CULTIVATING RESEARCH CULTURE: CAPACITY BUILDING PROGRAM TOWARD INITIATIVES TO IMPROVE TEACHERS SELF-EFFICACY , RESEARCH ANXIETY AND RESEARCH ATTITUDE

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Article history:		Abstract:
		The teaching-learning process is built on evidence-based practice. Teachers must consider the research foundations in order to apply evidence-based practice effectively. According to previous results, only a few teachers at the school participate in action research. It suggests that the school's research culture has not yet been completely accepted, despite the fact that it is being promoted which is articulated on the training needs assessment indicate that teachers need a lot of training in doing action research. On these premises, a study was carried out to assess the effectiveness of capacity building program toward initiatives to improve the teacher's self-efficacy, research anxiety and research attitude. It employed descriptive -evaluative research design. It administered likert questionnaires to 50 teachers. Data were analyzed using descriptive and inferential statistics. The results revealed that most of the teacher respondents are Technology Livelihood Education Teachers with a 6 – 10 years of teaching in the public school and bachelor's degree holder. More so, teachers have high research self-efficacy, low anxiety, and high positive attitude toward conducting action research. Notably, Teacher described the capacity building program towards research initiative in conducting action research as highly effective. However, the level of the research culture index of the school were fair which the scored below 80%. It showed that significant relationship between research self-efficacy, research anxiety, and research attitude and the profile of novice teachers – researchers. Similarly, there was a statistically significant association between research self-efficacy, research anxiety, and research attitude among novice teachers – researchers. When novice teachers – researchers are categorized according to profile, there is a substantial gap in the evaluation of research self-efficacy, research anxiety, and research attitude. This study recommended to adapt these capacity building program in the division level to help the teachers raise their level of capability in research.

INTRODUCTION

"Research cultures are not "born", they are "made". It is compared to a foolish gardener who throws seeds into an unprepared soil, provides no nutrients, and trusts that the resultant plant will grow strong, healthy, and well-shaped. A research culture is like the plant. The plant needs to be compatible with the soil and location into which it is planted; the soil into which it is planted needs to be well tilled and fertilized; during its formative stages it may need to be staked and pruned; it will need regular watering necessary for a healthy research culture to flourish (Ferguson, 1999)".

Research culture may be described as shared values, beliefs, attitudes, and norms affecting the carrying out of research tasks in an institution. According to Department of Education, research culture is the regular exercise of

systematic inquiry to improve program and policy development and implementation (DepEd 16 s., 2017). Culture is expressed through practices and statements - through the way people act and the way they express themselves. Polk (2010), working from a nursing background, examined the components essential to the development of a research culture and concluded that these are: (1) the researchers' knowledge and expertise (2) the institution's values, beliefs and norms and (3) the institution's material artifacts. drawing on Polk's work, explained: "Knowledge comes in the form of individual research skills and experiences. The values and norms become embedded in the concepts of motivation and support. The material artifacts constitute the facilities and tools necessary for research." Hill (2010), described the steps she took to introduce a research culture within a clinical setting:

"...Research culture occurs in three phases: (a) a "birthing phase" involving orientation and the introduction of research tools; (b) a "bonding phase" when each unit developed their research agenda; and (c) finally, a "stabilization phase" when policies are established."

Moreover, Ferguson (1999) as cited by Dacles et al. (2016) emphasized that a research culture within an institution, then, may be summarized as the knowledge about research topics and processes which are sanctioned as appropriate and relevant; the values, beliefs, attitudes and norms which surround the research process within the institution; and the various material ways in which the institution supports or denies support to its researching individuals and groups. New values, beliefs and norms about research develop as individuals and groups attempt to carry out research projects and to "push the boundaries" of what the institution has previously approve.

The present demand for institutional research productivity in Philippine Basic Education is triggered by a dismal national literacy rating in the 2018 Program for International Student Assessment (PISA). As 21st century facilitators of learning, teachers are enjoined to conduct education research and utilize its results in the planning, policy and program development as part of Basic Education Research Agenda (Capulso, 2020).

Teachers are essential part educational system, they are entrusted by the public and private organization to impart knowledge, assist the learners to develop skills, and help the learners develop skills and attitude toward self, developing learners holistically leading to development of life-long learners. In order to achieve these goals, teachers must be able to possess 21st century skills and be able to address problems inside the classroom.

Teachers can have a major influence on the way students learn and develop. Classroom teachers who have an impact on students' lives are those who have a genuine interest in students, know their subject matter and possess detailed information about instructional processes and the way students learn and develop (Amedu cited by Jordan, 2018).

According to Plaza (2018), the Philippines's lackluster performance in producing innovators, researchers (81 researchers per million population versus 205 in Indonesia and 115 in Vietnam) and knowledge producers (28 out of 777 journals, or 3.6 percent are listed under Thomson Reuters, Scopus or both) indicates that the country has lagged behind many of its Asian neighbors in producing researchers, innovators and solutions providers needed to effectively function in a knowledge economy and education.

The Department of Education as an agency of the government should take part in addressing problems particularly the teaching-learning process. In other words, the teachers should conduct research relative to the solutions of the problems in their classrooms which will in turn improve the educational system of the country. Although there is no specific mandate coming from the higher authorities of the Department of Education requiring teachers to conduct research, conduct of research should be promoted by the middle level educational managers in order make realistic decisions. To corroborate this concept, the DepEd issued DO No. 65, s. 2003 which institutionalizes the research-based decision and policy making in the department. This order stipulates that policies in the department should be based on research.

Nowadays, the Department of Education encourages school personnel especially teachers to conduct action research to strengthen teacher's research capabilities. Valdez and Lapinid (2015) stated that in teacher education programs, action research has become a viable option in institutions as it provides a contextual base for candidates to apply their learning inputs in their respective settings leading to critical reflection and practice.

With the increased need for developing core competencies in the workplace, educational institutions are aggressively devoting a considerable amount of time and resources to integrating research training in their agenda. Ulla, Barrera and Acompanado (2017) clearly mentioned that in the Philippines, the Department of Education (DepEd) has issued an order to all of its school heads, supervisors, and teachers for the adoption of "the enclosed Basic Education Research Agenda" which promotes the "conduct of education research" in the country.

Furthermore, research should convey information on raising the quality of education and anchored as well on the four pillars of Sulong Edukalidad: 1) K to 12 Curriculum review and update; 2) Improvement of learning environment; 3) Teachers' upskilling and skilling; and 4) Engagement of stakeholders for support and collaboration (SDM, 176 s. 2020).

The purpose of which is to identify teachers and department's concerns and problems, and to recommend solutions based on the results and findings made. With professional growth and development as one of the key result areas for the individual teacher's performance commitment and review, doing action research has already become part of the annual performance appraisal for all teachers. It comprises five percent of the total score in the individual teacher's evaluation. However, doing action research in the Philippine public elementary and secondary schools may not be that popular as a number of these teachers are not equipped with the necessary knowledge on

what action research is and how to do it. DepEd has been doing significant ways to update and inform the public-school teachers about the importance of doing research, to their classroom, to the academic performance of students but many teachers in both elementary and secondary schools were uninterested and demotivated.

To encourage teachers to conduct research, DepEd Order no. 24, s. 2010 known as the Basic Education Research Fund (BERF) was issued stipulating therein the financial assistance to be allocated to those who are interested in doing researches. However, despite this financial support amounting to two million pesos every year for every region, only a few are still conducting researches as based on the Division Research Performance of Graceville National High School from School Year 2015 – 2019, one research was conducted in 2015 and three researches was conducted in 2019 a total of four research since 2010 when the national government started to allocate budget. It is an indication that research culture in the Graceville National High School has not yet been fully embraced although being encouraged. As evident in 2019 - 2020 training needs assessment results for research – related core competencies with a composite mean score of 3.53 described as high training needed.

Therefore, through capacity building program is considered to be a vehicle through which teachers are being given the chance to enhance their knowledge and skills. In the prevalent form of capacity building program, action research deliberates the characteristic of effective professional development which supports student's learning. In action research, teachers are able to focus on specific classroom needs of the learners that needed attention. It also helps teachers to evaluate their own pedagogy critically and analytically and to discover what is effective in improving classroom practice. It also provides justification for the actions made that will be helpful for them in building repertoire, identify problems and arrive solutions for improvement (Lejarde, 2017).

According to Peña (2018), professional development through capacity building program is needed for educators to overcome limited applications in teaching and learning. Professional development framework is needed which promotes on-going professional development as teachers must build and acquire new knowledge to build a conceptual understanding of it. Educators should observe models and examples which seek to study instructional and develop practical understanding of a particular research. For curricular and instructional change, educators may also translate new knowledge and ideas into individual and collaborative plans.

Action research is a factor to be considered in improving the school's curriculum for teacher researchers, school administrative staff and other stakeholders in the teaching and learning environment. The main goal of action research is to define ways on how to enhance the lives of the students within the education, and at the same time, to enhance the lives of those professionals who are working within the educational systems. Action research is a valuable practice to undertake for teachers as it offers a collaborative, systematic and participatory process of analysis that actively searches for areas of concern or redress for teachers. Additionally, action research provides teachers with specialized knowledge and technical skills which will require influencing constructive change within classrooms, schools, and communities (Galarion, 2018).

According to Marcelo (2018), action research is a logical process to study and collect data that can help teachers and other educational personnel to recognize and develop their practice. Any teacher or a school-based question, topic or problem is important to action research and may be used to start the process of conducting action research. Action research has dramatically gained support from educators, but others do not view it as a legitimate form of research and inquiry. Many researchers view it as an informal, rather than a more rigorous approach to educational approach. The practical and limited aspect of most action research, plus the fact that teachers are the primary researchers leads to distinguishing action research as "applied" research rather than "true" research. It is therefore argued that while this distinction has some validity, it is also true that some action research serves an important role in improving schools.

There is already agreement among researchers regarding the fact that positive attitudes significantly affect teachers' success in conducting action research (Polit, 2014). Teachers' attitudes and approaches towards learning research are of as much importance as their career success. Akcoltekin (2016) considering the competencies of individuals in today's society, there is a need for problem solving, research-oriented, questioning, productive, constructive, and creative individuals who can approach incidents as a scientist (Michael, 2014). Many countries revise their science programs in order to equip individuals with 21st Century skills such as cooperation, critical thinking and creativity (Ravitz, Hixson & Mergendoller, 2014).

In the conception of education of the 21st century, it is emphasized that raising individuals who can recognize the problems and have the ability to solve them, who can use research techniques and have a positive attitude towards scientific research has come to the forefront. In order to produce information, the individual has to have the ability to think scientifically.

Konokman, Yelken and Yokus (2015) stated that acquisition of research qualifications is one of the most demanded learning outcomes of education faculties. There is great emphasis on building a research identity by developing the skills of educators in the department of education faculties.

Conducting action research can help classroom teachers to come up with interventions or solutions to address problems commonly encountered by teachers. These actions or interventions can contribute to solve identified problems and eventually leading to the improvement of the teaching-learning process.

The study is anchored on the Salazar- Clemeña and Almonte-Acosta's Research Culture framework which are encompasses on research agenda, guidelines, and policies on research incentives, facilities and services for

research, publications, and faculty's capability for research. Salazar-Clemeña and Almonte-Acosta's Research Culture framework (2009) assumed that attitudes and values concerning research within the institutional and organizational levels affect research productivity.

The researcher as the school research coordinator would like to conduct a study on effectiveness of capacity building program towards research initiatives to improve the teachers' level of research self-efficacy, research anxiety and research attitude among the Faculty members of Graceville National High School. The results of this study will basis for crafting of action research manual for novice teacher – researchers.

RESEARCH QUESTIONS

This study determined effectiveness of capacity building program towards research initiatives to improve the teachers' level of research self-efficacy, research anxiety and research attitude among the Faculty members of Graceville National High School. Specifically, this research sought to answer the following questions:

1. How may the profile of the novice teachers – researcher be described in terms of:
    1.1 Areas of specializations
    1.2 Years of teaching; and
    1.3 Educational Attainment
2. How do novice teacher – researchers of Graceville National High School assess the capacity building program for action research in terms of?
    2.1 research self-efficacy.
    2.2 research anxiety and
    2.3 research attitude.
3. How effective that capacity building program towards research initiative in conducting action research?
4. Is there a significant relationship between research self-efficacy, research anxiety, and research attitude towards research initiative in conducting action research and the profile of novice teachers – researchers?
5. Is there significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile?
6. Is there a significant relationship among research self-efficacy, research anxiety and research attitude among novice teachers – researchers?
7. After the implementation of the capacity building program, what is the level of the Research Culture Index of Graceville National High School?

METHODS

The made use of the descriptive- evaluative research design as methods of research utilizing survey form to assess the teachers' level of research self-efficacy, research anxiety and research attitude among the Faculty members of Graceville National High School. The respondents of the study were the fifty (50) public secondary teachers composed of nine (9) Senior High School Teachers and forty - one (41) Junior High School Teachers in Graceville National High School and then ten (10) of the respondents regardless of the department will undergo interview, the number of respondents was pre-determined by the researchers and was selected using purposively. The study made use of the standardized four-point Likert scale questionnaire devised to answer the specific problems of the study. It was subjected to validation by four (4) research experts or research coordinators from the School Division of San Jose del Monte City, Bulacan and the suggestions were considered in the finalization of the four-point Likert scale questionnaire. Data gathered from this study were subjected to the following statistical treatments: The *percentage* and frequency distribution are used to determine the frequency counts and percentage distribution of personal related variables of the respondents. For assessing the teachers' level of research self-efficacy, research anxiety and research attitude analyzed using weighted mean. Analysis of variance (ANOVA) was used to check if the means of two or more groups are significantly different from each other specifically the significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile. Chi-square test as its statistical treatment since the variable, demographic profile, is nominal. Chi-square test is used to measure the relatedness of the research self-efficacy, research anxiety, and research attitude towards research initiative in conducting action research and the profile of novice teachers – researchers. More so, on the relationship among research self-efficacy, research anxiety and research attitude among novice teachers – researchers. For research culture index, the extent of readiness index was utilized.

RESULTS AND DISCUSSION

The data collected in this study were comprehensively, analyzed and interpreted to established clarity and consistency.

Table 1: Demographic Profile of the Novice Teachers – Researchers
1.1   Areas of specializations

Teachers' Specialization	Frequency Distribution	Percentage Distribution
English	7	14
Mathematics	9	18
Science	6	12
Filipino	6	12
Social Studies	5	10
TLE	10	20
Values Education	1	2
MAPEH	6	12
Total	50	100

Looking at the Table 1.1 was the demographic profile of the novice teachers – researchers as regards to areas of specialization.

Taking into account the data provided on the table, it indicates that Technology   Livelihood   Education Teachers have the majority of populations with ten (10) respondents or 20% in terms of specialization, whereas nine (9) respondents or 18 % was mathematics teachers. In addition, there was six (6) or 12% of Science, Filipino and MAPEH teachers, then, five (5) respondents or 10% are teachers in social studies. Finally, in the analysis, Values teacher was just one (1) respondent or 2%.

1.2   Years of teaching in Public School

Teachers' Specialization	Frequency Distribution	Percentage Distribution
1 – 5 yrs.	16	32
11 – 15 yrs.	2	4
6 – 10 yrs.	32	64
Total	50	100

Presented on table 1.2 was the demographic profile of the novice teachers – researchers as regards to years of teaching in public school. As presented on the table, the first bracket, 6 – 10 years, has the majority number of populations with thirty-two (32) respondents or 64%. More so, sixteen (16) respondents or 32% are 1 – 5 years. And for the last bracket, the two (2) respondents or 4% are 11 – 15 yrs. years in teaching in public school.

1.3 Educational Attainment

Teachers' Specialization	Frequency Distribution	Percentage Distribution
Bachelor's degree	30	60
with Master units	12	24
with Master's degree	5	10
with Doctoral units	1	2
with Doctoral degree	2	4
Total	50	100

Shown on Table 1.3 was the demographic profile of the novice teachers – researchers as regards to educational attainment. Presented on the table, it indicates that majority of populations was bachelor's degree holder with thirty (30) respondents or 60%, whereas twelve (12) or 24% has master's degree units, five (5) respondents or 10 % has master's degree, two (2) respondents or 4 % completed the doctoral degree. Lastly, with Doctoral units was just one (1) respondent or 2%.

Table 2: Assessment of Novice Teacher Researchers on the Capacity Building Program for Action Research in terms of :

2.1 Research Self-efficacy.

STATEMENT	WM	VI
1. The ability to do effective electronic data base searching of the scholarly research literature.	2.69	High
2. The ability to design and implement the best measurement approach for the action research.	2.53	High
3. The ability to review an area of theory and research and write a balanced and comprehensive literature review.	2.59	High
4. The ability to effectively present scientific findings both verbally and in written form.	2.65	High
5. The ability to design and implement the best sampling strategy for the action research.	2.51	High
6. The ability to read and understand action research findings and discussions in academic journals.	2.78	High
7. The ability to choose an action research design that will answer a set of research questions and/or will test a set of hypotheses.	2.53	High
8. The ability to identify implications for future research.	2.71	High
9. The ability to interpret and understand statistical printouts.	2.43	Low
10. The ability to design and implement the best data analysis strategy for the action research.	2.43	Low
11. The ability to formulate a clear scientific research question or testable hypothesis.	2.67	High
12. The ability to identify and report limitations of the study.	2.55	High
13. The ability to use various technological advances effectively in carrying out action research.	2.67	High
14. The ability to identify and report limitations of the action research.	2.55	High
15. The ability to use various technological advances effectively in carrying out action research.	2.61	High
TOTAL	2.60	High

The Table 3.1 established the Assessment of Novice Teacher Researchers on the Capacity Building Program for Action Research in terms of Research Self-efficacy.

Looking forward, the data presented on the table, for indicator 6, "The ability to read and understand action research findings and discussions in academic journals", the computed weighted mean for teacher respondents was 2.78 interpreted to be high. Also, indicator 8, "The ability to identify implications for future research", the computed weighted mean for teacher respondents was 2.71 interpreted to be high. Likewise, indicator 11, "The ability to formulate a clear scientific research question or testable hypothesis", and indicator 13, "The ability to use various technological advances effectively in carrying out action research", reflects a weighted mean of 2.67 interpreted to be high. And indicator 4, "The ability to effectively present scientific findings both verbally and in written form ", the weighted mean was 2.65 and interpreted to be high. More so, indicator 15, "The ability to use various technological advances effectively in carrying out action research", the weighted mean was 2.61 and interpreted to be high. In addition, indicator 3, "The ability to review an area of theory and research and write a balanced and comprehensive literature review", the weighted mean was 2.59 and interpreted to be high. Also, indicator 12, "The ability to identify and report limitations of the study", and indicator 14, "The ability to identify and report limitations of the action research" the weighted mean was 2.55 and interpreted to be high. More than, indicator 2, "The ability to design and implement the best measurement approach for the action research", and indicator 7, "The ability to choose an action research design that will answer a set of research questions and/or will test a set of hypotheses", the weighted mean was 2.53 and interpreted to be high. Similarly, indicator 5, "The ability to design and implement the best sampling strategy for the action research", the weighted mean was 2.51 and interpreted to be high.

The data supported the finding of Anzaldo & Cudiamat (2019), probed in their studies that teachers are knowledgeable in writing an action research in terms of its parts, different types and significance based on their agreement of the basic principles of writing research. It is suggested that continuous professional development focusing on research capacity building be done to upgrade and strengthen teachers' skills in writing educational research to improve the teaching and learning process.

Taking aside, indicator 10, "The ability to design and implement the best data analysis strategy for the action research", and indicator 9, "The ability to interpret and understand statistical printouts", reflects a weighted mean of 2.43 interpreted to be low.

Like what has been highlighted in a research study by de Gracia and Valdez (2017) that the research proponents in the schools Division of Nueva Vizcaya for school year 2015-2016 reflected difficulty in identifying statistical tools to analyze the data and organizing and presenting data in tables, graphs, and charts. Relatively, Dullas (2020), asserted that teachers performed within the learning level in their actual outputs in quantitative research writing specifically data analysis and interpretation of data. The study Benigno (2019), enumerated in her studied that teachers have low research self-efficacy when it comes the ability to interpret and understand statistical materials. In addition, Basilio & Bueno (2019) conducted a quantitative research, the data revealed that there is very small percentage of the MTs have attended research-related trainings or conferences and undertaken, published or presented research. They have fair skills in designing experimental study as well as selecting and developing research instruments, choosing appropriate statistical tools and preparing manuscript for publication.

These findings are also supported by the verbatim statement of the respondent as says:

"I think I am having a hard time in choosing the appropriate statistical tool to use to answer the statement of the problems."

Data shows that teacher respondents are anxious when it comes to improving statistical skills in action research, may be judged as a quality work, possibility of the manuscript not being accepted for publication or presentation, apprehensive about being able to synthesize the findings.

The over-all weighted mean of 2.60– all of which are interpreted as high. In view of the assessment results, it can be inferred that through capacity building program for action research, teachers have high research self-efficacy when it comes the ability to do effective electronic data base searching of the scholarly scientific literature, design and implement best measurement approach for action research, review a particular area of scientific theory and research, and write a balanced and comprehensive literature review, effectively present scientific findings both verbally and in written form, design and implement the best sampling strategy for the scientific study, read and understand action research findings and discussions in academic journals, choose a scientific research design that will answer a set of research questions and/or will test a set of hypotheses, identify implications for future research, formulate a clear scientific research question or testable hypothesis, identify and report limitations of the study, use various technological advances effectively in carrying out scientific research, identify and report limitations of the scientific study and use various technological advances effectively in carrying out scientific research.

2.2 Research Anxiety

STATEMENT	WM	VI
1. The teacher needs to improve his action research skills.	3.06	Agree
2. The teacher needs to improve his/her statistical skills in action research.	3.04	Agree
3. It bothers the teacher that his/her action research may not be judged as a quality work.	1.82	Disagree
4. When the teacher conducts action research, He/She worries about the possibility of the manuscript not being accepted for publication.	1.92	Disagree
5. When reading research articles, the teacher is apprehensive about being able to synthesize the findings.	1.92	Disagree
6. Teacher produces action research that is respected by my peers.	2.78	Agree
7. When the teacher conducts action research, He/She worries about the possibility of using incorrect data analysis.	1.71	Disagree
8. It bothers the teacher that his/her action research may not be judged as acceptable by reviewers/panelist for research congress.	2.78	Agree
9. When the teacher conducts research, he fears that it is poor compared to others in his/her field.	1.67	Disagree
10. The teacher often feels uncomfortable when discussing action research methods.	1.57	Disagree
11. When working on an action research project, the teacher experiences anxiety.	1.71	Disagree
12. The teacher is confident when preparing an action research methodology of a study for possible publication in a referred research journal.	2.63	Agree
13. The teacher is confident when conducting the data analysis of a study for possible publication in a referred research journal.	2.63	Agree
14. The teacher is confident when writing the theoretical framework for a research.	2.61	Agree
15. The teacher is confident when writing the conclusions of a study for possible publication in a referred research journal.	2.61	Agree
TOTAL	2.17	Disagree

The table 2.2 denotes the assessment of novice teacher researchers on the capacity building program for

action research in terms of research anxiety.

Cognizantly, on the assessment of teacher respondents, for indicator 1, "The teacher needs to improve his action research skills.", the weighted mean was 3.06 and interpreted to be very high.

Concomitant to indicator 2, "The teacher needs to improve his/her statistical skills in action research", the weighted mean was 3.04 and interpreted to be agree.

Engagingly, indicator 6, "Teacher produces action research that is respected by my peers", and indicator 8, "bothers the teacher that his/her action research may not be judged as acceptable by reviewers/panelist for research congress", the weighted mean was 2.78 and interpreted to be agree.

Relatively, indicator 12, "The teacher is confident when preparing a action research methodology of a study for possible publication in a referred research journal", and indicator 13, "The teacher is confident when conducting the data analysis of a study for possible publication in a referred research journal", the weighted mean was 2.63 and interpreted to be agree. Similarly, indicator 14, "The teacher is confident when writing the theoretical framework for a research", and indicator 15, "The teacher is confident when writing the conclusions of a study for possible publication in a referred research journal", the weighted mean was 2.61 and interpreted to be agree.

Affirmatively, indicator 4, "When the teacher conducts action research, He/She worries about the possibility of the manuscript not being accepted for publication", and indicator 5, "When reading research articles, the teacher is apprehensive about being able to synthesize the findings", reflects a weighted mean of 1. 95 interpreted to be disagree.

In contradiction, indicator 3, "It bothers the teacher that his/her action research may not be judged as a quality work", cogitate a weighted mean of 1. 82 interpreted to be disagree.

Connectedly, indicator 7, "When the teacher conducts action research, He/She worries about the possibility of using incorrect data analysis", and indicator 11, "When working on an action research project, the teacher experiences anxiety", the weighted mean was 1.71 and interpreted to be disagree.

Proportionally, indicator 9, "When the teacher conducts research, he fears that it is poor compared to others in his/her field', the weighted mean was 1.67 and interpreted to be disagree.

Lastly, indicator 10, "The teacher often feels uncomfortable when discussing action research methods", the weighted mean was 1.57 and interpreted to be very high.

The over-all weighted mean was 2.17 which interpreted disagreement that teacher experiencing anxiety toward action research . In view of the assessment results, it can be inferred that through capacity building program for action research, teachers have high positive towards on the conduct of action research.

Ashrafi-riz et al., (2014), studied on research anxiety among faculty members of Isfahan University of Medical Sciences, the data revealed that the average anxiety research in IUMS was about. Among identified factors includes the highest scores in descending order are related to lack of timely payment of fees, the long approval process of proposals and research project reporting and lack of research efficiency on the part of faculty. The lowest scores were related to having insufficient funds to conduct research, another is understanding of inability for researching, and unfriendly behavior from journals and research center staffs. The study implies that the mean level of research anxiety among faculty members of IUMS was found higher than average. So, it is essential that authorities pay greater attention to the factors that cause research anxiety.

Ulla et. al (2017), asserted that teacher-respondents had a positive perception towards doing research and its benefits to their teaching practice and students' learning process. Thus, job promotion is the motivating factor why teachers did research.

2.3 Research Attitude.

STATEMENT	WM	VI
1. Action research is important for me.	3.27	**High Positive**
2. Action research should be taught to all students.	3.55	**High Positive**
3. Many important discoveries are the result of the action research.	3.57	**High Positive**
4. Research is very valuable	3.57	**High Positive**
5. Action research is an important step toward discovering the new pedagogies and teaching practices.	3.53	**High Positive**
6. Action research is interesting	3.24	**High Positive**
7. The teacher enjoys conducting action research.	2.86	**High Positive**
8. The skills the teacher has acquired in research will be helpful to him in the future.	3.39	**High Positive**
9. Doing action research is a waste of time.	1.65	**Very Low Positive**
10. action research can help expand knowledge.	3.65	**High Positive**
11. The teacher uses research in his daily life	3.29	**High Positive**

12. Action research is tedious task.	**2.84**	**High Positive**	
13. Action research is important for him.	**3.29**	**High Positive**	
14. Research should be taught to all students.	**3.55**	**High Positive**	
15. Many important discoveries are the result of the action research.	**3.61**	**High Positive**	
TOTAL	**3.26**	**High Positive**	

As can be gleaned from the analysis from table 2.3, shows the assessment of novice teacher researchers on the capacity building program for action research in terms of research attitude were high positive attitude as shown by the overall computed weighted mean of 3.26.

Paramount to indicator 10, "action research can help expand knowledge", the weighted mean was 3.65 and interpreted to be very high. Also, indicator 15, "Many important discoveries are the result of the action research", the weighted mean was 3.61 and interpreted to be very high. Similarly, indicator 3, "Many important discoveries are the result of the action research", and indicator 4, "Research is very valuable", gained a weighted mean of 3.57 interpreted to be very high. More so, indicator 2 "Action research should be taught to all students", and indicator 14, "Research should be taught to all students", reflects a weighted mean of 3. 55 interpreted to be very high. In addition, indicator 5, "Action research is an important step toward discovering the new pedagogies and teaching practices", the weighted mean was 3.53 and interpreted to be very high. Affirmatively, indicator 8, "The skills the teacher has acquired in research will be helpful to him in the future", gained a weighted mean of 3.39 interpreted to be very high. Likewise, indicator 11, "The teacher uses research in his daily life", the weighted mean was 3.29 and interpreted to be very high. In juxtaposition, indicator 1, "Action research is important for me", reflects a weighted mean of 3. 27 interpreted to be very high. More than, indicator 6, "Action research is interesting", gained a weighted mean of 3.24 interpreted to be very high. Likewise, Indicator 7, "The teacher enjoys conducting action research.", gained a weighted mean of 2.86 interpreted to be very high.

On the other hands, teacher respondents assess the indicator 9, "Doing action research is a waste of time", as very low positive with computed weighted mean of 1.65.

In view of the assessment results, it can be inferred that through capacity building program for action research, teachers have high positive attitude towards on the conduct of action research. These findings were strengthened by one of the verbatim statements of the respondent:

"*Research validates, affirms and improves my teaching practice*".

"*It makes us learn about ourselves, my students, my colleagues, and determine ways for continuous improvement*".

Data shows that teachers possess positive attitudes towards action research; teachers agree that action research is important, should be taught to all students; important discoveries are the result of the action research, very valuable, is an important step toward discovering the universe; is interesting; the skills the teacher has acquired in research will be helpful in the future; doing action research is a waste of not time; teachers agreed that scientific research can help expand knowledge; teachers slightly agree that teachers should use research in daily life; teachers slightly agree that scientific research is important; teachers slightly agree that research should be taught to students and teachers slightly agree that many important discoveries are the result of scientific research.

These attitudes toward research among teachers can be attributed to the development of positive perspective when it comes to research. According to Jordan (2018) individuals are the main source of improvement of the society and sustainability of its presence if they grown up appropriately. Positive attitude towards the conduct of research is essential in education being a bridge between human and the life is impressed and shaped by the developments of era, so education of individuals become important parallel with the progress and changes in the society.

Impevedo and Malik (2016) clearly stated that to be a teacher may not develop positive attitudes toward research because many teachers believes that conducting scientific research is tedious, time consuming and will take a lot of patience and resources in order to complete a research task. They could, for example, do not have time to analyze and question happenings within the teaching–learning context; show consideration for feelings and behaviors; keep a regular or daily record of significant events; share stories about students' learning; ask colleagues and students' families for their insights; or read professional literature to learn more about changing the environment and materials to support students' learning. At the same time, they have to reflect, rely upon or critically accept curriculum and official content (Chen, 2014). Cunliffe cited by Impevedo and Malik (2016) offers three examples of ways to stimulate positive perception towards research: an exercise to help teachers think about the socially constructed nature of reality; a map to help stimulate reflective and reflexive practice; and a description and examples of critically reflexive journaling. To become a reflective practitioner, "must involve a willingness to be an active participant in a perpetual growth process.

Alumbro et al (2017), stressed that the teachers are very interested to attend seminar/workshop in research. However, the teachers were fairly interested in preparing research proposal alone or with other faculty, conducting research alone or with other faculty, and presenting and publishing results. Moreover, other teachers somewhat interested in conducting research without funding and/or research assistant.

More so, Ikhsan et al, (2017) resonated that there is a strong orientation of faculty members towards research. Moreover, there is a consensus among the teachers' that rewards influence research. He added that teachers are in perfect harmony that personal interests greatly influence performance in research, and that their research activities are in line with the mission of their universities.

Muthusamy et al. (2013) found that a positive attitude towards research in a key to success and progress in the knowledge-based societies. More so, Morales et al. (2016) indicated that teachers have positive views towards action research that can help them develop student learning and promote lifelong learning. In addition, teaching personnel has highly developed and sustainable attitudes toward research (Pamatmat, 2016). The teacher-respondents had a positive attitude toward doing research and its benefits in their teaching (Ulla et al., 2017). Basilio et al. (2019) also revealed that master teachers have high regard for the value of researching to become better educators. As claimed further, efforts, time, and resources in learning research findings are essential elements in developing positive attitudes toward research.

The study of Boruah (2017) indicates that most of the teachers have favorable attitude towards research. But there are certain areas where developments are required. It is very important to formation of favorable attitude towards research among the teachers.

Table 3: Effectiveness of the capacity building program towards research initiative in conducting action research.

Topics in Capacity Building Program for Action Research	WM	VI
1. Concretizing Research Problems: Context and Rationale	3.78	Highly Effective
2. Crafting the Action Research Question and Grasping the Nature of Intervention	3.79	Highly Effective
3. Quantitative Research Methodology	3.82	Highly Effective
4. Tradition of Qualitative Research	3.87	Highly Effective
5. Quantitative Data Analysis	3.79	Highly Effective
6. Qualitative Data Analysis	3.89	Highly Effective
7. Crafting & Validation of Research Instrument.	3.78	Highly Effective
8. Specifies of Workplan Cost Estimates, Plan for Advocacy and Dissemination.	3.71	Highly Effective
TOTAL	3.80	Highly Effective

As shown in table 3, the Effectiveness of the capacity building program towards research initiative in conducting action research as described by teacher respondents where highly effective with an overall weighted mean of 3.80.

Meanwhile, topics in capacity building program for action research, qualitative data analysis assessed by teacher respondents as highly effective with computed weighted mean of 3.89. In addition, topics in tradition of qualitative research, gained a weighted mean of 3.87 interpreted to be highly effective. More so, topics in quantitative research methodology reflects a weighted mean of 3. 82 interpreted to be highly effective.

Cognizant to topics in research methodology and quantitative data analysis, gained a weighted mean of 3.79 interpreted to be highly effective. More than, topics in crafting & validation of research instrument and concretizing research problems: context and rationale, described by teacher respondents where highly effective with computed weighted mean of 3.78. Engagingly, topics in specifies of workplan cost estimates, plan for advocacy and dissemination expressed as highly effective with computed weighted mean of 3.71.

From the assessment results, it can be inferred that teacher respondents have an agreement that capacity building program are highly effective in conducting action research enable them to produce research outputs. The finding was in line with Mani et al. (2010) findings that research capability building activities created a research climate at the school institution. Institutional initiatives along research functions were geared towards faculty motivation to go into research. Interests, enthusiasm, and confidence that were established in the faculty members ushered a sustained performance in R&D putting the Institution in the local, national and international perspectives.

Interconnectedly, teacher-led action research projects as a professional development structure contribute to the development of a supportive professional culture, feelings of context-specific support, and feelings of empowerment and being overwhelmed in an urban school staffed primarily with early career teachers (Ado, 2013).

Table 5: Test of significant relationship between research self-efficacy, research anxiety, and research attitude towards research initiative in conducting action research and the profile of novice teachers – researchers.

Variables	Chi - square X^2	Chi – square critical Value	P-value	Decision	Verbal Interpretation
Research Self-efficacy & Areas of specializations	124.13	122.11	.000	**H₀ is significant**	**Not Significant**
Research Self-efficacy & Years of teaching	42.18	41.34	.000	**H₀ is significant**	**Significant**
Research Self-efficacy & Educational Attainment	77.45	74.46	.000	**H₀ is significant**	**Significant**
Research Anxiety & Areas of specializations	125.01	122.11	.000	**H₀ is significant**	**Significant**
Research Anxiety & Years of teaching	43.15	41.34	.000	**H₀ is significant**	**Significant**
Research Anxiety & Educational Attainment	78.01	74.46	.000	**Ho is rejected**	**Significant**
Research Attitude & Areas of specializations	123.45	122.11	.000	**H₀ is significant**	**Significant**
Research Attitude & Years of teaching	45.45	41.34	.000	**H₀ is significant**	**Significant**
Research Attitude & Educational Attainment	78.03	74.46	.000	**H₀ is significant**	**Significant**

In the course of investigation in Table 5, the study hypothesized that there is significant relationship between research self-efficacy, research anxiety, and research attitude towards research initiative in conducting action research and the profile of novice teachers – researchers, the data collected were subjected to chi – square test of independence to determine relationship between the variables under study.

The results of the analysis using chi-square test comparison on the following variables revealed that areas of specializations, years of teaching, and educational attainment have significant relationship on their research self-efficacy as can be gleaned on chi-square value 124.13, 42.18, and 77.45, respectively. Further discussion showed that the comparison of the chi-square test value exceeds on the given tabular value, giving the researcher reason to reject the null hypothesis. This may be safely to conclude that areas of specializations, years of teaching, and educational attainment correlate on the novice teacher respondents research self-efficacy towards capacity building program on action research.

While the story on areas of specializations, years of teaching, and educational attainment on research anxiety, comparison of chi-square value and critical value shows that the chi-square value exceeds the tabular value, giving the researcher reasons to reject the null hypothesis in favor of researcher hypothesis. This may be safely concluded that areas of specializations, years of teaching, and educational attainment correlates significantly to the research anxiety of teacher respondents toward capacity building program for action research as gleaned on the chi-square value 125.01, 43.15, and 78.01, respectively.

As such, teacher respondents' areas of specializations, years of teaching, and educational attainment revealed that have significant relationship on their research attitude as can be gleaned on chi-square value 123.45, 45.45, and 78.03, respectively. More so, comparison of the chi-square test value exceeds on the given critical value, giving the researcher reason to reject the null hypothesis in favor of researcher hypothesis. Hence, that areas of specializations, years of teaching, and educational attainment correlates significantly to the research attitude of teacher respondents toward capacity building program for action research.

Several studies carried out by scholars confirm the results of the current study that the number of years of experience is a significant predictor of research productivity of academics (Jung, 2014., Ogbomo,2010). "Experience, they say is the best teacher" this assertion therefore has confirmed the study. Professional maturity is accompanied by years of accumulated experience on the job. Apparently, the art of writing cannot just be acquired easily. It concluded that years of experience in relation to doing research and publication is acquired and manifest with time.

The idea of Akcoltekin (2016) on research complemented that a teacher who had been teaching for many years tends to develop more interest in conducting scientific research; this is because the teacher has been exposed to various seminars and workshops in research both in local, national and international level. Seasoned teachers sees that there is a need for problem solving, research-oriented, questioning, productive, constructive, and creative individuals who can approach incidents as a scientist (Michael, 2014). Many countries revise their curriculum programs

to equip individuals with 21st Century skills such as cooperation, critical thinking and creativity and positive attitude towards research (Ravitz, Hixson & Mergendoller, 2014).

Academic degrees have also been found to have effects on academics' research productivity and engagement. Previous studies have shown that faculty members with advanced academic degrees, particularly a PhD degree, are more research productive than those without a PhD (Nasser-Abu Alhija & Majdob, 2017). Related to this factor, many studies have indicated that formal research training during graduate studies contributes to the level of research engagement and productivity (Eam, 2015; Quimbo & Salabu, 2014). This finding is understandable, given that quality graduate programs that they attended may have helped build their research knowledge, experience, and network, allowing them to be research-competent and confident in carrying out research activities.

Wong (2019) studies that the research capability of master teachers is affected by their age, length of service, teaching position, training attended related to research, conduct of research and research involvement. Institutional support belongs to an institutional related variable. It was also found out by Salom (2013), in the same study that educational attainment affects research capability.

Gonzales et al. (2020) confirmed that teachers who attained higher educational attainment and attended national training have improved research skills and are more knowledgeable in the research process and dissemination. The level of research capabilities was significantly correlated with educational attainment and training.

Rezaei & Miandashti (2013), indicated that there was a positive significant relationship between age, number of published papers, attitude toward research and students' research self-efficacy.

Table 6: Test of significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile.

Variables	F- value	F critical value	P- value	Decision	Verbal Interpretation
Research Self-efficacy & Areas of specializations	2.10	1.847	0.07	Ho is rejected	Significant
Research Self-efficacy & Years of teaching	3.15	2.57	0.00	Ho is rejected	Significant
Research Self-efficacy & Educational Attainment	2.08	1.98	0.03	Ho is rejected	Significant
Research Anxiety & Areas of specializations	2.68	1.87	3.085	Ho is rejected	Significant
Research Anxiety & Years of teaching	3.01	2.57	0.01	Ho is rejected	Significant
Research Anxiety & Educational Attainment	2.01	1.98	0.03	Ho is rejected	Significant
Research Attitude & Areas of specializations	2.18	1.847	0.09	Ho is rejected	Significant
Research Attitude & Years of teaching	3.02	2.577	0.00	Ho is rejected	Significant
Research Attitude & Educational Attainment	2.10	1.98	0.04	Ho is rejected	Significant

As denotes on Table 6, is significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile.

To determine the significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile, the researcher employed Analysis of Variance (ANOVA) to determine the extent difference between the means of two or more groups on the variables under study.

The results of the ANOVA test of differences on the the extent difference of teacher respondents research efficacy when group according to areas of specializations, years of teaching, and educational attainment have significant difference as can be gleaned on F- value 2.10, 3.15, and 2.08, respectively. Further discussion showed that the comparison of the F- value exceeds on the given F – critical value, giving the researcher reason to reject the null hypothesis. This may be implying that when the teacher respondents' group according to their areas of specializations, years of teaching, and educational attainment have significantly differed on their research self-efficacy towards capacity building program on action research.

Looking forward, teacher respondents' areas of specializations, years of teaching, and educational attainment revealed that have significant difference on their research attitude as can be gleaned on chi-square value 2.68, 3.01, and 2.01, respectively. More so, comparison of the F- value exceeds on the given critical value, giving the researcher reason to reject the null hypothesis in favor of researcher hypothesis. Hence, that areas of specializations, years of teaching, and educational attainment significantly differs to the research anxiety of teacher respondents toward capacity building program for action research.

In quest for the extent difference, when the teacher respondents group according to areas of specializations, years

of teaching, and educational attainment revealed it has significant relationship on their research attitude as can be gleaned on chi-square value 2.18, 3.02, and 2.10, respectively. More so, comparison of the F- value exceeds on the given critical value, giving the researcher reason to reject the null hypothesis in favor of researcher hypothesis. Hence, the results implying that when the teacher respondents' group according to their areas of specializations, years of teaching, and educational attainment have significantly differed on their research attitude towards capacity building program on action research.

Table 7: Test of significant relationship among research self-efficacy, research anxiety and research attitude among novice teachers – researchers.

Variables	Chi - square $X^2_{computed}$	Chi - square $X^2_{critical}$ value	$P-_{value}$	Decision	Verbal Interpretation
Research Self-efficacy & Research Anxiety	29.729	23.6648	0.00	**Ho is rejected**	**Significant**
Research Self-efficacy & Research Attitude	31.602	23.6648	0.99	**Ho is rejected**	**Significant**
Research Anxiety & Research Attitude	30.5304	23.6648	0.00	**Ho is rejected**	**Significant**

Depicted on Table 7 is the significant relationship in the research self-efficacy, research anxiety and research attitude among novice teachers – researchers. In determining the significant relationship among the variables, the researcher subjected the collected data to chi – square test of independence to determine relationship between the variables under study.

As revealed, the research self-efficacy of the teacher respondents has significantly related to research anxiety ($X^2_{computed}$ = 29.729, $X^2_{critical\ value}$ =23.6648) and research attitude ($X^2_{computed}$ = 31.602, $X^2_{critical\ value}$ =31.602). More so, research anxiety of the teacher respondents has significantly related also to research attitude ($X^2_{computed}$ = 30.5304, $X^2_{critical\ value}$ =23.6648.

In line with the study of Razavi et al. (2017), showed using multiple correlation coefficient, research anxiety it was calculated less than the error rate, therefore, it can be considered a good predictor for research efficacy.

Furthermore, Navidad et al. (2019) asserted that there is no significant relationship between level of anxiety and level of self-efficacy towards research. Likewise, the results also show that no significant relationship exists between research self-efficacy and attitude towards research and level of anxiety and attitude towards research of respondents. However, a significant relationship exists between respondents' self-efficacy and respondents' attitudes towards research.

Table 8: Level of the Research Culture Index of Graceville National High School

RCI Dimension	Indicator	Frequency
Research Competency 38%	1. Choice of research topics is done after a series of brainstorming sessions.	**23**
	2. More than twenty percent (20%) of the faculty members are knowledgeable in his discipline viz, able to identify at least one recent advancement in his discipline.	**45**
	3. More than twenty percent (20%) of the faculty members are able to attend capability building for research.	**40**
	4. More than twenty percent (20%) of the faculty members are able to submit research proposal on time.	**3**
	5. More than twenty percent (20%) of the faculty members can write research paper as single authors.	**3**
	6. 6.More than twenty percent (20%) of the faculty members are able to handle an optimal mix of teaching and research.	**3**
Average		**26**
	1. More than twenty percent (20%) of the faculty members are able to present open-ended problems in his discipline.	**34**

Research Process 32%	2. More than twenty percent (20%) of the faculty members are autonomous / independent that is they can conduct research even without administrative support.	**5**
	3. There is a research unit that provides research consultation and facilities.	**5**
	4. The school provides adequate funding/support for the conduct of the research.	**45**
	5. The institution provides means for linkages with other agencies in the division or regional.	**7**
	Average	**19**
Research productivity 30%.	1. More than twenty percent (20%) of the faculty members published/submitted one research output per year in DepEd.	**2**
	2. More than twenty percent (20%) of the faculty members are able to convert at least one (1) research output into an extension project.	**1**
	3. The institution provides professional recognition to faculty members who have completed research.	**3**
	4. More than twenty percent (20%) of faculty members can produce research output even without institutional funding.	**3**
	5. More than twenty percent (20%) of faculty members are able to apply research output to teaching.	**4**
	Average	**3**
	Grand Total	**48 (Fair)**

Table 8 depicts the Level of the Research Culture Index of Graceville National High School. The revealed that Graceville National High School have a fair which the scored below 80% in the research culture index that comprises the result of research culture dimension as follows, 26 % in research competency, 19% in research process and 3% in research productivity which yield to average of 48%. Thereby, the school showed 20% of the faculty has intellectual capability, writing competency & readiness commitment to conduct research; able to sustain the conduct of research with minimal to adequate institutional motivation & support; has limited publication in an accredited journal and research application.

Cocal et al, (2017) enumerated the factors that affect research productivity. For research and nonresearching institutions, faculty collaboration with either domestic or international colleague is essential for research productivity. Faculty collaboration with international colleagues is the best predictor of research productivity. Faculty preferences in research lead to higher research productivity at research institutions, but not apparently at non-research institutions. School administration plays no role in improving research productivity (Ju, 2010).

In a study conducted by Mirza, Qazi and Rawat (2012) about the prevalence of research culture in universities found that faculty members were lacking research skills, they conducted research activities only for research publications necessary for eligibility of higher positions. High teaching workload was assigned by the institution, which was a major hindrance in doing research. It was an indication of lack of institutional support for research and research culture. There was no provision of appropriate financial resources for research. The findings of present also report lack of institutional support and nonprevalence of research culture in teacher education institutions of Universities.

Lamb, Lodhi, and Meier-Kriesche (2011) conducted research on researching the research culture in Pakistani public sector universities of Punjab. He found that major hindrances of research culture were insufficient time, personal research knowledge. The findings of this study are consistent with present research with respect to institution demands to be productive in research but teaching workload is not adjusted with research work.

More so, Cocal et al. (2017), pointed out that faculty members of state universities have very low research productivity. This could be attributed to their moderate knowledge and skills with the different research processes. Teaching overload and having too many duties and functions attached to their designations are the number one factors that affect their research productivity.

Narbarte & Balila (2018), enlisted the factors that motivate the faculty to be involved in research were utilization of research; personal satisfaction; build/expand network; research capability programs of the University; and support of the administration.

In addition, Gonzales et al. (2020) confirmed that Teachers are moderately capable in their research capabilities and research dissemination due to inadequate research support and favorable research environment was provided.

Likewise, in the study conducted by Corpuz (2012) on the Effectiveness and Training Needs of Tertiary Faculty, respondents were in great need of research training that would enhance their research skills which consequently will redound to the improvement of classroom instruction.

CONCLUSION
Based on the findings of the study, the following conclusion are drawn.
1. Most of the teacher respondent are Technology Livelihood Education Teachers with a 6 – 10 years of teaching in the public school and bachelor's degree holder.
2. Teachers' respondents have high research self-efficacy.
3. Teachers have high positive towards on the conduct of action research.
4. Teachers have high positive attitude on the conduct of action research.
5. Teacher respondents described the capacity building program towards research initiative in conducting action research as highly effective.
6. There is significant relationship between research self-efficacy, research anxiety, and research attitude towards research initiative in conducting action research and the profile of novice teachers – researchers.
7. There is significant difference in the assessment of capacity building program for action research when novice teachers – researchers group according to profile.
8. There is significant relationship in the research self-efficacy, research anxiety and research attitude among novice teachers – researchers.
9. The Level of the Research Culture Index of Graceville National High School were fair which the scored below 80% in the research culture index.

RECOMMENDATIONS
The following are some significant management implications drawn from the findings of the study.
1. This study, therefore, provides an implication that there is a need for the Schools Division of San Jose del Monte City to adapt these capacity building program in the division level to help the teachers raise their level of capability in research. Such program may include not only a series of training focusing not only on increasing the teachers' knowledge, attitude and lessening their anxiety in research but at the same time conducting, presenting, and publishing their research output. Further, the SDO San Jose del Monte City may intensify the conduct of mentoring and training to produce quality research and craft a functional teachers' development plan for advanced education for broadening their knowledge and research skills.
2. The officials of the Department of Education may provide public school teachers with the needed motivation to research by providing them monetary and non-monetary incentives and adequate management support to polish their research skills, attitude, and capability in disseminating and publishing the results in different media.
3. The Teachers should continue upgrading their educational attainment by attending graduate and postgraduate education in the area of specialization, and by attending research-related conferences.
4. The research capability training program consisting of various levels from lectures, hands-on workshop, and writing research articles for colloquium and possible publication should be fully implemented immediately and regularly monitor its effectiveness.

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