Research Competency among Elementary School Teachers: An evaluative assessment for School-Based Action Research (SBAR)

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ABSTRACT

Teachers have been challenged to become professionally productive through research outputs. DepEd Memorandum no.114 s. 2014 mandated the teachers to conduct action research or assessment within their realm. A yearly congress for School-Based Action Research (SBAR) was done. However, the lack of research output remains a problem in every school district. This study aimed to determine the level of research competency among the elementary school teachers in Makilala West and Makilala Central Districts, Cotabato Division. Anchored on Corey's Theory on Curriculum Development and Research and Lewin's Theory on Research, this study employed a mixed method design. On the quantitative strand, 114 elementary classroom teachers were the respondents while 16 schools participated in the qualitative strand of the study. Following the merging of the

data, the quantitative and qualitative data showed divergence. Results revealed that the respondents were moderately competent in research. Digging on the problems encountered by the teachers for not conducting any research activity, the findings exposed that the poor background of teachers in research, the problem on schedule, overlapping of activities, and too much administrative work were the reasons behind their failure to submit their research output. To aid teachers in the preparation of scholarly research, an intervention plan was made.

Keywords — Action Research, competency, intervention plan, mixed method, Philippines

INTRODUCTION

Research competency is the combination of training, skills, experience, and knowledge that a person has and his ability to apply them to perform a task (Van Den Berg, 2016). It is the needed skill and experience to do research which could have been developed or enhanced through schooling, seminars and similar activities attended (Fuentes, 2017). Competency in research includes the ability to design, apply and disseminate research.

Research culture is a platform for problem-solving which needs pivotal thinking among every educational manager and teacher (Mohd, 2008). In Malaysia, Subahan (2012) found that research has become transparent in its usefulness since educational managers and teachers have now realized and admitted that research activities are important elements towards achieving excellence. A US study conducted by Buckley (2012) revealed that research experiences across Education Program incorporated fewer research activities than any other discipline. Findings regarding action research and its impact on the development of teaching professionalism have postulated that action research has improved the level of teaching professionalism - teachers have higher self-esteem and autonomy in the classroom context (Bennett, 1993), improved their teaching practices (Johnson, 1993), and increased job satisfaction from the pedagogical practice of teachers (Widdowson, 1984). Implementing collaborative action research in an in-service teacher training program contributes to teachers' knowledge construction, helps them gain practical teaching practices and builds up their confidence in teaching English (Chiou-hui, 2010).

The DepEd Memorandum no.114 s. 2014 mandated the teachers to conduct action researches or assessments within their realm to discover or identify classroom

problems or in the management of the school and giving solution or action to the problem for the improvement of teaching-learning process to produce quality learning outcomes. Even with the mandate, records indicated that there were only 3 out of 130 teachers at Makilala Central and West Districts in Cotabato Division who made the School-Based Action Research (SBAR) submitted and approved by the School's Division Superintendent. The data from Makilala West District showed that the teachers did not engage in research which was associated with some factors like the lack of competence to do research. In the same way, Arellano, Morano, and Nepomuceno (2012) also revealed that even after years of academic and exposure in the universities, students still hardly acquire the basic research knowledge skills. Graduates are supposed to have acquired the essential skills in research if they are to engage in research-related career path.

As classroom teachers, the researchers assessed the teachers' research competency as the basis for the intervention plan with regards to School-Based Action Research (SBAR) outputs.

OBJECTIVES OF THE STUDY

The study assessed the level of research competency as perceived by the elementary school teachers in terms of 1.Framing of research questions and capability of developing instrument; 2.Critical review of the literature and comprehensive theoretical knowledge; 3.Data collection related competencies, and 4.data analysis related competencies. Determining the problems encountered and addressing the issues of the teachers in conducting research were the basis of the study for crafting an intervention plan.

FRAMEWORK OF THE STUDY

This study was anchored on Corey's Theory on Curriculum Development and Research which stated that teachers urged to do research in their own practice scientifically so that they could evaluate their decisions and actions (Corey, 1953). Doing action research according to Corey's Theory is a process in which participants examine their own educational practice systematically and carefully, using the techniques of research.

Another theory that supported this study was the Lewin's Theory on research in social change which argued that communities that aspired to social change like the school would have to study the impact of their own actions and explore

their own norms and values (Elsevier Inc., 2011). Lewin (1947) revealed that the underlying goal of the researcher is to test a particular intervention based on a pre-specified theoretical framework, the nature of the collaboration between the researcher and the practitioner is technical and facilitatory.

This study used the Input-process-output design as its conceptual framework. It determined the level of research competency and as an output, a proposed intervention plan was designed. Figure 1 shows the diagram.
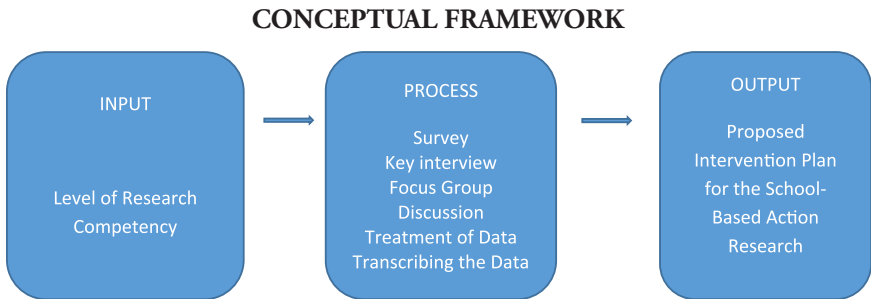
CONCEPTUAL FRAMEWORK

INPUT		PROCESS		OUTPUT
Level of Research Competency	→	Survey Key interview Focus Group Discussion Treatment of Data Transcribing the Data	→	Proposed Intervention Plan for the School-Based Action Research

Figure 1. The Conceptual Framework

METHODOLOGY

Research Design

The study employed both Quantitative-Qualitative methods of research using the phenomenological tradition. We used the concurrent timing wherein both qualitative and quantitative data were collected at the same time. A descriptive approach was employed to assess the level of research competency among the teachers along with the use of survey questionnaire as well as Key Interview (KI) and Focus Group Discussion (FDG). The concurrent quantitative and qualitative design in mixed method was utilized by the researchers with the purpose of comparing or merging quantitative and qualitative results to produce a more complete and validated conclusions. The merged the two sets to make an inference or interpretation of the results. We opted to use this kind of research design considering the desire to acquire first-hand data from the respondents/ participants to formulate rational and sound proposed intervention plan for the study.

Research Site and Respondents

The research was conducted in the 16 Elementary Schools in Makilala West District, Division of Cotabato. A total of 114 elementary school teachers of Makilala West District, Cotabato Division were chosen as respondents of the study using universal sampling technique. Moreover, in the qualitative data collection, five classroom teachers underwent Key Interview (KI) and 10 respondents were included in the Focus Group Discussion (FGD).

Research Instruments

A self-made survey questionnaire was designed to assess the level of research competencies among the respondents. The instrument comprised of subscales namely: framing research questions and capability of developing instrument; critical review of the literature and comprehensive theoretical knowledge; data collection related competencies and data analysis related competencies. The item statement measured each indicator with the use of a 5-point Likert Scale. The instrument was subjected to face and content validity and reliability test. The instrument was tested to 20 teachers and agreed that the variables used really measured what it wanted. The reliability rating was .968 which means that the instruments were highly reliable. No item was removed or rephrased. In addition, structured questionnaires were also prepared by the researchers for the Focus Group Discussion (FDG) and Key Interview (KI) to determine the problems met by the respondents in doing research.

Ethics Protocol

The study used informed consent from the respondents and applied confidentiality of information. There were letters of permission personally handed to superiors/leaders in the gathering of data. Respondents' consent involved in the research was considered adequate.

Data Gathering Procedure

A letter seeking permission to conduct the study was then presented by the researchers to the Schools Division Superintendent. In the same manner, a formal letter was given to the school principals of Cotabato Division. Having been granted the permission, the researcher conducted the assessment instrument. The retrieval of the survey tool took a week after its distribution.

In the Key Interview (KI) the researcher used their personal empathy to make the respondents feel more at ease and therefore more willing to tell their story.

In the Focus Group Discussion (FGD) the researchers properly observed and recorded all the responses of the participants so that during the analysis, no pieces of observation and reactions will be missed. Their gestures and reactions to the guide questions were also recorded fairly without addition or substitutions any statements. To ensure the trustworthiness of the qualitative study, the researcher strictly observed credibility, transferability, dependability, and conformability of the process.

Statistical Techniques

The data were analyzed using descriptive statistics like mean, frequency count and percentage to summarize the information.

RESULTS AND DISCUSSION

Quantitative Strand

Table 1. Level of Research Competency among Respondents

Framing of Research Questions and Capacity of Developing Instrument

Statements	Mean	Description
1. I can formulate a survey questionnaire.	3.21	Competent
2. I can identify an appropriate research instrument for my research question.	3.15	Competent
3. I can generate information out of my questionnaire.	3.18	Competent
4. I can identify researchable questions.	3.11	Competent
5. I can conduct the survey instrument in collecting data.	3.05	Competent
Over-all Mean	3.14	Competent

Critical Review of Literature and Comprehensive Theoretical Knowledge

Statements	Mean	Description
1. I am skillful and knowledgeable about reviewing literature.	3.08	Competent
2. I can organize the review of related literature.	3.09	Competent
3. I can synthesize and critically review a body of literature.	2.46	Competent
4. I can distinguish my authors, references and other literature cited.	3.33	Competent
5. I can locate related literatures in library clippings.	3.30	Competent
6. I can find research articles from both primary and secondary sources.	3.14	Competent

7. I can anchor my study on a theory.	3.08	Competent
8. I can analyze what is the best theory to be used.	3.04	Competent
9. I can make the conceptual framework.	2.99	Competent
10. I can conceptualize my study on a schematic presentation.	3.02	Competent
Over-all mean	3.38	Competent

Data Collection Related Competencies		
1. I can do a data collection through a questionnaire.	3.43	More Competent
2. I can collect data through interviews, anecdotal records, journals, group discussion, and others.	3.38	Competent
3. I can communicate with others using the e-mail in the data collection.	3.05	Competent
4. I can use different means of data collection like interviews, portfolios, questionnaire, journals, survey, group discussion, and others.	3.23	Competent
5. I can distinguish primary and secondary data from the sources.	3.12	Competent
Over-all Mean	3.24	Competent

Data Analysis Related Competencies		
1. I can discuss the findings of the study.	3.15	Competent
2. I can formulate a recommendation based on the finding.	3.15	Competent
3. I can identify different measurement scales.	3.10	Competent
4. I can interpret the data gathered.	3.12	Competent
5. I can identify relationships between variables.	3.06	Competent
6. I can forecast outcomes in data analysis.	2.99	Competent
7. I can analyze information through statistics.	2.96	Competent
8. I can determine sample from a given population.	3.11	Competent
9. I can use an appropriate statistical tool based on the research problem and the type of data.	2.88	Competent
10. I can generate data using the appropriate statistical tool.	2.92	Competent
Over-all Mean	3.04	Competent
Grand Mean	**3.20**	**Competent**

Table 1 displays that the highest result is on the aspects of critical review of the literature and comprehensive theoretical knowledge with a mean of 3.38 described as competent. The lowest mean is on data analysis related competencies with a mean of 3.04, described as competent. The over-all mean level is 3.20, described as competent which implies that the teachers are competent in research. It means that respondents have the mastery of skills needed to understand the research process to design and conduct a systematic, empirical, objective, public and critical investigation of an identified problem or an issue. The findings of the study are supported by Whelan, Thomas, and Madden (2006) which show that intensive learning experience could develop the research skills of students which may also be of benefit to other health professions with similar student demographics.

Table 2. Themes and core ideas on the problems encountered in conducting research among participants

Themes	Frequency of responses	Core Ideas
● Lacks background in research	General	Teachers' comprehensive knowledge in research is low.
● Overlapping of activities	General	Teachers have lots of tasks to accomplish than teaching.
● Time Constraints	General	Teachers cannot prioritize research work due to hectic school activities and workloads.
● More administrative work	Typical	Teachers prioritize school requirements than spending their time to do research.

Table 2 shows the themes and core ideas on the problems encountered by teachers in conducting research. Based on the gathered responses from the participants, it was revealed that teachers need to strengthen their technical knowledge in the field of research aside from the problem on the overlapping of activities, time element, and administrative work. Teachers' involvement in the various co-curricular activities of the department hinders the participants in their failure to produce their research outputs.

Furthermore, an intervention plan was formulated to address issues on the level of research competency among elementary school teachers and the problems encountered by participants in the conduct of research. This may serve as a guide to administrators in the implementation of the intervention plan.

PROPOSED INTERVENTION PLAN ON PROBLEMS ENCOUNTERED BY TEACHERS IN DOING RESEARCH

To address the issues and problems encountered by the teachers on the research competency, a proposed intervention plan is presented:

Rationale

Research is part and parcel in the teaching profession. Doing action research makes every teacher grow professionally, and most probably learners will benefit most. Teacher's action because of research lead to improved pupil performance, increased motivation, commitment, and better behavior. Classroom issues may be addressed with the help of the scientific investigation. Teachers must be equipped to conduct their own research, individually, and collectively, to investigate the impact of particular interventions or to explore the positive and negative effects of educational practice.

Although the findings of the study indicate that the level of research competency of the teachers was described as competent, there is still a need to improve and enhance the skills for a reason that there were only 3 out of 130 teachers in Makilala West District who complied and passed the School-Based Action Research (SBAR) to the office of the School's Division Superintendent.

General Objectives

This intervention plan has the following objectives:

1. To provide an opportunity for DepEd officials such as DepEd Secretary, Regional Director, Superintendent, District Supervisor, and School Administrator to review their program on the professional development for teachers specifically on the conduct of School Based Action Research (SBAR).
2. To provide an avenue for the teachers to solve their personal issues in the conduct of research by participating and attending seminars and trainings regarding research competency that will improve their efficiency and effectiveness in making School-Based Action Research (SBAR).
3. To pose a challenge to the teachers to look into their plan to address their problems in conducting research.

Area of Concern	Specific Objective	Activities	Persons' Involved	Time Frame	Budget & Sources of Funds	Output
Poor background of teachers in research (*teachers lack the understanding of the process in conducting research*)	To become competent in research.	A seminar-workshop that would enhance their skills in conducting research.	Resource Person Teachers School heads	At the end of every semester. (Oct. 2017) (April 2018)	P20,000 School MOOE	Teachers become competent in conducting research.
Lack of time in research due to overlapping of activities (*teachers are loaded with many activities and choose it as their priority than doing research*)	To use proper time wisely and proper scheduling of activities	A seminar or in-service training on time management and proper scheduling of school activities.	Resource Person Teachers School heads	October 2017	P10,000 District MOOE	Teachers manage their time wisely in conducting research.
Lack of Training in research (*teachers don't have the opportunity to attend seminars on research because it is seldom done in the public schools*)	To attend seminar or training in research that would give equal opportunity for all teachers.	Training/ seminar in research that would come up with a unified format of School-Based Action Research (SBAR).	Resource Person Teachers School heads	October 2017 and April 2018	P20,000 SEF & MOOE	Teachers acquire knowledge in formulating research design and come up with a unified SBAR format.
Poor background of teachers in Statistics for research (*teachers don't have the opportunity to attend seminars on statistics because it is not a priority topic of the DepEd*)	To become competent in Statistics for research.	A seminar that would give teachers an opportunity for hands-on experience in statistics.	Resource Person Teachers	November 2017	P15,000 School IGP	Teachers become competent in Statistics for research.

Area of Concern	Specific Objective	Activities	Persons' Involved	Time Frame	Budget & Sources of Funds	Output
Too much administrative work which neglects research (*teachers are being loaded with paperwork especially the SBM profiling and document preparation*)	To manage and work effectively and efficiently without neglecting research.	A seminar on administrative management for school heads.	Resource Person School heads	October 2017	P10,000 District MOOE	School heads administer their work properly in which research cannot be neglected.
Framing the research questions and capacity of developing instrument (*teachers have the difficulty in crafting research problems and developing the instrument*)	To formulate research questions and instrument.	A seminar/workshop that would develop their skills in framing research questions and instrument.	Resource Person Teachers School heads	September 2017	P15,000 IGP School MOOE	Teachers develop skills in framing research questions and Instruments.
Data collection and analysis (*teachers lack the knowledge in terms of the protocols in data collection and the treatment of the data gathered*)	To analyze the data comprehensively and scholarly.	A seminar/workshop on research design that would develop their skills in data analysis.	Resource Person Teachers *School heads	August 2017	P15,000 IGP SEF	Teachers enhance skills in analyzing and collecting data for research.

CONCLUSIONS

Based on the findings revealed in the study the following conclusions were drawn. The teachers were competent in terms of research competency in the quantitative strand. However, the issues and problems encountered in conducting research were revealed in the qualitative strand.

With the merging of the quantitative and qualitative results, data showed a divergence since quantitative data revealed that the respondents are competent in the research. However, the qualitative data have identified essential factors that hindered the researchers to submit their research outputs.

TRANSLATIONAL RESEARCH

The findings of the study may be best translated into various media communication for information dissemination if not, further awareness campaign. Indigenous materials such as wall newspaper, one-act play, among others may be designed for stakeholders from the remote areas, and social media, mass media (TV, newspaper, and radio) may be used in the information dissemination.

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