

RAPID ASSESSMENT OF THE PERCEIVED IMPACTS OF AN ADULT-EDUCATION SCIENCE COMPETENCY-BASED ENHANCEMENT TRAINING ON ALTERNATIVE LEARNING SYSTEM MOBILE TEACHERS AND VOLUNTEER TEACHERS IN CAGAYAN DE ORO CITY, PHILIPPINES

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ABSTRACT: *The Alternative Learning System is a response of the Philippine Government to address access to education for a particular type of learner. It aimed at developing functional literacy and school participation rate of the deprived, depressed, and underserved Filipinos. This type of alternative delivery of education is facilitated and managed by mobile and volunteer teachers who reported that they are not confident in teaching science to diverse learners even after receiving generalized teacher training. Thus, this study aimed to rapidly assess the perceived impacts of adult-education science competency-based enhancement training on the teaching process, learning process, teacher's professional growth, and teacher's confidence. The study utilized a descriptive-survey research method using a researcher-made open-ended questionnaire. The responses were coded to prevailing themes and analyzed. The results highlight that most of the respondents report having gained positive impacts in terms of their teaching process by gaining advanced knowledge and acquiring skills that they can use to design engaging learning activities.*

Keywords: Adult education, alternative education, capacity-building, impact study, professional development, professional training, science education

1. INTRODUCTION

Education has long been established to play a significant role in the development and progress of a nation [1]. The current Philippine Educational System provides opportunities for a particular type of learners who, for various reasons, are unable to attend or complete formal schooling. This kind of program is called the Alternative Learning System (ALS) [2]. This program was a response of the Philippine Government to the massive global education initiative called Education for All 2015 (EFA 2015). This allowed the Philippine Education sector to be decentralized into three educational systems managed by different government agencies. The basic education and ALS are managed by the Department of Education (DepEd), the technical-vocational training is governed by the Technical Education and Skills Development Authority (TESDA), while the higher education is regulated by the Commission on Higher Education (CHED).

The Philippines' Basic Education Governance Act of 1991 established the ALS as a parallel learning system to provide a viable alternative to the existing formal education instruction. With the issuance of Executive Order 356, the Bureau of Non-Formal Education (BNFE) then became the Bureau of Alternative Learning System with the significant purpose of delivering quality education to the "deprived, depressed, and underserved" Filipinos. The ALS was specially designed to improve the functional literacy rate and school participation rate [2].

The ALS had made significant progress towards achieving its objectives, especially in recent years, yet it faces several persistent challenges. One of these is that the program only attracts a fraction of the country's sizeable out-of-school population and that the outcomes indicators have plateaued [3]. The same report highlighted that from 2005 to 2014, the number of passers had been steadily increasing, although still very relatively low, at about 18% in 2014. In addition, Northern Mindanao Region, where Cagayan de Oro City belongs, recorded a passing rate lower than the National Average in 2014.

The reasons for this low passing rate in the Accreditation and Equivalency (A&E) Exam are attributed to the availability of funds for operating costs, quality of learning centers, availability of educational materials, and commitment of facilitators [3]. More so, students' diversity also furthers the difficulty of teachers in providing them meaningful learning experiences [1], [2]. Although in a recent report in Northern Samar, Philippines, ALS Mobile Teachers were noted to be very competent in terms of their educational qualifications and competent in developing learning materials [4] although the paper did not mention if this competence refers to needed literacy to teach important skills to ALS learners. Based on the personal anecdote of ALS teachers in Cagayan de Oro City, they report that they lack the necessary competence to teach advanced concepts in science since most of them were non-science majors. Similarly, they also noted that most of the training they attended was focused on teaching strategies for Formal Education and less are on Non-Formal Education. More so, even teachers in private and public schools reported that they lack appropriate training in alternative delivery modes [5].

It is with the reason that the Department of Education – Cagayan de Oro City Division organized a 10-day intensive adult-education science competency-based training for ALS Mobile Teachers and Volunteer Teachers. The said training aimed at improving the conceptual understanding of ALS teachers in chemistry and physics and equipping them with the appropriate adult-education teaching strategy. Thus, this investigation aims to rapidly assess the perceived impacts of the science competency-based enhancement training on the teachers' teaching process, students' learning process, professional growth, and teachers' confidence in teaching.

2. MATERIALS AND METHODS

This study utilized a descriptive-survey research design to rapidly assess the perceived impacts of the science competency-based enhancement training on teachers. Descriptive research describes the study population's characteristics or a particular phenomenon being studied [6].

The study population involved all mobile and volunteer teachers who had complete attendance in the enhancement training. There were 40 participants in total, and all were considered as potential respondents of the study. A researcher-made questionnaire was developed and used for this study and was sent to all potential respondents. Before data collection, necessary permission was acquired from the Department of Education – Division of Cagayan de Oro City Office. The respondent's participation in the survey was considered to be voluntary. A retrieval rate of 80% (32 out of 40 responded) was recorded and deemed acceptable. The survey questionnaire was composed of 4 open-ended questions on the impacts of the training on the student's learning process and teachers' teaching process, professional growth, and teaching confidence. The responses were analyzed for prevailing themes and were coded as such. The prevailing themes were tallied and recorded for further analysis and review. Responses that did not answer the question were considered to be a non-codable response. The highest priority was given to ensure the confidentiality and anonymity of the respondents and responses, and only the researchers had access to the data [7]. Necessary measures were also taken to ensure that participants are not harmed and that they understand the objectives of the research [8]. Simple frequency and percent distribution were used to describe the qualitative data collected.

3. RESULTS AND DISCUSSION

The Alternative Learning System can be improved by providing additional training to teachers on different teaching styles appropriate to ALS learners' diverse learning styles and backgrounds [9]. The perceived impact on the teacher's teaching process is summarized in Table 1. As shown, most of the respondents claim that the enhancement training allowed them to improve their conceptual knowledge and imparted unto them varied teaching strategies. This implies that enhancement training specifically designed for adults is effective rather than general training for formal education. This is highly expected since teacher training is precisely directed towards developing the teachers' skills [10]. In this way, ALS teachers can be effective managers of learning by stimulating the learner's interest and motivation through the varied teaching strategies they have learned in training. In addition, teachers who attended the training were found to be riskier in employing new teaching strategies and are more thoughtful of their teaching [11]. In this way, it can positively impact the ALS program implemented in the city. It is also essential to note positively that the participants perceived to have improved their conceptual knowledge. This is noteworthy since it has long been accepted that good teacher subject knowledge helps improve students' literacy [12]. This highlights the importance of enhancing first the conceptual knowledge of teachers since it has a positive impact on the students. In addition, it has been studied that teachers' training can increase the extent to which they adopt a more student-focused approach to teaching [10]. Teacher training is also oriented toward improving student learning [10].

Table 1. The Science Teachers' Profile of the Division of Cagayan de Oro

	Coded Responses	Frequency	Percentage
1.	Improved their conceptual knowledge	15	46.88%
2.	Imparted varied teaching strategies	11	34.38%
3.	Contextualization of topics in science	2	6.25%
4.	Improved their interest in teaching science	1	3.12%
5.	Developed their teaching confidence	1	3.12%
6.	No response/Non-codable response	2	6.25%
Total		32	100%

The perceived impacts on student's learning process of the enhancement training are summarized in Table 2. Overall, coded responses show a positive effect of the training. The majority of the respondents noted that their students learned more as an impact of their training. This could be a result of the improvement of the conceptual understanding of teachers. Teachers are capable of clarifying misconceptions when they possess sufficient knowledge of the subject matter, and this has a positive impact on student's learning [13]. In addition, training can change teachers such that their students improve their learning, and without the support of teacher training, no positive change can be observed in student learning [10]. Students of teachers who have undergone training programs have been found to outperform those who are under untrained teachers [13]. Several more literature reported positive outcomes on reading, science learning, and general student outcome as a result of teacher professional development training [14–16].

Table 2. Perceived Impact on Student's Learning Process (n=32)

	Coded Responses	Frequency	Percentage
1.	Students are having fun in their classes	1	3.12%
2.	Students were more engaged and participative	3	9.38%
3.	Students learned more	23	71.88%
4.	Learning process was more contextualized	1	3.12%
5.	Students were more interested	2	6.25%
6.	No response/Non-codable response	2	6.25%
Total		32	100%

In this present study, teachers' professional growth was defined as promotion, an appointment to leadership positions, designation of various leadership responsibilities, and similar activities. For this reason, attendance at various professional seminars, workshops, and programs is more directly associated with teachers' professional growth,

especially in the Department of Education, where attendance to training and seminars are given merit points that can be used for promotions and ranking purposes. Although this seems to be the respondents' obvious response, about 40% said that their confidence was improved and allowed them to take on leadership positions or roles in the organization. Also, teacher confidence has been established to be a key element of teacher professionalism and professional capital [17].

Table 3. Perceived Impact on their Professional Growth (n=32)

	Coded Responses	Frequency	Percentage
1.	Gained points/score for promotion or were promoted	10	31.25%
2.	Improved their confidence to take on a leadership position	13	40.63%
3.	Provided them with more opportunities for other training	2	6.25%
4.	No effect on their professional growth	1	3.12%
5.	No response/Non-codable response	6	18.75%
	Total	32	100%

One of teacher training goals is to improve their ability to self-reflect and self-improve or increase their self-confidence or self-efficacy [10]. It has been established in several reports that teachers' professional development training has a positive impact on developing confidence in their practice [18–20]. With this, it is not surprising that the respondents answered that they became more confident in improving themselves and the science content they are teaching, as shown in Table 4. The development of teaching confidence is an obvious and expected outcome of the said training. Also, respondents reported having developed skills that are essential in designing learning activities for their students. This is highly likely since training and professional development have been noted to provide participants with opportunities to practice new skills and that they receive appropriate feedback in the duration of the training [21].

Table 4. Perceived Impact on Teacher's Confidence in Teaching (n=32)

	Coded Responses	Frequency	Percentage
1.	Became confident in improving oneself and in learning new things	7	21.87%
2.	Became more knowledgeable of important science topics and thus more confident in teaching	17	53.13%
3.	Developed important science process skills and practical skills	6	18.75%
4.	Developed skills in developing contextualized learning activities	2	6.25%
	Total	32	100%

4. CONCLUDING STATEMENTS

The perceived impacts of an adult-education science competency-based enhancement training on ALS Teachers were rapidly assessed using an open-ended survey questionnaire. The results revealed that the majority of the respondents perceived positive impacts towards their teaching process, the learning process of their students, their

professional growth, and their confidence in teaching. These perceived impacts are all expected as abundant literature supports positive outcomes of further professional development and training for teachers and other professions. This highlights the importance of careful consideration of enhancement training's training design to contribute positively to teachers and students. It is also recommended that a more detailed examination of the impacts be done as this study only considers the rapid assessment of perceived impacts.

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