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Project Sober (Strengthening Our Basic Education Research): Research Capacity Building for Public School Teachers in the Department of Education- Division of Occidental Mindoro

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

The role of teachers in public schools has changed from teaching to administrative and research functions. In the Department of Education, Master Teachers as well as Teachers I-III are now required to conduct at least one action or basic research based on the Basic Education Research Agenda.

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This paper highlights the importance of the Project SOBER in promoting research culture in the different public schools in the Division of Occidental Mindoro. This program is a collaborative undertaking of the Occidental Mindoro State College and the Department of Education-Occidental Mindoro Division for five years.
Division trainings, seminar-workshops, roll-outs, colloquiums and research presentations were conducted from January 18, 2018-January 18, 2023. The topics discussed were research management, financial management for funded proposal, research conceptualization, research implementation, manuscript write up, and effective poster and oral presentation. The participants rated the extension as “very highly effective” in terms of content and management of the program.
To date, the teachers in the Division of Occidental Mindoro had been presenting research papers in the regional/national fora, receiving awards and publishing their outputs in refereed journals.

Keywords: Research capacity; management; training; project SOBER; teachers researchers; research competencies; teacher education; teachers educational research.

1. INTRODUCTION

Action research is typically regarded as an opportunity for professional development because teachers constantly evaluate new instructional techniques, review new curricular programs, and assess existing pedagogical methods. Participating in or conducting action research has also been shown to be the impetus for positive change in numerous research projects, as evidenced by teacher development, self-examination and learning that enhances classroom procedures [1,2].

The primary objective of action research in education is to find ways to improve children's lives [3]. Action research can also improve the quality of life for professionals who work in educational institutions. For instance, action study has been associated with teachers' professional development and growth [4]. Hensen claims that action research (a) aids teachers in gaining new knowledge specifically relevant to their classrooms (b) encourages reflective teaching and thinking (c) broadens teachers' pedagogical repertoire (d) places teachers in charge of their craft (e) reaffirms the relationship between practice and student achievement (f) fosters an openness to new ideas and learning (g) and (h) gives teachers ownership of successful practices. Additionally, action research seminars can be used as a substitute for conventional, ineffective teacher in-service training as a way to engage in professional development activities [5].

The Department of Education (DepEd) in the Philippines defines action research as "a process of systematic, reflective inquiry to improve educational practices or resolve problems in any operational unit, such as a school, classroom, or office" (DepEd Order No. 16 s. 2017). It is highly unlikely for a teacher to avoid undertaking action research, as it is one of the conditions for promotion to the next level from their current teaching position or classification. Additionally, due to the ongoing shifts in the educational system, one may choose to conduct research in order to satisfy the needs of learners in an environment that is constantly evolving. In addition, teachers' responsibilities have changed from purely imparting knowledge to acting as problem solvers in the classroom through action research. The Department of Education mandates that Master Teachers, who are subject experts, produce at least two action study papers on issues of some significance to education. Based on observation, public school instructors conduct action research primarily to satisfy the requirement rather than with an eye toward resolving issues in the classroom.

The Department of Education has developed and begun many activities and programs aimed at institutionalizing action research in the field of Basic Education. The department has undergone significant changes and introduced various initiatives related to action research. These include the adoption of the DepEd No. 24 series of 2010, which established the Basic Education Research Fund. Additionally, the department implemented the DepEd No. 13 Series of 2013, which focused on the establishment of a Policy Development Process at the Department of Education. Furthermore, the department introduced the DepEd No. 13 series of 2015, which revised the guidelines for the Basic Education Research Fund. Lastly, the department made amendments to the DepEd No. 43 Series of 2015 through the DepEd No. 4 Series of 2016.

Nevertheless, despite the establishment of research within the framework of basic education and the implementation of many initiatives and programs by the Department of Education, the level of research output among teachers remains suboptimal [6]. Therefore, providing teachers with the necessary skills, knowledge, and focus to action research and engage in meaningful inquiry about their professional practice will enhance this practice, and effect positive changes concerning the educative goals of the learning community. This paper presents the extension approaches and strategies used in enhancing the research capability of the public school teachers in Occidental Mindoro. Specifically, this intends to: enhance knowledge and skills in action research, describe the methodologies employed in the implementation of the extension program; discuss the different interventions; and determine the outcome of the program.

2. METHODOLOGY

The project employs a Training Needs Assessment in determining the level of knowledge and skills of the teachers in research. Additionally, in the latter half of 2017, the Department of Education-Occidental Mindoro collaborated on the preparation of project proposals or concept papers. From January 18, 2018 to January 18, 2023, division trainings, seminar-workshops, roll-outs, colloquiums, and research presentations were conducted. Data on the number of researches and teachers' involvement were from the Research Profile database provided by the personnel In charge in the Division Office.

Axinn (1988) identified education institutions as one of the approaches used in extension. This approach assumes that educational institutions have the technical knowledge and expertise that are relevant to the communities. The extension program employed the counter parting scheme wherein the Department of Education provided the needed logistics while the Occidental Mindoro State College extended the technical expertise.

The result demonstration was found as the most effective extension method. The participants were required to produce action research proposals and present it before a panel for evaluation.

3. RESULTS

3.1 Strategies Done in the Implementation of the Project

3.1.1 Project conceptualization and fund utilization

The extension program employed the counterparting scheme wherein the Department of Education provided the needed logistics while the Occidental Mindoro State College extended the technical expertise.

Moreover, the project employed the public-people-partnership strategy in extending information and technology in the community. This had established beneficial alliances and complementation among the different organizations. Partnership is essential since it had already been realized that delivery of goods and services is no longer a government monopoly. The sustainability of the said project was currently done by the partner agency and school.

3.1.2 Conduct of training needs assessment

The conduct of simplified training needs assessment. Using the participatory approach, the DepEd supervisors identified low research self-efficacy on research conceptualization and statistics.

3.1.3 Planning with the agency

Immediately after conducting the TNA, planning was done. The initial output was the list of the specific activities, persons/agencies involved; resources needed and expected date of accomplishment.

3.1.4 Continuing education

Seminars/workshops to reorient research culture in the DepEd was conducted. These were done with heed as the public school teachers were novices in doing action research as per initial study done by Domingo et al (nd).

3.1.5 Monitoring and evaluation

Regular program monitoring was done during every extension activity and as the need arose. In every monitoring activity, the teachers and some supervisors were represented to discuss matters needing urgent actions or solutions.

Table 1. Interventions introduced

Topics	Number of times conducted
Basic Education Research Fund	10
Research Conceptualization	19
Review of Related Literature and Studies & Document Citation	20
Research Methodologies	32
Results & Discussion and Conclusion & Recommendation	15
Ethics in Research	15
Total	**111**

Table 2. Number of research conducted (2018-2022)

Year	Berf		Non berf		number of research		Total
	Action	Basic	Action	Basic	Action	Basic	
2018	4	5	0	0	4	5	9
2019	6	12	0	0	6	12	18
2020	0	9	0	0	0	9	9
2021	6	18	0	0	6	18	24
2022	3	8	0	0	3	8	11
Total	**19**	**52**	**0**	**0**	**19**	**52**	**71**

Table 3. Number of research based on the Basic Education Research Agenda (2018-2022)

Basic Education Research Agenda	Number of Researches Per Year					
	2018	2019	2020	2021	2022	Total
Teaching and Learning	6	7	9	23	10	55
Child Protection	0	0	0	0	0	0
Human Resource Development	1	4	0	1	0	6
Governance	1	6	0	0	1	8
Gender and Development	0	0	0	0	0	0
Disaster Risk Reduction	0	0	0	0	0	0
Inclusive Education	1	1	0	0	0	2
Total	**9**	**18**	**9**	**24**	**11**	**71**

3.2 Intervention Introduced

During the last five years (AY 2018-2023) of project implementation, it had conducted division trainings, seminar-workshops and roll-outs conducted in the different public schools in the province.

3.3 Outcome of the Initial Interventions

Table 2 shows that the research had increased from 2018 to 2023. It was categorized as Basic Education Research Fund (BERF) and Non BERF, which were personally funded by the teachers but recognized by the Division that has undergone the process. The Department of Education continues its initiatives to strengthen evidence-based policy development and decision-making by providing research funds to eligible proponents from national, regional, and school division offices, as well as public elementary and secondary schools across the nation. Funds shall originate from the General Appropriations Act-Basic Education Research Fund (GAA-BERF) that started on 2015 and subsequent years.

In Occidental Mindoro, BERF research started in 2018. Result shows that there were 71conducted researches from 2018-2022, 19 of which were action research and 52were basic research that dwelled on numerical literacy, reading difficulties, strategies used during the pandemic, Learning Action Cell (LAC), disaster management, research anxiety of students and teachers and other management papers.

To put focus on these research initiatives, DO No. 39, s. 2016 promulgated the Basic Education Research Agenda, which makes known the research priorities of the Department across four themes such Teaching and Learning, Child Protection, Human Resource Development, and Governance. In addition, there are three cross-cutting themes namely: Gender and Development, Disaster Risk Reduction and Management, and Inclusive Education. Table 3 shows that majority of the researches conducted focuses on teaching and learning (77.46%).

Table 4. Number of teacher who conducted research (2018-2022)

Year	Academic Rank				Total
	Teacher I-III	Head Teacher I-VI	Master Teacher I-II	Principal I-IV	
2018	16	1	3	2	22
2019	27	2	8	3	40
2020	16	0	4	3	23
2021	47	2	12	4	65
2022	18	4	5	1	28
			Grand Total		**178**

Table 5. The level of research self-efficacy before and after the training

Topics	Before		After	
	Mean	Interpretation	Mean	Interpretation
Basic Education Research Fund	1.29	Very low self-efficacy	4.51	Very high self-efficacy
Research Conceptualization	1.32	Very low self-efficacy	2.60	Average self-efficacy
Review of Related Literature and Studies & Document Citation	3.22	Average self-efficacy	4.20	High self-efficacy
Research Methodologies	1.29	Very low self-efficacy	2.51	Average self-efficacy
Results & Discussion and Conclusion & Recommendation	2.31	Low self-efficacy	2.31	Low self-efficacy
Ethics in Research	3.45	Average self-efficacy	3.45	Average self-efficacy
	2.14	Low self-efficacy	3.26	Average self-efficacy

Legend:4.50-5.00-Very high self-efficacy;3.50-4.49-High self-efficacy; 2.50-3.49-Average self-efficacy; 1.50-2.49-Low self-efficacy;50-1.49-Very low self-efficacy

Table 4 shows that there is an increasing number of faculty who conducted research from 2018 to 2023. However, the majority of them are from Teacher I-III, who are not really mandated to conduct research.

The initial interventions revealed that teachers had a “low” level of research self-efficacy (2.14) before the training and improved to “average self-efficacy” (3.26) after a series of trainings and consultations. Research self-efficacy, according to Lei (2008) and Uranu and Beck (2005), is the assurance in carrying out research-related tasks, such as creating a research plan and carrying out the research process, which includes reading and doing library research as well as writing and publishing.

3.4 Sustainability Plan

To date, some of the teachers trained in the Project SOBER were now mentors in their own divisions and districts. They also served as the Technical Working Group of the Division of Occidental Mindoro and also won Best Paper at the Regional level. There are now crafting programs based on the learnings from Project SOBER and currently conducting their in-service training led by the teachers trained in the program and implementing Project REACH (Research Empowerment through Active Collaboration and Handholding) in Rizal District, Project START (Smart Teaching and Assistance to Research-Students and Teachers) in Sablayan National Comprehensive High School and Project *Pananalikseek* at Senior High School at Magsaysay National High School. According to Chow [7], teachers' involvement in improving and implementing the research project resulted in significant changes to the educational design of various subjects in their institutions. This is also supported by the findings of De Borja's [8] study, which revealed that when teachers conduct action research, curriculum design is enhanced as a result of their voices/insights/ideas being heard and approved by administrators, which they can then implement in their instructional practices.

4. DISCUSSION

Action research in education aims to enhance teaching and learning through a collaborative, reflective, and problem-solving investigation of classroom practice. Action research entails cycles of developing, carrying out, observing, and reflecting on modifications made to enhance practice. A key difference between action research and other methodologies is that it solves specific problems. Interactive design lets

academics gain feedback from those affected by their work. This makes it useful when shifting school and other educational contexts.

In addition, there have been many endeavors aimed at enhancing the skills and capabilities of in-service teachers and administrators to effectively engage in augmented reality (AR) practices through tooling and retooling initiatives. These options encompass the provision of professional development through the delivery of courses on action research methodology for teachers already in service [9], as well as the integration of action research into the curriculum for pre-service teachers [10]. Similarly, professionals in the Philippines have created Continuing Professional Development (CPD) programs that offer short courses on Augmented Reality (AR) methodology [11].

With the result of the study, there are still things that need to be improved. Nevertheless, this study does not propose a complete shift towards the exclusive use of transformative models. These models are believed to be dependent on the specific situation and centered around the teacher, offering greater opportunities for professional autonomy. There should be a balance between models and they should serve a revolutionary purpose [12-15].

The findings of the study carry significant significance for educational practice. The study presents compelling evidence supporting the notion that action research serves as a bridge between theoretical concepts and practical application. Given that educators hold the belief that action research has the potential to enhance the process of learning and teaching, it is important to emphasize that engaging in action research can offer valuable and empowering opportunities for teachers to cultivate and establish constructive classroom environments rooted in theoretical frameworks and conceptual foundations [16-19].

5. CONCLUSIONS

The study concluded that P-P-P strategy can be a very effective instrument in developing a research culture in the Department of Education. It has helped strengthen the Institution's working relationships with the Department of Education. The collaborations opened many academic and research opportunities for public school teachers. The five-year implementation included division training, seminar-workshops, roll-outs, colloquiums, and research presentations. The extension was "very highly effective" in content and program management, according to participants. The Division of Occidental Mindoro professors had presented research papers at regional/national forums, won awards, and published in recognized journals.

6. RECOMMENDATIONS

The extension program recommends to:

1. Strengthen existing linkages and invite other organizations with similar undertakings to improve delivery of services.

2. Continuing research capability building of public school teachers especially in research management and research publication.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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