Driving Forces Of Master Teachers' Research Capability: Towards Building A Research Culture In The Division Of Romblon, Philippines

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Abstract: This study is in response to the Department of Education's call for a stronger research orientation among its teachers and staff geared towards the improvement of better policy and program development. It is an attempt to help build a research culture in the basic education institutions particularly in the Division of Romblon by providing baseline information about the master teachers' research capability as well as the factors predicting their capability thereby providing a capability building program which can be used by the Department of Education to advance the research productivity. Anchored within the theory of Bandura's Self-Efficacy, this study shed light on the master teachers' level of capability in conducting, utilizing and disseminating research and what factors can significantly predict their research capability. The study employed the survey method in gathering the needed data. Quantitative data analysis using varied statistical tests yielded the following major findings: Master teachers are incapable in the following research capability dimensions: Research Process, Research Utilization, and Research Dissemination suggesting that their capability in research is indeed low and would explain the reason for non-progressive research productivity among the master teachers. There is a correlation between research capability and the following personal related variables such as age, length of service, teaching position, training attended, research conducted, research project involvement, research knowledge, attitude towards research and institutional support. The regression analysis showed that certain personal related variables such as attendance to training, attitude towards research, and knowledge about research could significantly determine higher-level research capability. The result provides a general implication that for any research capacity building program to succeed, the Department of Education must emphasize the importance of knowledge, attitude, institutional support as driving forces towards research productivity.

Keywords: Research Capability, Research Culture, Research Productivity, Master Teachers

INTRODUCTION
Research has been regarded as scary by a lot of people, but its importance could never be underestimated. Due to research, society attains great accelerating progress. Research findings are bases for personal considerations, reflective teaching, and sound decision-making. Research provides solid, factual bases for the realization of society needs. In other words, all activities for total development are based on research. Countries around the world have realized its importance as their programs and projects in agriculture, communications, transportation, trade, industry, commerce have depended much on researches and feasibility studies. In the Philippines, despite its effort to push through with research productivity, it is still facing huge challenges in climbing up the ladder to build a culture of research in various sectors particularly in the educational institutions which have the potential to enhance research production. In the Philippines however, only Higher Education Institutions (HEIs) are mandated by Commission on Higher Education (CHED) to perform research functions aside from its basic functions of instruction and extension services (Commission on Higher Education Memorandum Order 32 s. 2013). The CHED memo order (CMO) forced the HEIs to let their faculty members conduct quality research especially those who aim to become full-fledged professors. To implement the memorandum order, the CHED used research aspect as the basis for HEI performance, funding, accreditation and leveling. With this, other HEIs initiated various programs and incentives to encourage their faculty members to conduct research. Despite the HEIs effort, many of them are still not able to pursue such an academic endeavor. The study of Abon [1] reported that only 22.81 percent of faculty nationwide were involved in research in spite of

the incentives in the form of publication of research outputs, attendance to local/national/international conferences, honoraria, and research load credits. It leads to several questions making it the subject of many studies. Some studies had been conducted regarding the research culture, but most of these studies were focused on higher education, and the results vary as far as the causes are concerned. While the HEIs are promoting research culture in their field of specialization in response to CHED mandate, the basic education institution headed by the Department of Education (DepEd) is not making research as a primary field of endeavor since its main concern is only to provide basic literacy skills to its elementary and secondary students. Nevertheless, the DepEd, recognizes the importance of research as it also encourages its teachers to conduct action research including it as one of the criteria for teacher's promotion. Moreover conducting action research is also a part of the master teachers' functions. 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 indicated in the DepEd record that only 12 research proposals have been approved and completed since 2010 when the national government started to allocate budget. It is an indication that research culture in the basic education institutions has not yet been fully embraced although being encouraged. Just recently, DepEd Order no. 43, s. 2015 was issued which provides the revised guidelines for the Basic Education Research Fund in order to show the department's continuous

initiatives to strengthen evidence-based policy development and decision-making in the delivery of quality education. Despite the above issuances which support research activities, the DepEd is still facing a huge challenge in encouraging teachers to conduct research. The question as to why only a few teachers particularly master teachers are engaged in doing research is still the prevailing unanswered question. Although there might be plausible answers to this question, it is important to look into the aspect that drives certain people to do tasks and accomplish goals which refer to their capability. Perhaps their research capability has not yet been explored and developed. Research capability is the ability or potential of individuals, organizations, and systems to undertake and disseminate effectively and efficiently high-quality research. It also refers to a process of individual and institutional development which leads to a higher level of skills and greater ability to perform useful research [2]. Without such ability, it is expected that teachers will be unable to do, nor utilize and disseminate research. Literature suggests diverse factors influencing research productivity. These studies, however, are mostly done in higher education institutions. Based on these studies, the researcher explored several factors which might be connected or not connected to the teachers' research capability. These factors include knowledge about research, attitude towards research and institutional support. The attitude towards research means a detailed study of thinking, feeling and the person's behavior towards research. According to Papanastasiou [3], it is important to identify the attitudes towards research so that a positive attitude can be developed among teachers and hence their capability can be facilitated in turn. Likewise, adequate knowledge and awareness of research principles are essential prerequisites for any research activity.

RESEARCH OBJECTIVES

This study was intended primarily to determine the level of research capability of the master teachers in the Division of Romblon, Philippines and establish its relationship to various potential driving forces such as demographic profile, knowledge about research, attitude towards research, and institutional support. The specific research questions below guided the researchers in the direction of the study:

1. Is research capability dependent on the respondents' profile?
2. How does the respondents' knowledge about research affect their research capability?
3. Does the respondents' attitude towards research influence their research capability?
4. Is the level of institutional support significantly associated with the respondents' research capability?
5. Do certain variables such as the personal profile, attitude towards research, knowledge about research and institutional support significantly predict the research capability of the respondents?

MATERIALS AND METHODS

The study employed the one-shot survey design as its main goal is to describe the situation/condition of a study population as it exists. In this case, the study population is the master teachers in the Division of Romblon of whom their level of research capability was described as well as the relationship of various factors to their capability. Through the survey method, characteristics of the respondents regarding their profile, research capability, attitude towards research, knowledge about research and institutional support were clearly described. In determining the variables that influence the master teachers research capability, the correlation method was employed.

Sampling

Based on the records of the Human Resource Management Office of the DepEd Division of Romblon, around 223 teachers are occupying the master teacher position. They were given a questionnaire, but the researcher was able to retrieve 191 or 86% only which is a good retrieval percentage. Efforts were made to reach all the master teachers within the Division to ensure acceptable retrieval percentage.

Respondents' characteristics

Most of the participants are females (88%) with the males comprising only about 22%. They are mostly in the middle age and married. Only a few have master's degree (9%) and had served the Department of Education for 21 years above. Only a small number occupy master teacher II positions (23%) compared to the master teacher I (77%). As to their research-related information, 59% said that they had not attended any research-related training at all. The majority had not conducted research (91%) or had been involved in any research project at all (94%). When it comes to research presentation and publication, most of them answered none (99%). Their knowledge about research is just fair with some telling of very limited knowledge. Their research capability is low in three dimensions namely research process, research utilization, and dissemination. Moreover, a fairly positive attitude towards research was found among them.

Data Collection

In collecting the data from the respondents, a validated instrument was utilized which is composed of several parts. The first part is all about the profile of the respondent which covers about their age, sex, civil status, educational attainment, length of years in service, position, training attended related to research; research conducted, research project involvement, research presented in fora/conferences and research published. The second part tells about their research knowledge consisting of 14 items. Part three dealt with the research capability of master teachers consisting of three factors such as research process, utilization, and research dissemination with a total item of 32. Part four of the questionnaire dealt with their attitude towards research which adopted the Attitude Towards Research scale (ATR) developed by Papanastasiou [3]. ATR questionnaire has 32 items comprising five factors with a five-point Likert scale. The ATR five factors included in the questionnaire are usefulness of research in a career, research anxiety, positive attitudes toward the research, relevance of the research to life, and research difficulty. Part five dealt with the institutional support provided by the organization which included 20 items consisting of 4

factors namely: research mentoring, research financial assistance, research facilities and books, and research incentives and rewards. All the items from part 2-5 make use of a Likert scale type of measurement which is a scale attributed to Rensis Likert [4], who described this technique for the assessment of attitudes. The reliability of the instrument was tested through the use of the Cronbach's Alpha specifically on the research capability, attitude towards research, knowledge about research and institutional support. It is a statistical tool used to measure the internal consistency reliability for any scales or subscales one may be using. The reliability threshold is set at .70. Cronbach's Alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's Alpha coefficient is at 1.0, the greater the internal consistency of the items in the scale. George and Mallery [5] provided the following rules of thumb: "> .9 – Excellent, > .8 – Good, > .7 – Acceptable, > .6 – Questionable, > .5 – Poor, and < .5 – Unacceptable". The result of the reliability showed that all the major variables were found to be reliable as they generated a Cronbach's Alpha coefficient ranging from .70 - .90 which falls within the acceptable standard set at .70. The result further denotes that most of the variables have excellent Cronbach's alpha value implying good internal consistency of the items in the scale. It should be noted that while a high value for Cronbach's alpha indicates a good internal consistency of the items in the scale, it does not mean that the scale is unidimensional. Factor analysis is a method to determine the dimensionality of a scale but is beyond the scope of this study.

Data Analysis

For statistical analysis, both descriptive and inferential statistical tools were employed. The descriptive statistical tools used for the analysis of data include frequency count and percentage to describe the demographic profile. In determining the weight of their answer to questions measured thru the Likert scale, the researchers used the weighted arithmetic mean. Inferential statistics such as Pearson Product Moment Correlation Coefficient and Regression analysis were utilized in determining the relationship between the dependent variable which is the research capability and independent variables which include demographic profile, knowledge about research, attitude towards research, and institutional support. All the statistical analysis were done with the aid of SPSS software.

RESULTS

Pearson's correlation between the personal profile and research capability of the respondents Shown in table 1 is the Pearson's correlation between the personal profile and research capability of the master teachers. It can be seen from the result that almost all the personal profile of the respondents flagged a significant relationship to their research capability (p<.05) except the three profile such as sex, civil status, and educational attainment (p>.01).

Table 1. *Pearson's correlation between the personal profile and research capability of the respondents*

Independent Variable Personal Profile	Dependent Variable Research Capability	
	Pearson's Correlation	Sig. (2-tailed)
Age	180*	.013
Sex	.119^{NS}	.100
Civil Status	.026^{NS}	.719
Educational Attainment	.096^{NS}	.188
Length of Service	.148*	.041
Teaching Position	.164*	.023
Trainings Attended Related to Research	.340**	.000
Research Conducted	.160*	.027
Research Project Involved	.152*	.036

NS – Not Significant
***significant at .01*
**significant at .05*

Pearson's correlation between knowledge about research and research capability of the respondents Table 2 exhibits the Pearson's correlation between the knowledge about research and the research capability of the master teachers. The result of the correlation between knowledge about research and the research capability manifests significant relationship as shown in the probability value of .000 which is less than the alpha level set at .01. This means that their low research capability is linked to their limited knowledge in various aspects of research.

Table 2. *Pearson's correlation between knowledge about research and research capability of the respondents*

Independent Variable	Dependent Variable Research Capability	
	Pearson's Correlation	Sig. (2-tailed)
Research Knowledge	.768**	.000

***significant at .01*

Pearson's correlation between the attitude towards research and research capability of the respondents Illustrated in table 3 is the Pearson's correlation between the attitude towards research and research capability of the master teachers. Correlations between attitude towards research and research capability showed that there exists a relationship between the two variables. All the dimensions of attitude flagged significant relationship to research capability (p<.01).

Table 3. *Pearson's correlation between attitude towards research and research capability of the respondents*

Independent Variable Attitude	Dependent Variable Research Capability	
	Pearson's Correlation	Sig. (2-tailed)
Research Usefulness to Profession	.443**	.000
Research Anxiety	.298**	.000
Positive Attitude towards Research	.586**	.000
Relevance to Life	.274**	.000
Research Difficulty	.212**	.003

***significant at .01*

Pearson's correlation between institutional support to research and research capability of the respondents Table 4 presents the Pearson's correlation between the institutional support and the research capability of the master teachers. Support of an institution to teachers' research endeavor is an integral part of building a research culture. Enhancing the teachers' research capability is also an institutional concern and thus requires institutional support. As reflected in the table, all the four dimensions of institutional support generated Pearson's correlation coefficient values significant at .01 alpha level (p<.01). This means that the more supportive the institution, the better the research capability of the master teachers.

Table 4. *Pearson's correlation between institutional support to research and research capability of the respondents*

Independent Variable	Dependent Variable Research Capability	
Institutional Support	**Pearson's Correlation**	**Sig. (2-tailed)**
Research Mentoring	.521**	.000
Research Financial Assistance	.317**	.000
Research Facilities and Resource Materials	.429**	.000
Research Incentives and Reward	.384**	.000

**significant at .01

Predictors of research capability

Displayed in table 5 is the summary statistics of the regression analysis for research capability as influenced by various potential determinants. The regression method provides evidence on whether certain independent variables can determine the teachers' research capability. The independent variables entered into the regression equation are limited only to those found to have a significant relationship to the dependent variable calculated through the Pearson Product Moment Correlation Coefficient. The regression model produced an R-value of .81 which stands for the degree of relationship between the combined independent variables and the dependent variable. All the predictors in the model generated 66% of the research capability variance. The remaining 36% variance can be attributed to other factors outside of the study. This means that the regression model works as it accounts for significantly more variance in the criterion variable than would be expected by chance based on the F statistics which is significant at .01 level (p<.01). It can be gleaned from the table that three independent variables emerged to be significant predictors of research capability which includes training attended related to research (p=.037), attitude towards research (p=.000), and knowledge about research (p=.000). It can be further deduced that the biggest contributor to the regression equation model is knowledge about research having garnered the highest Beta weight of .58 followed by attitude (β=.20), and training (β=.10). In general, the findings of this study suggest that research capability can be determined by attendance to training related to research, a positive attitude towards research, and knowledge about research.

Table 5. *Regression analysis for research capability and the predictors*

Predictors	Unstandardized Coefficient		Standardized Coefficient		
	B	**Std. Error**	**Beta**	**t**	**Sig**
A. Demographic Profile					
Age	.180	.096	.105	1.866	.064
Length of Teaching Experience	.009	.071	.007	.131	.896
Present Teaching Position	.003	.084	.002	.035	.972
to Training/s Attended Related to Research	.160	.076	.101	2.102	.037
Research Conducted	-.156	.126	-.057	-1.242	.216
Research Involvement	-.101	.149	-.032	-.675	.500
B. Attitude towards Research	.176	.047	.205	3.728	.000
C. Knowledge about Research	.618	.060	.584	10.340	.000
D. Institutional Support	.093	.050	.099	1.838	.068

$r = .812$ $r^2 = .659$ F statistics $= 38.792$ Sig. F $= .000$
Result = Significant for the F Statistics

DISCUSSION

The primary aim of this study is to determine the level of capability in research of master teachers who are tasked to engaged in action research as part of their responsibilities. Their capability was found to be low in three dimensions. Their level of capability is then correlated to various potential factors. Thus a correlation test was done. The correlation test done using the Pearson Product Moment Correlation Coefficient produced P values that flagged significant association with the dependent variable which is the research capability. Among these variables with positive correlation are personal related and institutional related. Those under personal related includes: Age, Length of Service, Teaching Position, Training Attended Related to Research, Research Conducted, Research Project Involvement, Attitude towards Research, and Knowledge about Research. This means 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. These variables had also been the subject of many studies highlighting their importance in building research culture among educational institutions thereby promoting research productivity. A supportive research environment in an institution may include a wide range of factors that may include frequent communication, participative governance, and appropriate rewards (Bland and Ruffin, in Salazar-Clemeña & Almonte-Acosta [6]. Dundar and Lewis [7], likewise reported that research productivity is influenced by institutional and departmental attributes. Although such studies were conducted in higher education institutions, the results may still be true to the present investigation which is directed to the basic education institutions duly supervised by the Department of

Education. A supportive institution therefore is a critical factor in developing research culture. Furthermore, Salom [8], also found out that among the factors that influence research capability is academic rank and teaching load. On a similar finding, the present study found out that teaching position affects research capability. It was also found out by Salom [8] in the same study that educational attainment affects research capability, but the current investigation was unable to establish the same relationship between the two variables. It might be that even if those who have graduated in a master's degree had undergone thesis writing, it would not guarantee higher level research capability if only done once and is not practiced regularly. The findings of the above studies point out that both personal and institutional factors play significant roles in research productivity as found out in the present study. The findings of the present investigation find support to the previous study which put a premium on training, research experience, personal interest and attitude, and research facilities as variables influencing research capability in higher education institutions [9].Wichian et al. [10] found direct link between research productivity, and the following factors such as research competence and various characteristics of an institution that helps enhance research. Improving the teachers' research capability will help pave the way to research productivity. Similarly, Alim and Diokolano [11] revealed that research experience, training, financial and technical support from the management also influence the research output and dissemination. The result of the regression analysis likewise supports Bandura's [12] Self-Efficacy theory wherein he identified four sources or factors of one's self-efficacy or capability. It was found out in this study that the capability of teachers is linked to their attendance to training related to research and research knowledge which is associated with the two sources of Bandura's self-efficacy namely: mastery experiences and vicarious experiences. Also, attitude towards research specifically research anxiety is also found to be a determinative variable to research capability which somehow reflects one source of self-efficacy known as physiological and affective states. High emotional arousal usually debilitates performance and results in the individual feeling extremely vulnerable to failure [13], so experiences of stress and anxiety may have a negative effect on the individual's beliefs about his capabilities. This also implies that in developing the teachers' research capability, the role of attitude cannot be set aside. Otherwise, efforts made by the institution such as seminar-workshop would only result in minimum success. This is because the attitude exerts a strong influence on the way a person responds to a particular situation or thing [14]. Transforming the teachers' attitude towards research to becoming positive or favorable is indeed a great challenge. But dealing with it is the first step in developing a research culture especially in the Basic Education Institutions.

CONCLUSION

Climbing the ladder of research culture in the Basic Education Institution in the Philippines requires collaboration and effort to both the teachers and the institution. Such an effort must be focused on the driving forces that would help teachers improve their research capabilities such as attitude towards research, research knowledge and a supportive institution. This study, therefore, provides an implication that there is a need for the Department of Education to develop a comprehensive research capability enhancement program to help the master teachers raise their level of capability. Such program may include not only a series of training focusing not only on increasing the teachers' knowledge in research but at the same time conducting, presenting, and publishing their research output.

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