

Original Research Article

Research Productivity of Select Secondary Schools in Central Luzon, Philippines

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ABSTRACT

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. The recent statistics of 2019, however, reported only almost one (1) per cent productivity in a select School Division Office of the Department of Education. Using descriptive evaluative research design, 116 proficient teachers, 30 highly proficient teachers and eight (8) administrators – head teachers and school heads, this study evaluated the research productivity/output, needs and competencies and problems encountered in the basic education of a select secondary schools in Pampanga, Philippines through an adopted quantitative and qualitative survey questionnaires. The descriptive statistical analysis identified five (5) or 3.35 % full-blown Basic Education Research Fund (BERF) research output, 17 or 11.04 % full-blown non-BERF research output; 18 or 11.69% approved research proposals and 45 or 29.22% accepted research proposals. Moreover, the grand mean revealed the following as research competencies of the three respondents: grammar and sentence construction, writing introduction, constructing questions, interpretation and analysis of data, formulation of recommendation. On the hand, research format, formulating theoretical framework, using statistical tools, presentation of the data and correlation of the literature and expressing additional value to the present facts were the expressed needs of the three respondents. Furthermore, the qualitative analysis pinpointed some problems encountered by the respondents/participants in conducting school-based research such as: slow research feedback mechanism, lack of technical skills (language, statistics, ICT), scarcity of available literature, changing research format, financial support, incentive mechanism and substantial workloads. These findings revealed the need for an enhanced and unified research feedback and monitoring mechanism, need-based capacity building, adoption of comprehensive collaborative research dynamics and school-based incentive mechanism.

Introduction

Philippine Republic Act No. 9155, An Act Instituting A Framework of Governance For Basic Education, Establishing Authority and Accountability, Renaming the Department of Education, Culture and Sports as the Department of Education, and for other Purposes also known "Governance of Basic Education Act of 2001" emphasized the role of research in the management and administration of the basic education system (Official Gazette, Chapter 1, Sec. 7 (5) Rep. Act No. 9155). Responding positively to this law, the Department of Education adopted the Basic Education Research Agenda (BERA)

stipulated in the DepEd Order No. 39, s. 2016. This agenda primarily aimed to serve as compass to the department's researchers in schools, divisions, regions and the central office. The research agenda centers on topics that will respond to the critical knowledge gaps and cater to the needs of the Philippine basic education in line with the agency's vision, mission and target outcomes. Moreover, Regional Memorandum (RM) no. 57, s. 2018 emphasized that all research conducted in the region should bring about information and the enhancement of the "teaching and learning process, delivery of the K to 12 curriculum and governance of public schools." Furthermore, the School Division Office (SDO) of Pampanga identified "Innovation, Research, and ICT Integration in Instruction and Governance (SD #6) and Creative and Happy Schools (SD #1) as part of its Division's Strategic Directions. In line with the earlier mention RM 57, the Research Division facilitated mechanism to promote its division's culture of research. Seminar and capacity building workshops in the division, cluster/district and school levels were conducted in the past school years to capacitate its teachers and personnel. Research congress and other venues of research presentation, both poster and oral mechanism, were also conducted to support this initiative of the department. Despite of this efforts, , the researcher observes that there is a limited research outputs in contrast to the number of teachers , especially those who required to conduct one as part of their performance tasks. This study, therefore, aims to evaluate the research output and mechanism in select schools in Central Luzon Philippines.

Literature Review

Research Culture and Productivity in the Academe

In the study conducted by Groves , Grootenboer and Roonerman (2016) entitled "Facilitating a culture of relational trust in school-based action research: recognising the role of middle leaders" identified certain practices such as "professional dialogues groups, coaching conversation, mentoring conversation and professional learning staff meetings" as essential to improve the learning and teaching process as a part of a long-term action research and development activities. In the same study, the authors emphasized the importance of developing a relational trust among leaders in the success of all research initiatives. The same findings identified that the practices of the middle leaders who were moderated the action research as important factor to the development of the teachers. In the field medical field, Smeltzer, Sharts-Hopko, Cantrell, Heverly, Wise, Jenkinson, and Nthenge (2014) in their research entitled 'Challenges to research productivity of doctoral program nursing faculty" examined the importance of promoting scholarly productivity among registered nurses, nursing faculty in the doctoral programs, in response to the recommendations of Institute of Medicine. To respond to this, creative strategies were identified in the study. However, Barner, Holosko, Thyer, & King (2015) in their study entitled Research Productivity in Top-Ranked Schools in Psychology and Social Work: Does Having a Research Culture Matter? using controlled-comparative study expressed a contradiction to the prior research that showed social work faculty to be relatively equal to psychology, in terms of its scholarly influence.

Moreover, Aithal, and Kumar (2016) with their paper entitled "ABC Model of Research Productivity and Higher Educational Institutional Ranking" argued that the performance of higher educational institutions should only be based on Institutional Research Performance (IRP), instead of on pedagogy, placement, research output, faculty-student ratio, international linkage, management of technology, which normally favoured business schools. Instead, they forwarded a model on evaluating higher institution using three variables such as: (1) Number of Articles published in peer reviewed journals; (2) Number of Books published ; and (3) Number of Case studies and/or Book Chapters published during a given time of observation.

The Culture of Research and Its Importance

Royal Society, an independent scientific academy of the United Kingdom, defined the culture of research to "encompasses the behaviours, values, expectations, attitudes and norms of our research communities " As such , it " influences researchers' career paths and determines the way that research is conducted and communicated." (<https://royalsociety.org/topics-policy/projects/research-culture/>). Hanover Research (2013) adopted the definition of research culture as a "system that places great value on conducting and communicating scholarly research. Citing Andrew Cheetham, University of Western Sydney (UWS) Australia, Hanover Research (HR) emphasized that the culture of research can also pertain to " the structure that gives research behaviour significance and that allows us to understand and evaluate research activities" This highlights that a culture of research, far from being a group of researchers, extends a supportive context in which research is uniformly expected, discussed, produced and valued. In summary, the Hanover Research forwarded the following findings in relations to research culture: (1) A culture of research requires both the institutional- and unit- based leaders to set clear research goals and communicate them effectively; (2) Institutions wishing to develop a culture of research must allocate significant resources for faculty training and support; (3) A developing culture research requires open and collaborative personal

relationships among faculty members; (4) To implement cultural change, administrators, must be prepared to tailor resource allocations based on faculty members' current motivations and abilities; (5) A culture of research may take years to develop and, once established, requires regular maintenance; and (6) Plans for a culture of research should include consideration of student involvement.

Kelly Chaplin and David Price (2018) forwarded that a good culture of research is influenced by national policies and programs, local policies and the attitudes and behaviour of staff at all levels. As part of the Annual Meeting of the New Champions, Chaplin and Price (2018) explained that organization's approach to research integrity which includes the formal and informal ethics, standards, protocols and policies research follow in their environment are important aspects of research culture. Hence they suggested the following points in improving the research culture: (1) Small steps can make a difference; (2) Establishing support systems can boost morale and enhance a positive research; (3) Ensure everyone is on the same page; (4) Research culture "cafes" are excellent way to share best practices; (5) Organization, department and team leaders leading by example in promoting an excellent research culture; (6) Discuss training gaps for all team members; and (7) Embed research culture at an institutional level.

Factors affecting research productivity

Research productivity in the academe can be contributed by different factors (Quimbo & Sulabo 2013; Bland et. at 2005; Nygaard, 2017). Bland (2002) suggested that research productivity is excellent if the researcher possesses specific individual characteristics in an institution which is conducive in conducting research and whose institution is led by someone who has essential leadership characteristic who utilizes an "assertive-participatory management approach". These three essential characteristics (individual characteristics, institutional characteristics and leadership characteristics) are necessary to promote research productivity in an institution. Individual characteristics, according Bland et al (2005) includes socialization, motivation, content knowledge, basic and advanced research skills, simultaneous projects, orientation, autonomy and commitment and work habits. Moreover, equally important are institutional characteristics comprising of the following: recruitment and selection, clear coordinating goals, research emphasis, culture, positive group climates, mentoring, communication with professional network, resources, sufficient work time, size/experience/expertise, communication, rewards, brokered opportunities, decentralized organization, and assertive participative governance. Lastly, leadership characteristics include scholarly, research oriented, capably fulfils all critical leadership roles and a participative leader. Based on the results of the study, the individual characteristics served as the foundation and "prerequisite" of the institutional and leadership characteristics that led to institutional research productivity (Bland et al 2005). The same authors highlighted that institutional characteristics and leadership characteristics such as "clear coordinating goals, research emphasis, communication assertive participative governance" should also be enhanced in order to produce teachers who are research productive. Following White et al 2012, Creamer 1998, Fairweather 2002, Nygaard 2017 emphasized the importance of institutional support and argued that institutional goals should be in line with individual own goals.

While subscribing to the importance of institutional and individual characteristics as important indicators of research productivity, Quimbo and Sulabo (2013) identified self-efficacy as equally important factor and determinant for research productivity. Self-efficacy refers to the teacher's self-rating on one's ability to succeed in conducting and engaging in research activity (Quimbo & Sulabo 2013). Both authors equated research productivity to the number of research projects or studies conducted or produced by individual researcher for the last five (5) years.

Methodology

Type of Research

This study employed a quantitative descriptive-evaluative method. Hubbard, Robin (2016) defined descriptive research as "collection of data describing some phenomenon that may or may not be quantifiable such as closed ended scales, open-ended survey questions, observation and interviews". Moreover, it geared towards evaluating and measuring the result against some known hypothesized norms and standards.

In this study, the researcher will identify the research outputs produced by 19 schools based on the themes stipulated in the Regional Reformulated Research Agenda Version 2 (RM No. 57, s. 2018). Moreover, the three respondents will also be assessed in terms of their needs and competencies on the different areas of research: technical aspect, parts of research paper writing and other identified needs.

Respondents and Sampling

There were three sets of respondents in this study, namely, selected Teachers I-III (Proficient Teachers), Master Teachers (Highly Proficient Teachers) and School Administrators (Head Teachers and School Heads) of the nineteen (19) schools in a certain Cluster in Pampanga. The first group of respondents includes one hundred sixteen (116) Proficient Teachers. The second group of respondents consisted of thirty (30) Highly Proficient Teachers/Master Teachers. The third group is comprised of eight (8) Administrator composed of School Heads and Head Teachers. A total of one hundred fifty four (154) respondents participated in the study.

Instruments

The study adopted a questionnaire by Formeloza and Patena (2013) which measure the research capability of the faculty . the tools was slightly. The first part of the questionnaire included the data profile of the three respondents. The second part comprised of six (6) items that will assess the research output of the three respondents. Twenty-nine (29) items will compose needs of the three respondents in the area of research. The fourth part is composed of two (2) item open-ended question that will determine the problems encountered by the respondents in conducting research and their recommendations to enhance the Cluster 6 Research management System. A pilot study was conducted to a select SHS student to ensure validity and reliability of the study with a Cronbach alpha of 0.96. A Likert scale was used to assess the indicators of the study.

Table 1:4-Point Likert Scale on the Competencies and Needs of Respondents

Statistical Limit	Scale	Qualitative	Descriptive
3.28 - 4.00	4	Very Much Needed/ Highly Competent	VMN/VMC
2.52 - 3.27	3	Needed/Competent	N/C
1.76-2.51	2	Moderately Needed/ Moderately Competent	MN/MC
1.00 – 1.75	1	Not Needed/Not Competent	NN/NC

Data Collection Procedures

To gather the data, an adopted questionnaire by Formeloza and Patena (2013) which measure the research capability of the faculty. This tool will measure the research productivity of teachers, master teachers, and school head in terms of the parts of research writing, their competencies and needs and other challenges they encountered. The survey questionnaires will distributed to the three respondents after the permission from the proper authorities will be obtained. The results will be collected for tallying and analysis to identify the average mean, rank and significant difference, if there is any.

Ethical Considerations

To ensure the confidentiality of the respondents, all identities will be kept anonymous. This is also in compliance to the research confidentiality clause. Free and informed consent will be secured from the three respondents. The whole procedure of data gathering commenced after all the permission from the proper authorities was secured. Moreover, in adherence to the standard and ethics of research, the author guarantees that this study is an original work and will be properly citing other authors and sources of information using a referencing style requirement.

Data Analysis

In analyzing the data, descriptive and inferential statistics will be employed. The collected data from the survey questionnaire will use average mean and standard deviation, and ranking. The t-test and One-Way ANOVA will be employed to determine the possible significant differences among the three respondents in their needs and competencies and their level of research productivity and in the 19 schools in Cluster 6. The result of qualitative data gathering will used utilized to identify areas of enhancing the Cluster Based Research Management System. The Enhanced Developmental Plan for Cluster 6 Research Management will be crafted to maximize the promotion of Research Culture in the Cluster and in the School Division of Pampanga.

Results

Profile of Respondents

This study was participated by 116 proficient teachers, 30 highly proficient teachers and 8 administrators. Majority of the proficient teachers-respondents were 20-30 years old comprising the 43.10% population. Most of the respondents from the proficient teachers are female (68.10%) enjoying a permanent status. Highly proficient teachers-respondents were mostly 41 years old and above and are majority female who have been serving in the agency for six years and above. For the administrators-respondents, majority of them were female (63%) who were all enjoying permanent status. Moreover, All Administrators-respondents finished their graduate studies.

Research Outputs/Productivity of the Three Respondents

Out of 154 respondents, only 3 (10%) highly proficient teachers were able to produce a full-blown Basic Education Research Fund (BERF) research. From the administrators-respondents, only 2 (25%) were able to produce a full blown BERF research. Majority of the respondents (149) were not able to produce a full-blown research including the proficient teachers-respondents. For a non-BERF funded research, 10 of the proficient teachers or 8.62% of the respondents were able to complete. From the highly-proficient teachers-respondents, four (4) or 13.33% were able to submit while 3 or 60 % from the administrators-respondents completed the research. Out of 154, 88.96 % or 137 respondents were not able to submit a non-BERF funded research. In terms of approved research proposal, thirteen (13) proficient teachers-respondents or 12.20 % and four (4) highly proficient teachers –respondents or 13.33% were able to comply. From the administrators-respondents, only one (1) out of eight (8) was able to have a research proposal approved while 136 respondents were not able to have an approved research proposal. Twenty-six (26) proficient teachers-respondents or 22.41% were able to submit their research proposal while 14 out of 30 highly proficient teachers or 46.67% were able to submit a research proposal. Moreover, 4 out 8 administrators-respondents or 50% were able to submit a research proposal while 110 respondents out of 154 or 71.42% of the total respondents were not able to submit a research proposal to the agency concerned.

Research Competencies and Needs of the Three Respondents

The mean responses of the three respondents on their perceived research competencies and needs in terms of technical aspect are presented in Tables 6.

Table 2: Mean Responses of the Three Respondents on their Competencies on Technical Aspects of Research

INDICATORS COMPETENCY	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATORS			TOTAL		
	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR
1. Research paper format	2.233	1.02	MC	2.47	0.81	MC	2.88	0.64	C	2.52	0.82	C
2. Grammar and sentence construction	2.362	1.04	MC	2.73	0.73	MC	3.38	0.74	VMC	2.82	0.84	C
3. Research Organization	2.095	0.96	MC	2.40	0.71	MC	2.63	1.06	C	2.37	0.91	MC
4. Communication s (in writing and the conduct of research gathered)	2.216	1.03	MC	2.33	0.79	MC	3.00	0.75	C	2.52	0.86	C
Legend:	3:28-4:00	VMC	Very Much Competent			SD: Standard Deviation						
	2:52-3:27	C	Competent			DR: Description						
	1:76-2:51	MC	Moderately Competent									
	1:00-1:75	NC	Not Competent									

It can be gleaned in Table 2 that indicator 2 “Grammar and sentence construction” has the highest mean score of 2.36 and is rated competent by proficient teachers. The same indicator was rated the highest by highly proficient teachers with a mean score of 2.73 while administrators has a mean score of 3.38. The three respondents rated indicator 2 “Grammar and sentence construction” as the highest indicator with a grand mean score of 2.82. On the hand, proficient teachers rated indicator 3 “Research Organization” with the lowest mean score of 2.09. The highly proficient teacher rated indicator 4 “Communication

skills (in writing and the conduct of research data gathered)” with the lowest means score of 2.33 while the administrators rated indicator 3 “Research Organization” with a lowest mean score of 2.63. Lastly, the three respondents rated indicator 3 “Research Organization” with the lowest grand mean score of 2.37.

The mean responses of the three respondents on their perceived research competencies and needs in terms of writing Research Introduction is presented in Tables 3.

Table 3: Mean Responses of the Three Respondents on their competencies in writing Research Introduction

INDICATORS Competency	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATORS			TOTAL		
	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR
Writing Introduction												
1. Writing an Introduction	2.47	0.76	MC	2.53	0.81	C	3.00	0.76	C	2.67	0.78	C
2. Creating research Problem	2.43	0.71	MC	2.67	0.65	C	2.88	0.64	C	2.66	0.67	C
3. Formulating theoretical framework/Conceptual Paradigm	2.37	0.72	MC	2.47	0.77	MC	2.63	0.92	C	2.49	0.80	C
4. Formulating hypothesis	2.40	0.73	MC	2.47	0.76	MC	2.63	0.92	C	2.50	0.80	C
5. Sources of Literature Review	2.41	0.65	MC	2.47	0.76	MC	2.63	0.74	C	2.50	0.72	C
6. Conceptualizing research literature	2.37	0.67	MC	2.27	0.84	MC	2.63	0.92	C	2.42	0.81	MC

Legend: 3:28-4:00 VMC Very Much Competent SD: Standard Deviation
 2:52-3:27 C Competent DR: Description
 1:76-2:51 MC Moderately Competent
 1:00-1:75 NC Not Competent

It can be seen in Table 3 that indicator 1 “Writing an Introduction was rated very much competent by proficient teachers with a mean score of 2.47 while indicator 3 “Formulating theoretical framework/Conceptual Paradigm” and indicator 6 “Conceptualizing research literature” were given the lowest mean score of 2.37. Indicator 2 “Creating research Problem” was given a highest rating of highly proficient teachers with a mean score of 2.67 while indicator 6 “Conceptualizing research literature” with a mean score of 2.27 was given the lowest mean score. The administrators rated indicator 1 “Writing an Introduction” with the highest mean score of 3.0 while indicators 3, 4, 5 and 6 were given the lowest mean score of 2.63. A grand mean score of 2.67 was by the three respondents to indicator 1 “Writing an Introduction” while indicator 6 “Conceptualizing research literature” was given a lowest rating of 2.42.

Table 4: Mean Responses of the Three Respondents on their Competencies on Research Methodology

INDICATOR Competency	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATORS			TOTAL		
	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR	Mean	SD	DR
RESEARCH METHODOLOGY												
1. develop research design	2.30	0.68	MC	2.33	0.83	MC	2.50	1.20	MC	2.38	0.90	MC
2. data collection	2.39	0.69	MC	2.53	0.80	C	2.75	1.28	C	2.56	0.93	C
3. data entry (coding and cleaning)	2.28	0.74	MC	2.53	0.78	C	2.75	1.16	C	2.52	0.89	C

4. sampling/ sample framework	2.32	0.67	MC	2.60	0.82	C	2.63	1.30	C	2.51	0.93	MC
5. constructing questionnaires	2.33	0.63	MC	2.40	0.82	MC	3.00	0.93	C	2.58	0.79	C
6. wording and ordering of questions	2.27	0.69	MC	2.47	0.83	MC	2.75	0.89	C	2.49	0.80	MC
7. statistical tools / treatment	2.22	0.74	MC	2.27	0.78	MC	2.25	1.04	MC	2.24	0.85	MC

Legend: 3:28-4:00 VMC Very Much Competent SD: Standard Deviation
 2:52-3:27 C Competent DR: Description
 1:76-2:51 MC Moderately Competent
 1:00-1:75 NC Not Competent

It can be seen in Table 4 that indicator 1 “Writing an Introduction was rated very much competent by proficient teachers with a mean score of 2.47 while indicator 3 “Formulating theoretical framework/Conceptual Paradigm” and indicator 6 “Conceptualizing research literature” were given the lowest mean score of 2.37. Indicator 2 “Creating research Problem” was given a highest rating of highly proficient teachers with a mean score of 2.67 while indicator 6 “Conceptualizing research literature” with a mean score of 2.27 was given the lowest mean score. The administrators rated indicator 1 “Writing an Introduction” with the highest mean score of 3.0 while indicators 3, 4, 5 and 6 were given the lowest mean score of 2.63. A grand mean score of 2.67 was by the three respondents to indicator 1 “Writing an Introduction” while indicator 6 “Conceptualizing research literature” was given a lowest rating of 2.42.

The mean responses of the three respondents on their perceived research competencies and needs in terms of research results and discussion is presented in Tables 5.

Table 5: Mean Responses of the Three Respondents on their Needs and Competencies on Results and Discussion

INDICATOR <i>Competency</i>	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATOR S			TOTAL		
	MEAN	SD	DR	MEAN	SD	DR	MEAN	SD	DR	MEAN	SD	DR
RESULTS & DISCUSSION												
1. presentation of data gathered	2.27	0.77	MC	2.27	0.83	MC	2.75	1.0	C	2.43	0.8	M
2. interpretation / analysis of results	2.40	0.79	MC	2.47	0.83	MC	2.88	0.9	C	2.58	0.8	C
3. correlate literature to affirm results	2.28	0.76	MC	2.47	0.83	MC	2.63	0.9	C	2.46	0.8	M

Legend: 3:28-4:00 VMC Very Much Competent SD: Standard Deviation
 2:52-3:27 C Competent DR: Description
 1:76-2:51 MC Moderately Competent
 1:00-1:75 NC Not Competent

It can be gleaned in Table 5 that indicator 2 “interpretation/analysis results “was given a highest mean score of 2.40 by proficient teachers while indicator 1 “presentation of data gathered” was given the lowest means core of 2.27. On the other hand, highly proficient teachers rated indicator 2 and 3 with a mean score of 2.47 while indicator 1 was given a lowest mean score of 2.27. Furthermore, administrators rated indicator 2 with a means core of 2.88 while indicator 3 was rated 2.63. The

three respondents rated indicator 2 with the highest mean score of 2.58 while indicator 1 with a grand mean score of 2.43 was rated as the least indicator.

The mean responses of the three respondents on their perceived research competencies and needs in terms of research results and discussion is presented in Tables 6.

Table 6: Mean Responses of the Three Respondents on their Competencies on Research Conclusion and Recommendations

INDICATOR COMPETENCIE S	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATORS			TOTAL		
	MEAN	SD	DR	MEA N	SD	DR	MEAN	SD	DR	MEAN	SD	DR
1. synthesizing results	2.31	0.70	C	2.73	0.81	C	2.75	1.035	C	2.60	0.85	C
2. expressing additional value or importance to the existing facts	2.27	0.80	MC	2.72	0.83	C	2.75	1.164	C	2.58	0.93	C
3. formulating recommendations	2.34	0.71	C	2.72	0.90	C	3.125	0.834	C	2.73	0.81	C
4. to address the research problem and concerns	2.33	0.72	C	2.73	0.85	C	2.875	1.125	C	2.64	0.90	C

Legend: 3:28-4:00 VMC Very Much Competent SD: Standard Deviation
 2:52-3:27 C Competent DR: Description
 1:76-2:51 MC Moderately Competent
 1:00-1:75 NC Not Competent

Table 6 presented indicator 3 “formulating recommendation” as the highest mean score while indicator 2 “expressing additional value or importance to the existing facts” was given the lowest mean score of 2.27by proficient teachers. Highly proficient teachers rated indicator 1 “synthesizing results” and indicator 4” to address the research problem and concerns” with the highest mean score of 2.73 while indicator 2 and 3 were given the lowest rating of 2.72. Indicator 3 was considered as the highest indicator by the administrators with a means score of 3.12 while indicate 1 and 2 were given the lowest mean score of 2.75. The three respondents rated indicator 3 “formulating recommendations” with a highest mean score of 2.73 while indicator 2 “expressing additional value or importance to the existing facts” was rated with lowest mean score of 2.58.

Table 7: Mean Responses of the Three Respondents on their Competencies on Other Parts of Research

INDICATOR COMPETENCY	PROFICIENT TEACHERS			HIGLY PROFICIENT TEACHERS			ADMINISTRATORS			TOTAL		
	MEA N	SD	DR	MEA N	SD	DR	MEAN	SD	DR	MEAN	SD	DR
1. clearly stating the research focus	2.31	0.73	MC	2.73	0.94	C	2.88	1.13	C	2.64	0.93	C
2. summarizing the research methods used	2.30	0.69	MC	2.70	0.92	C	2.88	1.13	C	2.63	0.91	C
3. outlining the results and discussion of the study	2.27	0.70	MC	2.77	0.94	C	2.88	1.13	C	2.64	0.92	C

4. summarizing conclusion and recommendations of the study	2.30	0.68	MC	2.77	0.94	C	2.88	1.13	C	2.65	0.91	C
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Legend: 3:28-4:00	VMC	Very Much Competent	SD: Standard Deviation
2:52-3:27	C	Competent	DR: Description
1:76-2:51	MC	Moderately Competent	
1:00-1:75	NC	Not Competent	

It can be gleaned in Table 7 that proficient teachers’ respondents considered indicator 1 “clearly stating the research focus” with a highest mean score of 2.31 while indicator 3 “outlining the results and discussion of the study” was rated with a mean score of 2.27. The highly proficient teachers rated indicator 3 and 4 with a highest mean score of 2.77 respectively while indicator was given a lowest mean score of 2.70. The administrator’s respondents rated all indicators with equal mean score of 2.88. Moreover, the three respondents rated indicator 4 “summarizing conclusion and recommendations of the study” as the highest mean score of 2.65 while indicator 2 “summarizing the research methods used” was rated with the lowest mean score of 2.63.

Other Problems Encountered by Respondents in Conducting Research

The same participants identified other problems they encountered in conducting classroom research such **slow feedback mechanism**. This was attested by a respondent:

P1 – “The research when passed in the division office, it would take 10 months or more to return in school, how can we able to finish our study?”

P2 – “The research proposal that I submitted once return back to me for the corrections, when I resubmit to the division office, nothing happened until now.”

P3 – “The action researches we submitted were not conducted since they were not checked promptly by the research dept.- division office.”

Another problem identified was their lack of technical skills as attested by the following participants

P4 – “I do not have any experience in making action research. Or in short this will be the first time I will make one.”

P5 – “I have never tried writing my “own” research until teaching it is quite challenging, considering that Im not equipped in this field but teaching the said subject anyway.”

Aside from these problems, other respondents also identified financial support, lack of incentive mechanism, scarcity of needed materials, substantial work/teaching loads and lack of time.

Discussion

Republic Act (R.A.) 9155, An Act Instituting A Framework of Governance for Basic Education, Establishing Authority and Accountability, Renaming the Department of Education, Culture and Sports as the Department of Education, and for Other Purposes, otherwise known as the Governance of Basic Education Act of 2001 re-emphasized the vital role of research in the academe among teachers and administrators alike. In the Department of Education, it mandates all school’s divisions to engage in research activities which implies that all teaching and non-teaching personnel in the Department to fully implement research in terms of doing priority improvement projects for future referrals and modifications. The demands of the K-12 education among policy makers, teachers and other stakeholders especially in promoting the 21st Century skills is also stipulated in Republic Act (R.A.) 10533 “An Act Enhancing the Philippine Basic Education System by Strengthening Its Curriculum and Increasing the Number of Years for Basic Education, Appropriating Funds Therefor and for Other Purposes,” otherwise known as the “Enhanced Basic Education Act of 2013, Escobar (n.d), a school head in a Spanish Inclusion School, pointed out that learners need skills and technologies such as collaboration, critical thinking , adaptability, grit and perseverance, that equipped them to succeed in a world characterized by globalization. Moreover, he pointed out that 21st century learners should possess flexible mindset and teachers should help them learn how to work with and listen to different point of view. Critical thinking skills enable one to analyze facts in order to form a judgment. Hey-Williams (2017), a director of Curriculum and Instruction in Two Rivers Public Charter School, identified five constructs associated to critical thinking as a cognitive skill: 1) schema development and activation, 2) effective reasoning, 3) creativity and innovation, 4) problem solving and 5) decision making. As facilitators of learning, the proficient teachers, highly proficient teachers and

administrators are directly involved in promoting the 21st century learning skills. To do this, those directly involved with learners and other stakeholders should continually assess its mechanisms and output in order to ensure quality education as stipulated above. Hence, conducting research is very essential, both BERF and non-BERF funded. Moreover, the Results – Based Performance Management System as stipulated by Department of Education Order (D.O) Number 2, series if 2015 introduced Individual Performance Commitment and Review Form (IPCRFs) that requires highly proficient teachers to conduct an action or applied research at least once a year. Proficient teachers however, can conduct research as part of their plus factor point for the IPCRF.

This School Year 2019-2020, the School Division conducted a yearly research congress that showcased the research outputs of proficient teachers, highly proficient teachers and administrators. Despite the success of the activity, the Schools Division Superintendent highlighted the limited output in research which was less than 10% of the total population of the teachers in the division. This study identified the respondents research outputs such as full blown BERF funded research, full blown non-BERF funded research, approved research proposal and submitted research proposal. The results of the study echoed the sentiments of the school's division superintendent. This is true to different clusters in the school's division despite the initiative of other school leaders in promoting the culture of research in support to the strategic directions laid down by its decision makers. Some factors identified by the responds are their lack of technical skills in conducting research, financial support, slow feedback mechanism, lack of incentive mechanism, and lack of time due to substantial teaching loads and other assignments given to them by the school. Research productivity in the academe can be contributed by different factors (Quimbo & Sulabo 2013; Bland et. at 2005; Nygaard, 2017). Bland (2002) suggested that research productivity is excellent if the researcher possesses specific individual characteristics in an institution which is conducive in conducting research and whose institution is led by someone who has essential leadership characteristic who utilizes an “assertive-participatory management approach”. These three essential characteristics (individual characteristics, institutional characteristics and leadership characteristics) are necessary to promote research productivity in an institution. Individual characteristics, according Bland et al (2005) includes socialization, motivation, content knowledge, basic and advanced research skills, simultaneous projects, orientation, autonomy and commitment and work habits. Moreover, equally important are institutional characteristics comprising of the following: recruitment and selection, clear coordinating goals, research emphasis, culture, positive group climates, mentoring, communication with professional network, resources, sufficient work time, size/experience/expertise, communication, rewards, brokered opportunities, decentralized organization, and assertive participative governance. Lastly, leadership characteristics include scholarly, research oriented, capably fulfils all critical leadership roles and a participative leader. Based on the results of the study, the individual characteristics served as the foundation and “prerequisite” of the institutional and leadership characteristics that led to institutional research productivity (Bland et al 2005). The same authors highlighted that institutional characteristics and leadership characteristics such as “clear coordinating goals, research emphasis, communication assertive participative governance” should also be enhanced in order to produce teachers who are research productive. Following White et al 2012, Creamer 1998, Fairweather 2002, Nyagaard 2017 emphasized the importance of institutional support and argued that institutional goals should be in line with individual own goals.

While subscribing to the importance of institutional and individual characteristics as important indicators of research productivity, Quimbo and Sulabo (2013) identified self-efficacy as equally important factor and determinant for research productivity. Self-efficacy refers to the teacher's self-rating on one's ability to succeed in conducting and engaging in research activity (Quimbo and Sulabo 2013). Both authors equated research productivity to the number of research projects or studies conducted or produced by individual researcher for the last five (5) years.

Conclusion

The results of this study suggest that efforts of the agency to enhance the research productivity of its stations is very much alive. However, certain areas should be considered and improved in order to respond to the demands of 21st century education. The very low research productivity as seen in the results requires the concerned administrators and policy makers to capacitate teachers on their technical skills especially in the areas of research organization, conceptualization of research literatures, formulating framework, constructing questionnaires, using statistical tools, statistical analysis, and summarizing methods used. Moreover, the department should also improve its feedback and incentive mechanism to encourage more teachers to engage in research productivity. The overwhelming teaching and non-teaching loads assigned to teachers should also be reassessed to ensure more involvement especially among proficient teachers. To maximize these results, highly proficient teachers should be more collaborative with the proficient teachers who are more directly engaged with the

learners and their difficulties. The regular assessment conducted in the classroom especially those related to the development of the 21st century skills competencies should be used as base data for both highly proficient teachers and administrators in planning innovations and improvement of the curriculum and instruction. Recently, the phenomenon of the COVID 19 pandemic which post more challenges to the educational system will also add to the motivations of the school personnel in developing paradigms and strategies in order to deliver the flexible and multimodal learning delivery suggested by the Department of Education in the implementation of the K12 Curriculum. The new normal of basic education in the Philippines will continue to necessitate the conduct of research in line with the Learning Continuity Plan of the department. This will ensure the delivery of quality, relevant and respondent basic education among Filipino learning amidst and after the pandemic. Future research is also suggested to look into other areas of research productivity especially in the area of online mechanism, digital pedagogies, flexible delivery mechanism assessment and other related topics for K12 education will ensure the development of the 21st century skills of the learners.

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