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RESEARCH LITERACY AND SKILLS AMONG EDUCATIONAL RESEARCH – PROponents OF NUEVA VIZCAYA: TOWARDS LOCALIZED POLICY REVIEW, REFORMULATION AND SYSTEM ENHANCEMENT

ROMMEL S. DE GRACIA, PhD

*Senior Education Program Specialist for Planning & Research
Schools Division office of Nueva Vizcaya*

Abstract

This study aimed to assess research literacy and skills, and level of difficulty in conducting research among educational research-proponents of the Schools Division of Nueva Vizcaya. The study employed the descriptive-comparative research design. The respondents of the study are educational practitioners in the basic education who are research-proponents and were selected through on purposive sampling. Research literacy and skills were assessed through research document using a standardized rubric, while level of difficulty in conducting research was determined through a validated researcher-made questionnaire. The research literacy and skills among research-proponents were at approaching proficiency level. They find difficult to organize and present data in tables, graphs and charts, and to identify applicable statistical tools to analyze the data. The research literacy and skills of research-proponents are of the same level regardless of the number of researches made and of educational attainment while research training conducted in school and presence of research committee upgrade the research literacy and skills of school administrators. The linear combination of research literacy and skills among research – proponents do not differ for educational attainment and presence of research committee in schools. The study brought out the need to have a localized research support system which includes the organization of a school-based research committee.

Keywords: approaching proficiency level, statistical tools, number of researches

Introduction

Action Research is a disciplined process of inquiry conducted *by* and *for* those taking the action. The primary reason for engaging in action research is to assist the “actor” in improving and/or refining his or her actions (Sagor, 2000).

Perhaps even more important is the fact that action research helps educators be more effective at what they care most about—their teaching and the development of their students. Seeing students grow is probably the greatest joy educators can experience. When teachers have convincing evidence that their work has made a real difference in their students' lives, the countless hours and endless efforts of teaching seem worthwhile.

One way a school administrator can address the challenges and problems that education faces today is through the knowledge and application of Action Research. Sagor (2000) believes that leaders who engage in Action Research find the process to be an empowering experience. He states that relevance is guaranteed because the focus of the research is determined by the researcher, who utilizes the findings to enhance professional practice. Educators at all levels: teachers, principals and superintendents must embrace the necessity to be lifelong learners and not be in fear of change. Individuals get comfortable with what they are used to doing and put up roadblocks when change is necessary. The roadblocks are based out of fear of change and fear of failure; lack of understanding the need for change, uncertainty, and having to learn something new. Fullan (2001) pointed out that the school administrators' role has become more overwhelming, more multifaceted, and more fulfilling for those who learn to guide change.

Pursuant to DepEd Order 24, s. 2010, the following research agenda were determined and be the focus of the researches to be conducted.

- a) Increasing participation rate by reaching the unreached children/learners;
- b) Impact of pre-schooling on increasing survival rates in lower elementary grades;
- c) Impact of feeding programs on pupil learning/achievement;
- d) Raising the proficiency level of children already in school;
- e) Increasing local government spending in basic education;
- f) Cost effectiveness of Education Service Purchasing;
- g) Improving DepEd's internal efficiency through the development of new and or improvement of existing systems and procedures for implementing DepEd programs and projects and other operations; and,
- h) Modernization of DepEd operations.

The Department of Education extends its initiatives towards strengthening evidence-based policy development and decision-making through the provision of a research fund to eligible proponents both from internal and external stakeholders. This initiatives supports the former DepEd Order 24, s. 2010 in promoting a culture of research among DepEd officials and staff including teachers and in support to action researches from schools resulting from either the Learning Action cells (LAC) sessions and School Improvement Plan (SIP) situational Analysis (DepEd Order 43, s. 2015).

In the recently conducted training on Action Research for School Administrators in the Division of Nueva Vizcaya, it came out that one of their weaknesses is the conduct of action researches because of the limited exposure and knowledge of doing it. It also appeared that this contributes to the lowering of their performance ratings since research is part of the Key Result Areas of school administrators which they had to undertake.

In connection to the Basic Education Research Fund (BERF) assistance which aims to promote a culture of a strengthened evidence-based research, the proponent wishes to assess the different types of researches (experimental or non-experimental) conducted in the Schools Division Office of Nueva Vizcaya for the School Year 2015 – 2016 which served as springboard data and information on the problems being address by the research-proponents on Basic Education. This study shed light to the problems encountered by the researches and helped the research-proponents be aware of the mechanisms of researches in the division. Result of this study was utilized in crafting the Schools Division Research Manual to effectively address the system problems and mechanisms on research.

This research aimed to ascertain Research Literacy and Skills among Research – Proponents in the Schools Division Office of Nueva Vizcaya for S.Y. 2015 – 2016 as basis for crafting the Division Research Manual based on the Plan-Do-Study-Act model of conducting research.

Specifically, this research aimed to determine the research literacy and skills of the educational research-proponents in conducting research; to ascertain the level of difficulty among educational research-proponents in conducting research; to find significant difference on the research literacy and skills when grouped according to selected profile variables; and, to determine if research-proponents who differ in education and presence of research committee in school differ on a linear combination of research literacy and skills along research methodology, results and discussion.

Further, the study determined if educational research-proponents with research committee have higher research literacy and skills than those with no school research committee if we control for differences in the number of attended research trainings; and lastly, to derive localized policy guidelines or manual in research based from the result researches conducted for system enhancement.

Research Methods

This study is non-experimental in nature utilizing the descriptive-comparative type of research. It employed both qualitative and quantitative methods. Qualitative type of data gathered were based on the research papers submitted in the School Governance and Operations Division thru Planning and Research. The research proposals submitted were analyzed using meta-analysis and were rated based on the rubrics for evaluating research. These qualitative data were treated and transformed to quantities for better understanding of the findings.

A purposive sample, also commonly called as judgmental sample, is one that is selected based on the knowledge of a population and the purpose of the study (Reyes, 2003). In this case, educational research-proponents of the Schools Division Office of Nueva Vizcaya who conducted action researches from June 2016 to May 2017 were chosen as the respondents to answer the researcher-made questionnaire which assesses level of difficulty had undergone research validation and obtained a reliability coefficient of 0.91, a good instrument for study (Reyes, 2003).

Qualitative data like the information about the researcher were collected and transformed into quantities for better understanding of the results. Frequency, percent and counts were used as descriptive statistics to quantify the different skills and level of difficulty encountered by the respondents.

For the Research Literacy and Skills the following interpretation scheme of the means of the respondents was followed:

Numerical Value	Description
1.00 – 1.50	Novice/Learning Level
1.51 – 2.50	Approaching Proficiency/ Fundamental
2.51 – 3.50	Proficient/Mastered
3.51 – 4.00	Above Proficiency/Advanced

For the level of difficulty the following interpretation scheme on the means was followed:

Numerical Value	Description
1.00 – 1.50	Very Difficult
1.51 – 2.50	Difficult
2.51 – 3.50	Neutral
3.51 – 4.50	Easy
4.51 – 5.00	Very Easy

T-test and F-test were used to test the difference on Research Literacy and Skills of research-proponents when grouped according to the different variables. A multivariate analysis of variance was used specifically Pillai's Trace. Levee's test of equality of variance and the ETA squared were also considered in the interpretation. To determine the significant differences on a linear combination of research literacy and skills on Research methodology and results and discussion for researcher-proponent, a two-factor multivariate analysis of variance (Two-Factor MANOVA) was used. An analysis of covariance (ANCOVA) was used to assess whether school administrators with research committee have higher research literacy and skills than those with no school research committee if we control for differences in the number of attended research trainings.

Results and Discussions

Research Literacy and Skills among educational research-proponents of SDO – Nueva Vizcaya

Table 1. Research Literacy and Skills among Research-proponents of SDO – Nueva Vizcaya

Research Literacy and Skills' Indicators	Level 1	Level 2	Level 3	Level 4	Mean	sd	Description
1. Crafting the Research Title	14	28	24	12	2.30	.71	Approaching Proficiency/Fundamental
2. Designing the introduction and Review of Related Literature and Studies	15	31	20	12	2.33	.68	Approaching Proficiency/Fundamental
3. Constructing the Research Question/Problems	15	24	27	12	2.34	.72	Approaching Proficiency/Fundamental
4. Developing the Research Methods	19	32	15	12	2.03	.69	Approaching Proficiency/Fundamental
5. Interpreting Results	20	27	20	11	2.05	.78	Approaching Proficiency/Fundamental
6. Developing Summary, Conclusion and Recommendation	19	25	23	11	2.18	.82	Approaching Proficiency/Fundamental
Overall					2.21	.73	Fundamental

LEGEND: 1.0-1.5 = "Novice/Learning Level"; 1.51 – 2.5 = "Approaching Proficiency/Fundamental"; 2.51-3.5 = Proficiency/Mastery"; 3.51-4.0 = "Above Proficiency/Advanced"

Generally, the research literacy and skills among research-proponents of the Schools Division of Nueva Vizcaya is approaching proficiency/ fundamental (mean = 2.21, sd = .73). The research-proponents at this level has the capability to craft/make a research on one's own and understand the process of making it systematically. These means research-proponents make a research procedurally.

In particular, developing the research methods (mean = 2.03, sd = .69) and interpreting results (mean = 2.05, sd = .78) surfaced to have the least mean and appeared to be at approaching proficiency/ fundamental level. Among the indicators for developing the research methods were identifying the design of the study, respondents, sampling procedure, instrument for data gathering, constructions, validations and reliability of the instrument, data gathering procedures, method of quantifying data and describing how quantified data be statistically tested.

For interpreting the results of the study, research-proponents found to be at approaching proficiency level particularly in collating, tabulating, computing and organizing data, summarizing results and trend in narrative form, drawing out inferences, meanings

and implications from data and corroborating analysis through internal and external cross referencing. Nguyen (2012) in his study identifying the training needs of Heads of Department in a newly established university in Vietnam, found out that the heads of department need research methods skills and practice. The heads of the department claimed that they need to learn research methods and have more practical experience in doing research in order to dispense well their functions as department heads. This is supportive of the findings of the current research on the level of proficiency that the school heads possess.

Difficulty in making and/or conducting Research

Table 2. Level of Difficulty on Making/Conducting a Research

Parts of Making a Research	Description	Rank
1. Crafting the Research Title	Neutral	6
2. Organizing the Introduction, Related Literature and Studies	Neutral	4
3. Stating the Research Questions and Problems	Neutral	7
4. Identifying the Research Method, design to use in the study	Difficult	10
5. Identifying the samples, population, research environment of the study	Neutral	5
6. Identifying applicable statistical tools to analyze the data	Difficult	11
7. Organizing and presenting data in tables, graphs and charts	Difficult	9
8. Interpreting (making descriptions and inferences) tables	Neutral	8
9. Developing the summary	Neutral	3
10. Drawing conclusions and the recommendations	Easy	2
11. Writing the references	Easy	1
Overall	Neutral	

LEGEND: 1.0 -1.5 = Very Difficult (VD); 1.51-2.50=Difficult (D); 2.51-3.50=Neutral (N); 3.51-4.5=Easy (E); 4.51-5.0 =Very Easy (VE)

In general, a *neutral* level of difficulty surfaced on making/crafting a research among research-proponents (mean = 2.98). It is significant to note that among the parts of making a research, identifying the research method and design to use in study (mean=2.24), identifying applicable statistical tools in analyzing data (1.82) and organizing and presenting data in tables, graphs and charts (2.49) emerged to be difficult to research-proponents. These tell that research-proponents in general find it difficult to make and to complete the research methods and results and discussion parts of the research. These results adhere and support the findings as advanced in Table 1.

Drawing out conclusion and recommendations (mean = 3.82) and writing references (mean = 4.32) appeared to be an easy parts of making the research. Making recommendations and writing references have easy guidelines which are readily accessible to researchers. Parts on making the research titles, rationale that captures the background and some related studies and literatures and connecting them to research questions ranked to be neutral for school administrators. Although this appeared to be at the fundamental level of the research-proponents as seen on Table 1.

Difference on the research literacy and skills of research-proponents when grouped according to: (a) Number of researches made/conducted; (b) Attendance to research trainings in a year; c) Educational Attainment; and (d) Presence of research committee in school.

Table 3. Test of Difference on Research Literacy and Skills of Research-Proponents when Grouped according to Selected Variables

Grouping Variables	Test of Comparison	p-value
1. Number of Researches Made/Conducted	F(3,74) = 1.26	0.21
2. Research Training Conducted in School Yes (n = 17) = 2.60 No (n = 21) = 1.89	t(74.57) = 3.80	0.001
3. Presence of Research Committee Yes (n = 11) = 2.53 No (n = 27) = 2.05	t(50.16) = 2.19	0.04
4. Educational Attainment	F(2,73) = 2.53	0.09

*significant at 5% level

There is no significant difference on the research literacy and skill among research-proponents when grouped according to the number of researches conducted related to the field of work ($F(3,74) = 1.26$, $p = 2.05$) and when grouped according to their educational attainment ($F(2, 73) = 2.53$, $p = 0.09$). This tells that research literacy and skills among research-proponents of SDO Nueva Vizcaya are of the same level regardless of the number of researches made and the educational attainment.

A significant mean difference surfaced on the research literacy and skills of educational research-proponents when grouped according to the presence of research trainings conducted at school level ($t(33.57) = 3.80$, $p = 0.001$). This indicates that those research-proponents who indulge seminars and trainings on research at school level appeared to have higher research literacy and skills.

Research - proponents having Research Committee (mean = 2.53) on the school level appeared to have higher research literacy and skills than those who do not have Research Committee (mean = 2.05) and is significant at $t(50.16) = 2.19$, $p = 0.04$. This explains that schools having research committee helps research-proponents mentor and conduct their researches.

Research-proponents who differ in education and presence of research committee in school differ on a linear combination of research literacy and skills on Research Methodology and Results and Discussion

Table 4. Effect of Educational Attainment and the Presence of Research Committee in School on Research Literacy and Skills along Making Research Methodology and Results and Discussion

Source	Research Literacy and Skills	df	F	Sig.	η^2
Education	Research Methodology	2	2.371	.110	.129
	Results and Discussion	2	1.321	.281	.076
Research Committee	Research Methodology	1	1.464	.235	.044
	Results and Discussion	1	.267	.609	.008
Education and Research Committee	Research Methodology	2	.935	.403	.055
	Results and Discussion	2	.856	.434	.051
Error	Research Methodology	74			
	Results and Discussion	74			

To assess whether bachelor's, masters and doctorate degrees with the presence or absence of research committee in school have different research literacy and skills on making Research Methodology and Results and Discussion, and whether there is interaction effect education and presence of research committee, a multivariate analysis of variance was made. The interaction effect was not significant, Wilk's $\Lambda = 0.93$, $F(2,$

62) = 0.54, $p = 0.76$, multivariate $\eta^2 = 0.03$. The main effects for educational attainment, Wilk's $\Lambda = 0.86$, $F(4, 60) = 1.21$, $p = 0.32$, multivariate $\eta^2 = 0.07$ and presence of research committee, Wilk's $\Lambda = 0.92$, $F(2, 74) = 1.43$, $p = 0.26$, multivariate $\eta^2 = 0.08$ are not significant. These indicate that linear combination of research literacy and skills among research – proponents do not differ for educational attainment and presence of research committee in schools.

Research Literacy among Research-Proponents as a function of Research Committee, Using Attendance to Research Training as a Covariate

Table 5. Analysis of Covariance for Research Literacy Among Research-Proponents as a function of Research Committee, Using Attendance to Research Training as a Covariate

Source	df	MS	F	p	η^2
Research Committee	1	.256	.587	.449	.017
Attendance to Research Training	1	.234	.536	.469	.016
Error	74	.437			

Analysis of covariance was used to assess whether research-proponents with research committee have higher research literacy and skills than those with no school research committee if we control for differences in the number of attended research trainings. After controlling for the number of attended research training by the school administrators, results indicates that there is no significant difference on research literacy and skill between research-proponents with or without research committee $F(1, 74) = 0.54$.

Conclusion and Recommendation

Research – proponents have the fundamental skills of doing the research. As such, they make research procedurally. School based research trainings and school based research committee are helpful in improving research literacy and skills of the research – proponents. A rooted research activity and a localized functional research support system is therefore beneficial to the upgrading of research skills. The localized research support system includes the organization of a school based research committee where mentors of researches originate from their schools. Having such, the difficulties in making research could be immediately addressed. Consistent exposure to trainings and activities on doing a research is also beneficial in the upgrade of the research skills that the research – proponents need. An intensified Division Seminar Workshop on identifying the research method, design to use in the study, applicable statistical tools to analyze data and organizing and presenting data in tables, graphs and charts is encouraged. Development of the Division guidelines on conducting researches to help facilitate the process flow and conduct of researches.

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