, grammatical consistency, freedom from assumption, freedom from suggestion and time required to finish accomplishing the questionnaire.

The questionnaire was submitted to the researcher's adviser and the Dean of the Graduate School and Research for critiquing. Suggestions were given for its improvement and were reflected. After its approval, final copies were made for dry-run, and for validation.

The dry-run identified the different problem such as:

A formal request to undertake the study was sought from the President of the school to allow the researcher to conduct the study among the target respondents.

During the retrieval of questionnaires, the researcher conducted informal interview to the respondents. The results of which were used to supplement the primary data. The gathered data were tabulated, organized, analyzed and interpreted quantitatively.

Unstructured interview was conducted among the different groups of respondents to substantiate to cross check the given responses that were found in the questionnaires. The said exercise would ensure the validity of the gathered data and can collect comments and suggestions were used in the analysis of the data.

Documentary analysis was used to determine the accomplishment of the school on the community extension services provided or extended to the different adopted barangays.

The researcher conducted actual observation to determine the authenticity of the validity of answers given by the respondents. The researcher personally distributed the questionnaires to the target respondents, and accordingly sought their agreement to participate. Since the researcher is the head of the community extension office of the school, observation was done easier that helped validate the answers of the respondents.

Statistical Treatment of the Data

The researcher used several tools to treat the data gathered. The responses of the respondent were

classified and tabulated systematically according to different variables included in the study. The statistical tools used were the following: frequency distribution, percentage technique, weighted mean, Five-Point Rating Scale, and Kendall's Coefficient of Concordance (W).

Percentage Technique [10]. In order to determine the respondents' appraisal which consisted of the raw counts of the frequencies of occurrence of the characteristics under consideration, this technique was used.

In the assessment of the administrators, faculty, students and beneficiaries on the community-based extension program weighted mean was used.

Five-Point Rating Scale [11]. The Likert-type scale was utilized in quantifying and interpreting the weighted mean for each indicator, consisting of the following verbal interpretations:

Table 1. Five-point Rating Scale

Scale	Interval	Verbal Interpretation
5	4.20 – 5.00	Excellent/Very Much Effective (VME)
4	3.40 – 4.19	Very Satisfactory/Much Effective (MuE)
3	2.60 – 3.39	Satisfactory/Moderately Effective (MoE)
2	1.80 – 2.59	Fair/Less Effective (LE)
1	1.00 – 1.79	Poor/Least Effective (LstE)

Kendall's Coefficient of Concordance (W) [11]. This non-parametric statistic test was used to determine the degree of association or relationship of the appraisal of the different groups of respondents.

The interpretation of the result of the Kendall's Coefficient of Concordance (W) was based on the comparison of the computed value against their respective critical value with vital consideration on the degrees of freedom and the level of significance. Hence, if the computed value is lesser than the tabular value, the research hypothesis is accepted, however, if the computed value is greater than the tabular value, the null hypothesis is rejected [12].

RESULTS AND DISCUSSION

This section presents the findings of the study as well as the data gathered from the survey, about the environmental education endeavors particularly on activities such as, tree planting, recycling, waste management, clean up drive, beautification, and cleaning of rivers and watersheds.

Table 2. The Effectiveness of the Extension Project along Environmental Education according to Administrators and Faculty

Environmental Education	Respondents			
	Administrators		Faculty	
	WM	VI	WM	VI
a. Tree planting	4.50	VME	4.50	VME
b. Waste management	4.50	VME	3.80	MuE
c. Recycling sessions	3.90	MuE	4.00	MuE
d. Clean up drive	4.40	VME	4.30	VME
e. Repainting and beautifications	4.20	VME	4.50	VME
f. Cleaning rivers and watersheds	3.90	MuE	4.10	MuE
Average	4.23	VME	4.20	VME

The ultimate goal of environmental education is the development of an environmentally literate citizenry. Environmentally literate individuals understand environmental issues and how environmental quality is impacted by human decisions. In addition, they use this knowledge to make informed, well-reasoned choices that also take social and political considerations into account. Succeeding tables disclose the results of its effectiveness both as perceived by the students and the community.

On the point of view of the administrators and faculty, extension program on the environmental education sector is very much effective by raising the community's awareness and letting them do their corresponding contributions to mitigate environmental deterioration. In cognizance of the multifaceted nature of the endeavor, such as inclusion of psychology, marketing, teaching skills, and societal knowledge, has guided the researcher and implementers to create effective practices in the field [2]. These practices include societal immersion, which gave them straightforward and community-based knowledge and experiences; developing community aligned and local environmental norms; developing pro-active skills; and exposure to urgent and important issues and taking action on them [13].

Table 3 presents the Effectiveness of the Extension Project along Environmental Education according to Students and Beneficiaries. The clean-up drive and waste management programs found to be the most effective activities for the students, while it was the tree planting activities that the adopted community found to be most effective.

Table 3. The Effectiveness of the Extension Project along Environmental Education according to Students and Beneficiaries

Environmental Education	Respondents			
	Students		Beneficiaries	
	WM	VI	WM	VI
a. Tree planting	4.40	VME	4.79	VME
b. Waste management	4.70	VME	4.00	MuE
c. Recycling sessions	4.50	VME	4.36	VME
d. Clean up drive	4.70	VME	4.29	VME
e. Repainting and beautifications	4.30	VME	4.21	VME
f. Cleaning rivers and watersheds	4.30	VME	4.21	VME
Average	4.31	VME	4.31	VME

The slight difference on the takes between the students and the beneficiaries can be looked at their sides of the table. The students are still part of the extension provider while the beneficiaries are of the taker part. However, they both see that, overall, the environmental education project is very much effective.

Students' and the community's awareness on the related principles and objectives of environmental education. Better pro-environmental knowledge and attitudes of the community may foster improvement in environmental health [14].

Table 4. General Results of the Effectiveness of the Extension Project along Environmental Education

Environmental Education	Respondents		
	General		
	WM	VI	Rank
a. Tree planting	4.55	VME	1
b. Waste management	4.25	VME	4
c. Recycling sessions	4.19	MuE	5
d. Clean up drive	4.42	VME	2
e. Repainting and beautifications	4.30	VME	3
f. Cleaning rivers and watersheds	4.13	MuE	6
Average	4.31	VME	

A closer look on the general ratings of the data would reveal that most of the projects classified under environmental education were treated as very much effective to both learners and the community. Specifically, very much effective were: tree planting, 4.55 and the clean-up drive, 4.42.

With the overall results of 4.31, where 4.23 came from the administrator, 4.20 from the faculty, 4.48 from the students, and 4.31 from the beneficiaries, all

with descriptive equivalent of very much effective mean that the activities underlying this aspect increased the knowledge and awareness of the young adults and the community people about the environment and further motivated them to develop skills that would elicit responsible actions and decision. Likewise, the activities taught the people to understand and appreciate the natural world around them and to think critically and creatively to identify and solve environmental problems.

It was also noted that the students seem to be aware of the importance of being future-oriented when they talk of the need for change. As one student put it: "They [other students] should take action and learn how to preserve and protect the environment so they can teach their others how to keep the environment clean and healthy."

Generally, it can be deduced that environmental literacy was enhanced since the students see themselves as active and participating members of the community, and they take responsible roles in the resolution of issues in their community, and likewise with the community members.

Cheak's [15] study pointed out that environmental education often begins close to home, encouraging learners to understand and forge connections with their immediate surroundings. The environmental awareness, knowledge, and skills needed for this localized learning provide a basis for moving out into larger systems, broader issues, and a more sophisticated comprehension of causes, connections, and consequences. Whether working with adults or children, environmental education is learner-centered and provides participants with opportunities to construct their own understanding through hands-on, minds-on investigations. Engaged in direct experiences, learners are challenged to use higher order thinking skills. Environmental education provides real-world contexts and issues from which concepts and skills can be learned.

Table 5 presents the level of performance of the project implementers. The success of any project undertaking always depends upon the performance of the project implementers. Hence, the importance of determining how the project was carried out to determine failure, possible improvement, and activities that may be conducted again in the future. It is also from the results of the evaluation that will enable the provider basis whether to enhance or improve their performance.

Table 5. Level of Performance of the Project Implementers

Indicators	Average		
	WM	VI	Rank
1. The team produces responsive and meaningful community services to the family.	4.74	E	3
2. Team members hold each other accountable against agreed plans and standards.	4.47	E	18
3. Team members support each other in achieving individual goals and joint tasks.	4.69	E	6.5
4. The team uses processes to prioritize, plan, and management of resources.	4.64	E	11
5. The team forges agreement and resolves conflict on task-related issues.	4.57	E	16
6. Team members build relationships based on trust, respect and rapport.	4.68	E	8
7. The team demonstrates care for the members of the family.	4.63	E	12.5
8. The team directs its time and effort in accordance to the Plan of Action.	4.55	E	17
9. The team fosters team spirit that creates a positive and motivating team climate.	4.70	E	4.5
10. The team has clear expectations of members of their contribution to team goals.	4.59	E	15
11. The team analyzes problems, tasks, or issues so that collective decisions are well formed.	4.65	E	9.5
12. The team integrates individuals and their needs into the team while respecting individual differences.	4.63	E	12.5
13. All team members come to the extension project site well prepared.	4.70	E	4.5
14. The team members treated each other fairly and with respect.	4.61	E	14
15. All team members' ideas were valued by the team.	4.65	E	9.5
16. The team develops individual contributions and helps members realize their potentials.	4.69	E	6.5
17. The team members are focused on their respective tasks.	4.79	E	1
18. The team member is a high performing team.	4.77	E	2
Average Weighted Mean	4.65	E	

Reflected in Table 5 is the level of performance of the project implementers. Notably, all the indicators included were all rated as excellent. Looking at the first five indicators according to rank: it can be noted that enthusiasm and eagerness to execute the project. Behavioral traits such as focused on task, productive and responsive, and preparedness, and fostering positive and motivating team spirit. Thus, it is worthy to note that the project implementers had executed the

different activities the way they should be conducted. This also implies that the team was able to work under one direction and with the spirit of team work which could be one of the reasons behind the effectiveness of the community-based extension program of the College.

It can be supposed that effectiveness of environmental education would depend on some key characteristics of the implementers such as cognizance of the environmental issues, positive attitude and skills to resolve those issues [16].

Table 6. Test of Significant Agreement on the Level of the Appraisal of the Respondents in terms Program Effectiveness

Respondents	Computed W Value	Critical W Value	Decision	Interpretation
Learners Effectiveness	0.30	0.51	Accept Ho	Not Significant
Community Effectiveness	0.28	0.51	Accept Ho	Not Significant

* Significant at p -value < 0.05

Table 6 presents the test of significant agreement on the appraisal of the respondents in terms of effectiveness of the program and level of performance. In this study, the researcher sought the significant agreement on the appraisal of the two groups of respondents on the appraisal of the respondents in terms of effectiveness of the program and level of performance using the Kendall's Coefficient of Concordance (W). Table 6 reveals the results on learners' effectiveness, and the community effectiveness, with their corresponding computed W value along environmental education of 0.30 and 0.28, respectively which were lesser than their critical W value of 0.51. It indicates that there is no significant correlation or agreement on their appraisals, thus, the research hypothesis was accepted. This implies that in most aspects on the respondents' appraisals were different from each other, indicating dissimilar or independent views from the respondents' appraisals. Discrepancies in appraisals are frequent revealing independent views of the groups of respondents along this particular project [17].

CONCLUSION AND RECOMMENDATION

The study showed that the extension project of the college along the environmental education to be very much effective, the level of performance of the project implementers was unanimously rated excellent by the respondents, and that there is no significant agreement

on learner's and community effectiveness. The foregoing can be attributed to the adherence of the institution to its mandate of extension; the enthusiasm and eagerness of the implementers which are based on their willingness to extend awareness of the environmental concerns and how to mitigate them to the community; and, being able to come up with a valid tool.

The implementation of the program would be more effective if the school and LGU has coordination and is supportive to the program and projects of the school. Extension program, however, can be hampered in its operation due to the inadequate trainers, tools and facilities, and budget allocation. Likewise, the study also found out that the pressing problems met by the implementers were lack of motivation and funding support, influence of the barangay officials and some residents in the implementation of the community programs and projects, availability of space for the projects, and insufficient time devoted.

It is recommended to give greater emphasis on the needs of under-privileged population groups – the women, children and backward communities – particularly in the area of health care and preventive health programmes with people's active involvement and find ways and means to sustain the effectiveness of the other programs. Conduct performance appraisal of the implementers and include the result in determining the performance-based bonus. Give equal priorities in the programs being conducted by the College extension office so that equal opportunities and benefits may be derived. Furthermore, the extension program coordinator should set priorities in the delivery of program and projects. The study was conducted covering only certain communities within the Bicol Region that are proximate to the College. Further endeavors may be done outside the Region.

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