

Impact Assessment of the Research-Based Community Extension Program of one of the State College in the Philippines

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^[1]Rubi, Ronnie B., ^[2]Cepeda, Orbel S.

Bicol State College of Applied Sciences and Technology

^[1]ronbrubz@gmail.com, ^[2]cepedaorbel@gmail.com

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Abstract – Regional-seminar workshop on instructional material preparation for K to 12 education is a research-based community extension program initiative conducted with 272 participants from different provinces of the Bicol Region, Philippines. The program was participated with graduating students, teachers, and academicians. The paper assessed the impact of the regional seminar workshop on instructional material development for K to 12 Education. Along with acquired knowledge, skills, and attitude in instructional material preparation and presented the utilization of the IM outputs from the program. The study adopted the mixed-method of research since it determines the impact of the implemented extension program. Data gathering instruments used questionnaires, direct observation, and interviews. The study was also quantitative and qualitative since the researchers used a questionnaire to know the impact of the program. The 135 respondents in this study were the participants and beneficiaries of the said research-based community extension program. The data were analysed using different statistical tools. Over three years after the seminar-workshop, 135 participants have confirmed that they have utilized their acquired knowledge, skills, and attitude in IM development in the classroom instruction. Furthermore, 55% of the IM outputs were used for classroom instruction, 19% were improved and used for action researches and others are utilized in different ways. The results contributed to the different research contexts and investigation of impact of an extension program. The results also show that the seminar-workshop implemented last 2017 brought a positive impact to its participants and also contributed to addressing the scarcity of instructional material in different disciplines. Thus, it is recommended that further implementation of research-based extension program should be established. Furthermore, professional development for teachers should be promoted and encouraged focusing on the current technological skills the teachers needed for the flexible learning system implementation.

Keywords – extension, impact assessment, instructional preparation

INTRODUCTION

Today's calls and requirements in the State Colleges and Universities are not focused on instruction alone; thus, engaging in research, extension production, and enterprise development activities is essential. They are both having equal importance not only for the faculty development but also for measuring the culture of camaraderie and work attitude of the members of the community in a particular academic institution towards attaining goals and objectives. Many opportunities in research and extension activities can bring to the faculty members and the college, like presenting research and extension output in the Regional, National, and International. In contrast, commercialization or engaging in business and entrepreneurial activities for the end products of

research and research-based extension projects is also expected.

The difference we create in people's lives as a result of the programs we run is referred to as program impacts. Measuring program impacts can be difficult, especially when goals are broad and vague. The logic model that serves as the skeleton of an Extension program, on the other hand, outlines the exact outcomes/impacts that are expected to occur.

Partnerships between higher education institutions and the community should be mutually beneficial. Academia's research and technology-transfer initiatives should have the capacity to improve curriculum and pedagogy. Extension programs assist students learn the value of citizenship in ways that standard classroom teaching cannot. Such engagements can also contribute fresh ideas and insights to the intellectual process, as

well as provide a larger context for academic work and life [1]. Simultaneously, community members grasp important concerns and are empowered to make decisions to improve their current circumstances.

The modes of delivery of extension programs by HEIs differ [2]. There are delivery methods that focus on involving students in assisting local organizations, as well as other methods that involve faculty and staff programs to address community development in educational cohorts, social service, public health, and livelihood and technical training, consultations, and direct application of R&D output.

Despite the fact that higher education community extension activity is available, there is insufficient literature analysing its impact or outcome. While there is no single assessment that measures the social impact of community programs [3], the majority of published studies focus on student development [4]. Furthermore, few studies have been conducted to assess the long-term benefits and societal impact of extension programs [5]. With a scarcity of data on the broader social impact of higher education extension on the communities and residents served, monitoring behavioural data can be a valuable tool for extension workers in developing cost-effective programs with the highest societal value.

In terms of instructional material preparation, different studies and programs were already conducted however impact assessment on the said program is limited. Most of the study focus on the effectiveness of the instructional material created [6][7] and the development of instructional design [8].

Furthermore, in recent years, conventional education has been widely accepted by the educational system worldwide. It is acquired primarily in delivering quality education among the learners and considered as a long-established form of learning where schools are in traditional face-to face acquisition and delivery of knowledge in all tangible aspects. In addition, the learning environment in traditional education resides in a classroom setting and focuses on the development of the basic academic subjects and extra-curricular activities where students could learn also through socialization. However, due to the rapid and unprecedented constraints crisis, education has eventually shifted from conventional to online education.

The rise of the health crisis in SARS-CoV-2 or most known as the COVID-19 pandemic has dominated the acquisition of conventional methods in education. The impact of COVID-19 on global education can be

described as destructive since many students are being deprived of education for a couple of months [9]. It has shifted the traditional chalk-board teaching into the use of digital platforms and adopted electronic learning or called E-learning. Moreover, these innovative reforms in education have acquired simultaneous technological interventions and methodologies which provide modern simulations that will deliver quality education even at home. In addition, proficiency of teachers' instructional material preparation was demanded since teachers are required to prepare instructional materials that will be appropriate for the flexible learning modality being implemented currently.

Moreover, the emerging use of digital tools and platforms has made a gateway in the educational system to fully adopt a modernized and flexible learning environment along with the goal of Education 4.0 and honing 21st Century learners to integrate them with the use of technology in learning. Consequently, the sudden shifting also compromises the teaching roles, strategies and methodologies of the educators in delivering daily instructions. The rapid growth of technological preparedness has forced the teachers to apply measures in implementing online education.

Furthermore, based on the DepEd learning continuity plan in time of COVID-19, the learning delivery modalities that can be adopted in any public schools may be one or a combination of the face-to-face, distance learning, blended learning and home-schooling depending on the COVID-19 restrictions and the particular context of the learners in the school or locality. Thus, teachers are expected to be proficient in any given learning delivery modalities which include the expectation of being proficient in instructional material preparation for any learning delivery modalities identified by DepEd.

Thus, the purpose of this study is to evaluate the impact of the seminar-workshop on instructional material in K to 12 education along with perceived acquired knowledge, abilities, and attitude toward IM preparation of participants who attended the regional seminar workshop on IM preparation three years ago

OBJECTIVES OF THE STUDY

The main thrust of this study is to assess the impact of the regional seminar workshop on instructional material preparation for K to 12 Education. More specifically, it aims to assess the impact of the program in terms of knowledge, skills, and attitude in instructional material preparation and presents the utilization of the outputs in the conducted program.

MATERIALS AND METHODS

Research Design

The study is a descriptive research design utilizing a mixed-method of research since it determines the impact of the implemented extension program. Moreover, the researcher was the implementer of the programs being studied. As to data gathering, it was through questionnaires, direct observation, and interviews. The study was also quantitative and qualitative since the researchers used a questionnaire to know the impact of the program

Instrument

The researcher personally did the questionnaire. Non-participants validated it as they answered the questionnaires while statisticians examined the degree of reliability. The researcher gathered the data by using a questionnaire as an essential tool in determining the impact of the extension program along with knowledge, skills, and attitude in instructional material preparation. The questionnaire consists of the impact indicators along with knowledge, skills, and attitude in instructional material preparation which verbally described as four strongly agree, three agree, two disagree, and one strongly disagrees. Furthermore, open-ended questions were also included in the questionnaire to understand the utilization of the developed knowledge, skills, and attitude in instructional material preparation.

Respondents

Table 1. Profile of the respondents.

Variable	Frequency	Percentage
Gender		
Female	97	71.90%
Male	38	28.10 %
Age		
21-year-old and below	3	2.20%
Between 22 to 35-year-old	74	54.80%
Between 36 to 59-year-old	56	41.50%
60-year-old and above	2	1.50%
Years of Teaching Experience		
less than 5 years	66	48.9%
between 5 to 10 years	38	28.1%
between 10 to 15 years	10	7.4%
between 15 to 20 years	7	5.2%
more than 20 years	14	10.4%
Grade level handled		
Kindergarten / Grade 1 – 3	22	16.29%
Grade 4 - 6	34	25.18%
Junior High School	36	26.67%
Senior High School	19	14.07%
College	17	12.60%

The 135 respondents in this study were teachers in the Bicol Region, the Philippines, who were the said participants and beneficiaries of the said extension program. Table 1 shows the frequency and percentage distribution of the respondents' profiles.

It indicates that 71.90% are female among the respondents, 54.80% belong to the age bracket of between 22 to 35-year-olds, and 48.90% of participants have less than five years of teaching experience 26.67% are handling junior high school classes.

Data Gathering Procedure

The writer sought permission to distribute questionnaires to the respondents during their free time. The researcher personally handled the writing of the results of the data gathered.

Before administering the questionnaire, the researcher explained the nature of the study and its purpose and assured the respondents that their responses would be dealt with the utmost confidentiality. Likewise, the researcher reiterated that the respondents would be doing well by answering the questions honestly. The researcher made them realize that accurate results will contribute to their welfare and the college. The questionnaire was not timed, but the respondents were asked to give their first natural and honest answer that comes to their mind and not spend time pondering on the questions.

The data were collected as soon as the respondents finished answering the questionnaires. Each accomplished questionnaire was inspected to check if all the items were answered. Tallying of data was personally made by the researcher. Furthermore, the data were sent to a statistician for tabulation. The results of which were analysed and interpreted

Data Analysis

The data were analyzed using different statistical tools. The quantitative analysis includes the presentation of the descriptive statistical data. Because of the nature of the investigation, statistical treatments were used in analyzing and interpreting the data gathered from the questionnaire. Weighted mean was used for determining the impact of the extension program in terms of knowledge, skills, and attitude in instructional material preparation.

RESULTS AND DISCUSSION

Regional-seminar workshop on instructional material preparation for K to 12 education is an extension initiative based on the study of Rubi [10] on teacher's

competency of instructional preparation, which reveals that they commonly are handouts audio and visual media and modules. In addition, the extension program is a 5-day seminar-workshop in instructional material preparation that aims to:

1. Apply teamed knowledge in IMs' Preparation;
2. Hone the writing skills and creativity of the teachers in writing and designing IMs"; and
3. Make instructional materials according to the field of specialization and have them submitted.

The 5-day seminar-workshop was conducted on December 1-5, 2017, with 272 participants from

different provinces of the Bicol Region, Philippines. The program has participated with students, teachers, and academicians. Furthermore, attending seminars like the seminar workshop on instructional material has numerous benefits on the part of a teacher. The gathering tackled primarily focused on cooperative discussion with speakers knowledgeable enough to deliver a comprehensive discussion on the topic. During the seminar workshop, said speakers taught different tips in making and designing modules. Furthermore, the seminar-workshop requires the participants to submit an example of a module presented during the workshop.

Table 2. Assessment of the Impact of Regional-seminar workshop on instructional material preparation for K to 12 education

Impact Indicator	WM	VD
<i>Acquired Knowledge on:</i>		
1. Effective Techniques and Styles in IM preparation.	3.83	Strongly agree
2. Design, Structure, and Concepts in IMs.	3.86	Strongly agree
3. Performance and Formative Assessment and Validation in all Discipline for 21 st century.	3.62	Strongly agree
4. Copyright law in preparing IMs.	3.76	Strongly agree
5. Preparing Instructional Material in different discipline.	3.46	Strongly agree
<i>Acquired Skills:</i>		
1. Plan instructions.	3.70	Strongly agree
2. Design an instructional material.	3.80	Strongly agree
3. Prepare appropriate instructional material for the specified discipline.	3.52	Strongly agree
4. Creates assessment and validation materials in all discipline for 21 st century education.	3.68	Strongly agree
5. Prepares IM for publication.	3.67	Strongly Agree
<i>Acquired Attitude:</i>		
1. Understand the importance of IM in education.	3.91	Strongly agree
2. Supports programs for IM preparation.	3.80	Strongly agree
3. Appreciate the importance of performance and formative assessment and validation for 21 st century of education.	3.75	Strongly agree
4. Appreciate different ideas in preparing IM in different disciplines.	3.85	Strongly agree
5. Recognize and Value the copyright law in preparing IMs.	3.90	Strongly agree
Composite Mean	3.74	Strongly agree

Legend: 1.0 – 1.75 – strongly disagree; 1.76 – 2.50 – disagree; 2.51 – 3.25 – agree; 3.26 – 4.0 – strongly agree
WM: Weighted Mean; VD: Verbal Description

Presented in Table 2 shows the assessment of the impact of the regional –seminar-workshop program. As revealed by the composite mean value of 3.74, the overall assessment was highly evident, verbally interpreted as strongly agreed. Among the items mentioned are as follows: in terms of acquired knowledge, "Design, Structure, and Concepts in IMs." (3.86) was first in rank while "Preparing Instructional Material in different discipline" (3.26) verbally interpreted as strongly agree was last in rank; In terms of acquired skills, "Design an instructional material." (3.80), was first in rank and "Prepare appropriate instructional material for the specified discipline."

(3.52) verbally interpreted as strongly agree was last in rank; In terms of acquired attitudes, "Understand the importance of IM in education." (3.91) verbally interpreted as strongly agree was first in rank while "Appreciate the importance of performance and formative assessment and validation for 21st century of education." (3.75) verbally interpreted as agree, was last in rank.

These results indicate that the objectives of the extension program are achieved. In addition, the result shows that the program effectively provides the participants with the specific knowledge, skills, and attitude for IM preparation. Besides, the results confirm

that the content and topic discussed in the seminar-workshop are appropriate for the audience and address the need to improve the teachers' competency in IM preparation.

The current study's findings are consistent with [11] study, in which she clarified that sure students learn by seeing ideas in pictures and other visual materials. She further stresses that having the views of the lesson physically accessible helps students understand them better. Visualization is also rooted in the philosophy of Multiple Intelligence, which acknowledges that each student has unique distinctions and intelligence [12]. Furthermore, the study is aligned with the results reveals by Calik-Uzun et al., [13] where Instructional Technologies and Material Design courses ensures that the basic competence of pre-service teachers, which is to enable students to produce materials and to use them in the most effective way to help them learn effectively, wherever they under any circumstances even under unfavourable conditions, is acquired by pre-service teachers and help them to produce materials and use them effectively.

From the interview of one of the participants she stated that:

“The benefits of the seminar-workshop did not end after the training proper. In fact, the last part of the training served as the starting point for us to apply what we learned. The techniques in making instructional materials helped me a lot when I am pursuing my master’s thesis which is my final output in making a computer-based instructional module. It is not easy to do such instructional material if you do not have any background on how to make one. I am so thankful that I was given the opportunity to attend the said seminar-workshop. Right now, my completed module which I finished during my master’s degree is being used as one of the key learning materials since there were no modules being provided for the ICF classes in our school.”

From the participant's statement, it is implied that the five-day seminar workshop positively impacted the teacher-participants; furthermore, the program provided instructional materials for different disciplines, which can be used in the Department of Education. It was also stressed out that instructional material is essential in the teaching and learning process since an instructional material must cater to the needs of the students; thus, the creation of visual materials to aid learning is essential in facing the challenges of flexible learning.

Over three years after the seminar-workshop, 135 participants have confirmed that they have utilized their acquired knowledge, skills, and attitude in IM preparation in the classroom instruction. Furthermore, as presented in Figure 2 is the utilization of the IM output in the Regional Seminar Workshop 55% of the IM outputs were used for classroom instruction, 19% were improved and used for action researches, 10% were presented or published in different research forum and journal, 8% were improved and use for further studies, 7% were submitted in DepEd evaluation for possible mass utilization and the 2% were published.

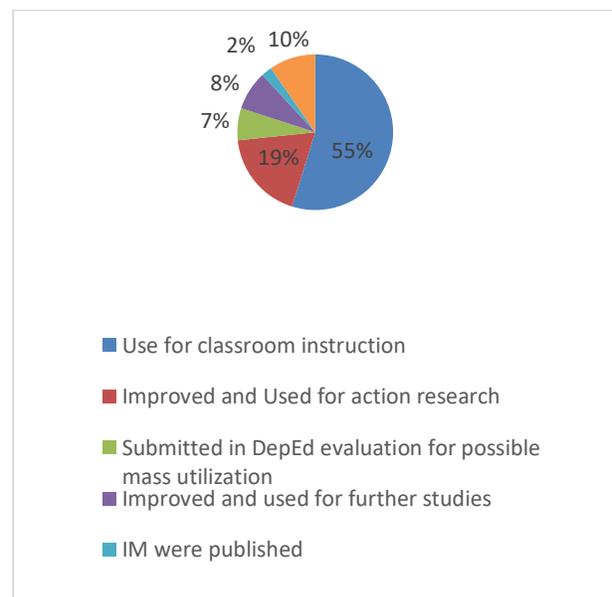


Figure 1. Utilization of the IM output in the Regional Seminar Workshop

Different IMs were created during the seminar workshop; some are modules, printed learning materials, and interactive instructional materials. Thus, teachers confirm that the materials they have developed in the workshop were adopted in class or utilize to pursue further studies. Shown in Plate 1 is an example of the learning module developed during the seminar-workshop and now being utilized in classroom instruction and is also submitted in DepEd for possible utilization of other schools.

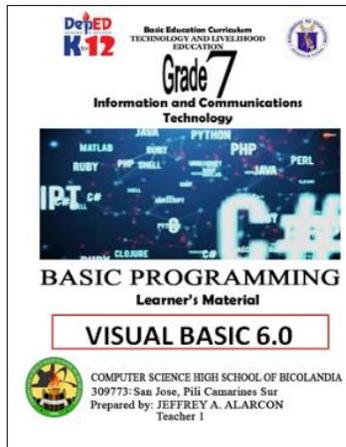


Plate 1. Learner's Material in Basic Programming

The results imply that there was an increase in instructional material in the different disciplines in Bicol Region. Besides the interviews of the teacher-participants who attended the seminar workshop, they have disclosed that teachers' instructional material preparation varies based on their practices in teaching, available materials, and discipline. Like a Math teacher, teachers can integrate activities such as art projects into mathematics lessons to improve student interest. One method is to help students create models of mathematical objects out of ordinary materials, which they then use in an educational exercise. Students may create colorful geometric quilts, partially filled egg cartons, or proportions of paper pizzas to reflect fractions.

Similarly, they used local materials such as broomsticks, strings, sticks, and cones to depict geometric figures. In contrast, houses, gardens, rice fields, and water tanks were used to demonstrate measuring principles. One teacher participant

compared life into a circle because of the similar properties of the two.

Furthermore, according to Zakaria [14], instructional materials can be prepared for collaborative learning in terms of instructional material utilization. Furthermore, one of the participants appraises the seminar-workshop because its discussion on the use of technologies to enrich and improve the instructional system is referred to as technology incorporation. Technology incorporation will also help support classroom teaching by allowing students to complete assignments on the screen rather than using traditional pencil and paper. Technology incorporation is commonly used, particularly now that blended learning is being applied in Philippine schools.

Teachers' poor use of technology can be due to the scarcity of funding for these technology-based instruments and materials. In contrast to the report's findings, [15] reported that using technology-based materials improves students' problem-solving skills at various grade levels. Similarly, [16] report is finding technology adoption impacts student achievement, and students who participated in the research had very positive attitudes toward the use of educational technology. Furthermore, in an environment where technology progresses faster, using technology-based teaching is critical in developing students.

These results support the study of Fontanos, et al. [17] which discussed that education today amidst the pandemic is different from the past and flexible learning systems will be fully-implemented sooner or later. Besides, the seminar workshop conducted quite significant in providing the necessary competency for teacher's instructional material preparation thus contributing to the success of flexible learning amidst the pandemic contributes to the success of it. Teachers' role in flexible learning amidst the current pandemic cannot be denied [18]. Similarly, the results of the study implies that the seminar workshop conduct prepares teachers for the flexible learning options implemented.

CONCLUSION AND RECOMMENDATION

Altogether, the results contributed to the different research contexts and investigation of impact of an extension program. The results also show that the

seminar-workshop implemented last 2017 brought a positive impact to its participants and also contributed to addressing the scarcity of instructional material in different disciplines. Thus, it is recommended that further implementation of research-based extension program may be established. Furthermore, it can also be recommended that series of seminar-workshop on instructional material preparation be further implemented to produce quality instructional materials.

Fully equipped workshops may be opened to the use of service teachers in educational faculties to better equipped teachers in planning, preparation, implementation and evaluation of instructional material. In addition, in order to use the materials prepared by service teachers in classrooms, cooperation with school should also be provided. In this way, teachers would realize the missing and inappropriate aspects of the material. It is also suggested that it would be suitable for service teachers to prepare teaching materials for their own major by using applications such as computer-based education, web-based education, e-diary, e-portfolio in order to develop a higher efficacy belief on technology-based materials. It is considered that increasing the number of qualitative studies that reflect the impact of the programs and if the course is conducted effectively, will contribute to more effective processing of this extension. It must be ensured that service teachers are encouraged to design, develop and apply various materials that are specific to this field for teaching at schools in the scope of teaching practice. In this way, it can be ensured that the self-efficacy of service teachers on using materials can be determined by defining which materials are efficient and inefficient in which subjects.

Furthermore, professional development for teachers may be promoted and encouraged focusing on the current technological skills the teachers needed for the flexible learning system implementation.

The current study focused on the community extension impact in relevance to the technology imparted thus the current study may be of a basis for the conduct of impact assessment of relevant training program implemented.

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