Research Exposure and Competence of Senior High School Teachers in Relation to Learners' Performance

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Abstract

This study investigated the teachers' research exposure and competence in relation to learners' performance. In this descriptive correlational study, a researcher-made questionnaire on research exposure and competence as well as academic performance of learners in research was used to gather data from sixty senior high school teachers teaching research subjects in the North Negros Subdivision of the Division of Negros Occidental during the School Year 2017-2018. A scoring system was set to give points on every item of the exposure and competence in research while the average grade of the students was used to determine the students' level of academic performance in research. The z-test, ANOVA, Pearson r, and Multiple Regression Analysis at 5% level of significance were used to analyze the data gathered. The exposure in research of the teachers was at a low level, whereas their competence in research was at a very low level. More to that, the learners' academic performance was at very satisfactory level. Moreover, there was no significant difference in the level of exposure in research of the senior high school teachers when teachers were grouped and compared according to sex, highest educational attainment, length of service, area of specialization, and position. Also, there were no significant differences in the level of competence in research of the senior high school teachers when these teachers were grouped and compared according to the highest educational attainment, length of service, area of specialization, and position. However, male and female teachers differ significantly in their level of competence in research. Furthermore, teachers' exposure to research could significantly influence their level of competence, but learners' performance in research is not significantly affected by the teachers' exposure and competence in research. Lastly, the exposure and competence in research of teachers do not significantly predict learners' performance. It is recommended that further skills and competency enhancement and training should be conducted to capacitate teachers teaching research subjects.

Keywords: Academic, research exposure, competence, learners' performance, Negros Occidental

Bio-notes:

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Introduction

Background of the Study

The role of teachers in the delivery of instruction is very important. Based on research, the teacher's effectiveness encompasses his preparation and knowledge of the instruction, experience, subject matter knowledge and even certification (Richland, 2017). Moreover, a teacher cannot give what he does not have (Villanueva, 2015). So, the quality of teachers has a significant effect on the quality of learners they will be producing. Hence, teachers are given different opportunities where they can be exposed to new trends in teaching that will enhance their teaching-learning practice.

Since 2012, the Philippines' educational system had changed through the Republic Act 10533, when K to 12 Basic Education Curriculum was implemented. One of the salient changes in basic education is the inclusion of research subjects, namely Practical Research 1 (Qualitative); Practical Research 2 (Quantitative); and Inquiries, Investigations, and Immersion to Grades 11 and 12 curricula. These subjects are reflected in the sample suggested scheduling of subjects that can be downloaded in the Department of Education (DepEd) official website. Likewise, the concept of research is integrated or incorporated in various subjects, especially language ones in senior high school.

However, over the years, research has been mystified as difficult as students hold negative stereotypes towards the subject. These stereotypes can be associated with the students' learning behavior, teachers' modality of teaching and learning, and other intervening environmental factors (Pogue, 2016). In addition, according to Kionisala (2017), the initial reaction of learners towards research is that it is a difficult subject. However, he admits that teachers' mastery in teaching the subject affects their ability to motivate their students to love research. This made the researcher pondered whether or not the competence of the teachers in teaching research may improve the performance of their learners and somehow may lessen the negative stereotypes that learners have towards the research subject. Hence, teachers play a vital role in making research subjects easy and fun to learn so that stereotypes will be lessened.

Studies revealed that government service teachers are more likely to push through continuing education, requiring them to accomplish a full-blown research study upon graduation. On the other hand, those teachers in private institutions are less likely to pursue postgraduate studies but are more exposed to opportunities in research since

the private curriculum aids in student research mentorship (William & Coles, 2017; Leckie, Pettigrew & Sylvain, 2016). The researcher wonder if there is truth in the expectation that a person is more adept in research when he pursues continuing education. In the same manner that when someone is exposed to research opportunities, more research skills will be developed.

However, most of the teachers in secondary schools are not adept with research nor have they even undertaken any research study on their own (Onwioduokit & Ikwa, 2013). In addition, according to Marsden and Kasprowicz (2017), classroom-based practitioners reported attending significantly fewer events providing access to research findings. These classroom-based practitioners most often reported attending events by teaching associations rather than research conferences. In addition, 33% of the group reported never having heard about research at a meeting. In comparison, the non-school-based respondents reported reading about research and reading primary research reports significantly more often than the classroom teachers. Over half of the classroom teachers and around a quarter of non-school-based practitioners reported never reading an original research report.

Meanwhile, the researcher also observed that with the inclusion of research subjects in the senior high school program, teachers had difficulty looking for reference materials and teaching strategies to teach the subject. This was evident when most of the teachers teaching research subjects in her school and neighboring schools asked her on what books to buy and how to teach the subject since it was their first time to teach. More so, some of them were not even exposed to research nor have written any research since not all had finished at least master's degree. Hence, she wondered if the exposure in research significantly affects the learners' performance and whether it affects their competence.

The abovementioned scenarios of exposure and competence in research are quite alarming. At present, teachers are provided with curriculum guides in teaching the research subjects available online. Reference materials patterned to competencies in the curriculum guide are also available in various book stores. However, despite these, the researcher has observed difficulty in teaching the subject since, during the mass training for teachers, this research subject was not thoroughly discussed. It can also be traced in the course offerings for education that there were no courses where a teacher specializes in research. This situation made the teachers to be not confident in teaching research subjects.

Being a research teacher, the researcher sees this situation as a problem that needs to be studied. Through this study, the researcher would be able to determine the status of the research teachers in terms of their exposure and competence in research and determine the learners' performance in research. The findings of this study can be used in formulating enhancement training in research for teachers in the field.

The general objective of this investigation was to determine the level of research exposure and competence of senior high school teachers in relation to learners' performance in the North Negros Subdivision of Division of Negros Occidental during the School Year 2017 – 2018.

Specifically, this study aimed to answer the following questions:

1. What is the level of exposure in research of senior high school teachers in terms of readings, trainings/seminars/workshops, and colloquia/symposia?

2. What is the level of exposure in research of senior high school teachers in terms of sex, highest educational attainment, length of service, area of specialization, and position?

3. What is the level of competence in research of the senior high school teachers in terms of teacher-related areas and student-related areas?

4. What is the level of competence in research of the senior high school teachers in terms of sex, highest educational attainment, length of service, area of specialization, and position?

5. What is the level of learners' performance in research?

6. Is there a significant difference in the level of exposure in research of senior high school teachers when these teachers are grouped and compared according to sex, highest educational attainment, length of service, area of specialization, and position?

7. Is there a significant difference in the level of competence in research of the senior high school teachers when these teachers are grouped and compared according to sex, highest educational attainment, length of service, area of specialization, and position?

8. Is there a significant relationship between exposure and competence in research of senior high school teachers?

9. Is there a significant relationship between the level of exposure in research of senior high school teachers and the level of learners' performance in research?

10. Is there a significant relationship between the level of competence in research of senior high school teachers and the level of learners' performance in research?

11. Can research exposure and competence of teachers significantly predict learners' performance?

Methodology

Research Design

This study employed a descriptive correlational research design. The descriptive correlational design aims to determine the existence and the degree of a relationship between two or more variables (Prieto, Naval, & Carey, 2017). This design also aims to show the direction of variable relationships, that is, whether negative or positive relationship exists between or among them. Moreover, this

research design is used to gather information on current situations and conditions. This design is considered appropriate since it aimed to identify relationships between correlated variables: research exposure and competence; research exposure and academic performance; and research competence and academic performance. Lastly, this are of investigation is timely.

Respondents of the Study

A cluster sampling was used in this study since the Division of Negros Occidental is a wide schools division covering the municipality of Toboso in the North and the municipality of Hinoba-an in the South that made the target respondents spread across in a wide geographical location. Through tossing of coin, a cluster was chosen between the North Negros Subdivision and South Negros Subdivision of the Division of Negros Occidental. Hence, this study utilized the sixty (60) senior high school teachers teaching research subjects in the North Negros Subdivision of the Division of Negros Occidental during the school year 2017 – 2018. There were 13 male and 47 female teachers from 35 senior high schools in the North Negros Subdivision of the Division of Negros Occidental comprising the study respondents. The majority of them earned a Master's Degree (63.3%), specializes in English (46.7%), Teacher II (51.7%), and four years and below in the service (61.7%).

Instrumentation and Data Collection

A 33-item researcher-made questionnaire on exposure and competence in the research was used to gather data. Exposure in research comprised fourteen (14) items on their exposure to literature/readings, trainings/seminars/workshops, and colloquia/symposia. The first eight items were on the literature/reading and was answerable by yes or no. If the response was yes, the respondents were asked to identify if the literature belongs to local or foreign. Then three items each was allotted for the trainings/seminars/workshops, and colloquia/symposia. For every item, the respondents were asked of their role such as participant, speaker, facilitator, organizer, or coordinator. In addition, the level was also asked if it belonged to school, district, division, regional, national, or international. Whereas competence in research was comprised of nineteen (19) items which were further divided into self-related (publication, presentation, dissemination) and student-related (guided learners on publication, coached learners on presentation, and winnings of coached learners). For each item in the competence, the respondents chose from yes or no choices and if they answered yes, they were asked to identify the category as local or international. A scoring system was used in giving points to each item. The average grades of the learners handled by the teacher-respondents were also gathered.

The research instrument was validated and tested for its reliability. Experts in Research, English, and Statistics validated the instrument using the criteria of Good and Scates. Suggestions were likewise carried for the modification of the instrument. The computed validity index was 4.71 and was interpreted as excellent and therefore considered valid.

A test-retest method with two weeks intervals checked the reliability of the instrument. A total of 25 senior high school teachers teaching research from another division answered the questionnaire. Using the Pearson product-moment correlation

coefficient or *Pearson r*, the computed reliability index was 0.951; thus, the test instrument was interpreted very high and considered reliable.

Before the respondents participated in this investigation, a consent form was given to the respondents informing them the purpose of the study and assuring them of the confidentiality of the information gathered. Likewise, the participants were not pressured to take part in this investigation and that their individual autonomy was respected. When the respondents had no questions, the questionnaires were then given for them to answer and enough time was allotted. The researcher personally administered the survey to the respondents.

Data Analysis

The data obtained were analyzed to answer the specific problems of the study. Statistical tools such as summation (scoring system) and mean were used to determine the level of research exposure, competence, and learners' performance.

The z-test and ANOVA were used to find out whether a significant difference exists in the level of research exposure and competence of the respondents when they were grouped and compared according to sex, highest educational attainment, length of service, area of specialization, and position. Pearson product-moment correlation coefficient or *Pearson r* was used to determining the relationship between the teachers' research exposure and competence, teachers' research exposure and learners' performance, and teacher's research competence and learners' performance. Multiple Regression Analysis was used to determine whether or not research exposure and competence of teachers can significantly predict learners' performance. All tests were set at a 0.05 level of significance.

The level of research exposure and competence of the teacher- respondents were interpreted using a scoring using the following criteria: a. Above 14.40=Very high; b. 10.81–14.40=High; c. 7.21–10.80=Moderate; d. 3.61–7.20=Low; and e. Below 3.61=Very low. On the other hand, the level of learners' performance was interpreted using a scoring using the following criteria: a. 90–100=Outstanding; b. 85–89=Very Satisfactory; c. 80–84=Satisfactory; d. 75 79= Fairly Satisfactory, and e. Below 75= Did Not Meet Expectations.

Results and Discussions

Table 1
Level of Exposure in Research of Senior High School Teachers in Terms of Selected Areas

Area	Mean	Interpretation
Readings	4.11	Low
Trainings/Seminars/Workshops	5.85	Low
Colloquia/Symposia	2.63	Very Low
Over-All	4.20	Low

As a whole, the teachers' research exposure was at a low level. However, among the three areas, the area of colloquia/symposia, reached a very low level.

This is in line with the two reported studies of Marsden and Kasprowicz (2017), which highlighted the limited exposure to primary research of educators. The findings mentioned in their study reported classroom-based practitioners attending significantly fewer events providing access to research findings. They most often reported attending events by teaching associations rather than research conferences. One-third of the group reported never having heard about research at a conference. Over half of the classroom teachers and around a quarter of the non-school-based practitioners reported never having read an original research report. In addition, most of the teachers in secondary schools are not adept with research nor have they even undertaken any research study on their own (Onwioduokit and Ikwa, 2013).

Table 2
Level of Exposure in Research of Senior High School Teachers when Grouped according to Selected Variables

Variable	Category	Mean	Interpretation
Sex	Male	4.40	Low
	Female	4.14	Low
Highest Educational Attainment	Non-master's Degree	3.33	Very Low
	Master's Degree	4.70	Low
Area of Specialization	English	3.65	Low
	Science	4.91	Low
	Mathematics	3.85	Low
	Others	5.97	Low
Position	Teacher I	3.90	Low
	Teacher II	4.45	Low
	Teacher III	3.94	Low
Length of Service	4 years and below	4.48	Low
	Above 4 years	3.75	Low

The level of exposure in senior high school teacher- respondents' research was determined based on the groupings of the selected variables, namely sex, highest educational attainment, area of specialization, position, and length of service.

In terms of sex, both males and females had a "low" exposure in research though the male had a higher mean score of 4.40 against 4.14 of the female. This implies that both male and female senior high school teachers had little exposure in the field of research.

In terms of the highest educational attainment, those who were a "non-master's degree" reached a "very low" exposure with a mean of 3.33, while those who earned a "master's degree" had a "low level" of exposure with a mean of 4.70. However, it was very contrasting to note that teachers in government education are more likely to push through continuing education which requires them to accomplish a full-blown research study upon graduation (William & Coles, 2017; Leckie et al., 2016) but this study shows that their exposure was at a low level. Moreover, this implies that the higher the education of the respondents, the higher is their exposure to

research. Teachers who seek higher education will be exposed to more learnings, including research, since this is being taught in postgraduate studies. Aside from that, they were already able to write their theses or dissertations. Through this, their exposure to research has increased.

In terms of area of specialization, teachers whose major is English, Science, Science, Mathematics, and others obtained a "low level" of exposure. This implies that despite the area of specialization of the senior high school teachers, they all had the same level of exposure. This suggests that these teacher-respondents shared the same characteristics, given that they belonged to one subdivision of the Negros Occidental. Also, their field of specialization does not guarantee to have more exposure to research.

In terms of position, teachers who hold Teacher I-III items had a "low level" of exposure. In terms of the length of service, senior high school teachers who had shorter (below 4 years) and longer (above 4 years) had the same “low level” of exposure in research. All the senior high school teacher-respondents had the same level of exposure in research. This suggests that they all share the same characteristics, given that they are under one division. The position of a teacher does not mean having more exposure to research.

Table 3
Level of Competence in Research of Senior High School Teachers in Terms of Selected Areas

Area	Mean	Interpretation
Teacher-Related	3.17	Very Low
Publication/Writing	1.55	
Presentation	1.07	
Dissemination	0.55	
Student-Related	1.20	Very Low
Guided Learners’ on Publication	0.48	
Guided Learners’ on Presentation	0.52	
Winnings of Coached Learners	0.20	
Over-All	1.39	Very Low

The level of competence in research of senior high school teachers was dichotomized into teacher-related and student-related. The teacher-related gathered data on teachers' publication/writing, presentation, and dissemination, whereas the student-related gathered data on guided teachers' experiences on guiding learners on publication, coaching, and winnings of the coached learners.

Analysis of data reveals that the senior high school teachers reached a “very low level” of competence in research when the areas were taken separately and collectively. The overall mean score reached 1.39 only while in the area of teacher-related reached a mean score of 1.58 and the student-related reached a mean of 1.20. The results imply that the senior high school teachers were at a very low level of competence in the field of research. This also suggests that since K to 12 Basic

Education Curriculum had just started where inclusion of research subjects is evident, teachers are starting to adjust and learn to teach the subject. Hence, teachers are a neophyte in the teaching research subjects.

This study is supported by Vinluan (2012) when she pointed out the low performance of the country in publishing researches in the SSCI- indexed journals since published researches is a manifestation of competence in research. Likewise, the Philippines has ranked lower than Singapore, Thailand, and Malaysia regarding research productivity at the individual, institutional, and national levels.

Table 4
Level of Competence in Research of Senior High School Teachers when Grouped according to Selected Variables

Area	Categories	Mean	Interpretation
Sex	Male	1.57	Very Low
	Female	1.35	Very Low
Highest Educational Attainment	Non-master's Degree	1.14	Very Low
	Master's Degree	1.54	Very Low
Area of Specialization	English	1.27	Very Low
	Science	1.93	Very Low
	Mathematics	1.00	Very Low
	Others	1.43	Very Low
Position	Teacher I	2.00	Very Low
	Teacher II	1.15	Very Low
	Teacher III	1.44	Very Low
Length of Service	44 years and below	1.23	Very Low
	Above 4 years	1.66	Very Low

The level of competence in research of senior high school teacher-respondents, were determined based on the groupings of the selected variables, namely sex, highest educational attainment, area of specialization, position, and length of service. Senior high school teachers from all the groupings of the variables considered show a "very low" competence in research. This implies that the senior high school teacher-respondents are not confident enough in research hence, teaching research subjects is a challenge for them.

This corroborated with Dinagsao (2013) when more than one-third of the 87 in-service teachers from 3 neighboring schools had below basic competencies while the rest were not confident that they have beyond basic skills in data analysis in research. Oblacion (2014) mentioned that problem of contemporary teachers' commitment to research activities is regarded as an essential condition to improve their competitiveness.

Table 5
Level of Learners' Performance in Research

N	Mean	Interpretation
60	86.73	Very Satisfactory

The average of the grades of the learners in the senior high school teacher-respondents class was gathered to determine their level of performance in research. The data reveal that the learners reached a "very satisfactory" level of academic performance in research with a mean of 86.73. This implies that the learners are just performing well in research but not to the highest level.

This corroborated with the study of Aguiran, Laco, and Salabat (2014) when the students in his study perceived their general adequacy level as adequate with a mean of 3.59. The students of his study were equipped with the desired competencies in taking research but uncertain of their knowledge and skills in terms of writing the statement of the problem, making a conceptual framework, adopting the correct methodology, and analyzing data.

Table 6

Comparative Analysis on the Level of Exposure in Research of Senior High School Teachers when Grouped and Compared according to Sex, Highest Educational Attainment, and Length of Service

Area	**Categories**	**N**	**Mean**	**z-Value**	***p-value***	**Interpretation**
Sex	Male	13	4.40	0.132	0.285	Not Significant
	Female	47	4.14			
Highest Educational Attainment	Non-master's Degree	22	3.33	-1.835	0.051	Not Significant
	Master's Degree	38	4.70			
Length of Service	44 years and below	37	4.48	0.971	0.378	Not Significant
	Above 4 years	23	3.75			

Results reveal no significant difference existed in the level of exposure in research of the senior high school teachers when they were grouped and compared according to sex, highest educational attainment, and length of service. This was evidenced by the computed z-values of 0.132, -1.835, and 0.971, respectively, with their corresponding *p-values* of 0.285, 0.051, and 0.378, all greater than the 0.05 level of significance.

This study shows that regardless of the sex, highest educational attainment, and length of service, the level of exposure in research of the senior high school teachers does not differ significantly. Since teachers belonged to one division, they were provided with centralized trainings, seminars, workshops, and other professional

meetings but if ever there was a research-related trainings, not all senior high school teachers had attended. Moreover, since the inclusion of research subjects is new to teachers, and none specializes in the said discipline, they face some teaching challenges.

Table 7
Comparative Analysis on the Level of Exposure in Research of Senior High School Teachers when Grouped and Compared by Specialization and Position

Area	Categories	N	Mean	F-Value	*p-value*	Interpretation
Area of Specialization	English	28	3.65	1.409	0.250	Not Significant
	Science	15	4.91			
	Mathematics	12	3.85			
	Others	5	5.97			
Position	Teacher I	11	3.90	0.252	0.778	Not Significant
	Teacher II	31	4.45			
	Teacher III	18	3.94			

Post-hoc Analysis for Specialization

Multiple Comparisons

Dependent Variable: AVERAGE_EXPOSURE
LSD

(I) Specialization	(J) Specialization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
English	Science	-1.26174	.89635	.165	-3.0574	.5339
	Mathematics	-.19857	.96656	.838	-2.1348	1.7377
	Others	-2.31707	1.36008	.094	-5.0416	.4075
Science	English	1.26174	.89635	.165	-.5339	3.0574
	Mathematics	1.06317	1.08497	.331	-1.1103	3.2366
	Others	-1.05533	1.44662	.469	-3.9533	1.8426
Mathematics	English	.19857	.96656	.838	-1.7377	2.1348
	Science	-1.06317	1.08497	.331	-3.2366	1.1103
	Others	-2.11850	1.49114	.161	-5.1056	.8686
Others	English	2.31707	1.36008	.094	-.4075	5.0416
	Science	1.05533	1.44662	.469	-1.8426	3.9533
	Mathematics	2.11850	1.49114	.161	-.8686	5.1056

Post-hoc Analysis for Position

Multiple Comparisons

Dependent Variable: AVERAGE_EXPOSURE
LSD

(I) Position	(J) Position	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Teacher I	Teacher II	-.55551	1.00614	.583	-2.5703	1.4592
	Teacher III	-.04899	1.09718	.965	-2.2460	2.1481
Teacher II	Teacher I	.55551	1.00614	.583	-1.4592	2.5703
	Teacher III	.50652	.84955	.553	-1.1947	2.2077
Teacher III	Teacher I	.04899	1.09718	.965	-2.1481	2.2460
	Teacher II	-.50652	.84955	.553	-2.2077	1.1947

Results revealed no significant difference in the level of exposure in research of the senior high school teachers when they were grouped and compared according to the area of specialization and position. This was evidenced by the computed F-values of 1.409 and 0.252, respectively, with their corresponding *p-values* of 0.250 and 0.778, all greater than 0.05. This study shows that regardless of specialization and position, the level of exposure in research of the senior high school teachers does not vary significantly. This further implies that the position and specialization cannot caused variation in their exposure since the DepEd provides centralized professional meetings that are attended by selected teachers and most likely, teachers who have attended research related meetings may fail to echo what they have learned from their seminars, trainings, workshops, etc.

Table 8

Comparative Analysis on the Level of Competence in Research of Senior High School Teachers when Grouped and Compared by Sex, Highest Educational Attainment, and Length of Service

Area	**Categories**	**N**	**Mean**	**z-Value**	***p-value***	**Interpretation**
Sex	Male	13	1.57	0.363	0.025	Significant
	Female	47	1.35			
Highest Educational Attainment	Non-Master's Degree	22	1.14	-0.987	0.990	Not Significant
	Master's Degree	38	1.54			
Length of Service	4 years and below	37	1.23	-1.068	0.440	Not Significant
	Above 4 years	23	1.66			

Results reveal that there was no significant difference in the level of competence in research of the senior high school teachers when they were grouped and compared according to highest educational attainment and length of service, whereas when they were grouped and compared according to sex, a significant difference was noted.

The computed z-values for the highest educational attainment and length of service were -0.987 and -1.068, respectively, with their corresponding *p-values* of 0.990 and 0.440, which are all greater than 0.05. This implies that regardless of the highest educational attainment and length of service, the level of competence in research of the senior high school teachers does not differ significantly.

On the other hand, the computed z-value for the variable sex was 0.363 with a *p-value* of 0.025, which is less than 0.05. This implies that the male teachers and female teachers vary significantly in their competence in research as evidenced by a higher mean of 1.57 against 1.35, respectively. Hence, more in-depth studies should be conducted to establish this claim.

Table 9

Comparative Analysis on the Level of Competence in Research of Senior High School Teachers when Grouped and Compared by Areas of Specialization and Position

Area	**Categories**	**N**	**Mean**	**F-Value**	***p-value***	**Interpretation**
Area of Specialization	English	28	1.27	0.933	0.431	Not Significant
	Science	15	1.93			
	Mathematics	12	1.00			
	Others	5	1.43			
Position	Teacher I	11	2.00	1.286	0.284	Not Significant
	Teacher II	31	1.15			
	Teacher III	18	1.44			

Post-hoc Analysis for Specialization

Multiple Comparisons

Dependent Variable: AVERAGE_COMPTENCE
LSD

(I) Specialization	(J) Specialization	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
English	Science	-.65733	.48916	.184	-1.6372	.3226
	Mathematics	.26750	.52747	.614	-.7892	1.3242
	Others	-.15600	.74222	.834	-1.6428	1.3308
Science	English	.65733	.48916	.184	-.3226	1.6372
	Mathematics	.92483	.59209	.124	-.2613	2.1109
	Others	.50133	.78945	.528	-1.0801	2.0828
Mathematics	English	-.26750	.52747	.614	-1.3242	.7892
	Science	-.92483	.59209	.124	-2.1109	.2613
	Others	-.42350	.81375	.605	-2.0536	1.2066
Others	English	.15600	.74222	.834	-1.3308	1.6428
	Science	-.50133	.78945	.528	-2.0828	1.0801
	Mathematics	.42350	.81375	.605	-1.2066	2.0536

Post-hoc Analysis for Position

Multiple Comparisons

Dependent Variable: AVERAGE_COMPTENCE
LSD

(I) Position	(J) Position	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Teacher I	Teacher II	.85085	.53303	.116	-.2165	1.9182
	Teacher III	.56126	.58126	.338	-.6027	1.7252
Teacher II	Teacher I	-.85085	.53303	.116	-1.9182	.2165
	Teacher III	-.28959	.45007	.523	-1.1908	.6117
Teacher III	Teacher I	-.56126	.58126	.338	-1.7252	.6027
	Teacher Ii	.28959	.45007	.523	-.6117	1.1908

Results reveal that there was no significant difference in the level of competence in research of the senior high school teachers when they were grouped and compared according to the area of specialization and position. This was evidenced by the computed F-values of 0.933 and 1.286, respectively, with their corresponding *p-values* of 0.431 and 0.284, which are all greater than 0.05.

This study shows that regardless of the area of specialization and position, the level of competence in research of the senior high school teachers does not vary significantly. Since research subjects are newly introduced, the competence of teachers as well is not yet established hence, no variation was noted in their competence.

Table 10
Relational Analysis between Exposure and Competence in Research of Senior High School Teachers

Variables	r-value	*p-Value*	Interpretation
Exposure Vs. Competence	0.648	0.000	Positive, Moderately High, Significant

Results of the study reveal that there was a positive, moderately high, and significant relationship between exposure and competence in the research of senior high school teachers. This is evidenced by the computed *r-value* of 0.648 and *p-value* of 0.000, which is interpreted as "significant." This implies that teachers' exposure to research can significantly affect their competence. Furthermore, since the relationship was positive, it suggests that once the level of exposure increases, the level of competence also increases. This implies that when more opportunities for research related meetings are conducted, teachers will be able to acquire necessary skills and competencies which will make them more confident and competent in teaching research.

Table 11
Relational Analysis between Exposure in Research of Senior High School Teachers and Learners' Performance in Research

Variables	r-value	*p-Value*	Interpretation
Exposure Vs. Performance	0.109	0.409	Positive, Negligible, Not Significant

Results of the study reveal that there was a positive, negligible, and no significant relationship between exposure in research of senior high school teachers and learners' performance in research. This is evidenced by the computed *r-value* of 0.109 and *p-value* of 0.409, which is interpreted as "not significant." This implies that teachers' exposure to research cannot significantly affect their learners' performance in research.

Furthermore, since the relationship was positive, it suggests that once the teachers' level of exposure in research increases, the learners' performance also increases. However, since the *r-value* is very low, which was 0.109, the relationship between the two variables is negligible. Hence, there are other factors such as research inclination and interest of the learners, teachers' teaching methodologies, instructional

materials, school's research facility, and the like that may affect the learners' performance in research and the teachers' exposure to research is not the only factor.

Table 12
Relational Analysis between Competence in Research of Senior High School Teachers and Learners' Performance in Research

Variables	r-value	*p-Value*	Interpretation
Competence Vs. Performance	0.085	0.519	Positive, Negligible, Not Significant

The study results reveal a positive, high, and no significant relationship between competence in research of senior high school teachers and learners' performance in research. This is evidenced by the computed r-value of 0.085 and *p-value* of 0.519, which is interpreted as "not significant." This implies that teachers' competence in research cannot significantly affect their learners' performance in research. Furthermore, since the relationship was positive, it suggests that once the teachers' level of exposure in research increases, the learners' performance also increases. However, since the *r-value* is very low, which was 0.085, the relationship between the two variables has been found negligible. Hence, there are other factors such as research inclination and interest of the learners, teachers' teaching methodologies, instructional materials, school's research facility, and the like that may affect the learners' performance in research and the teachers' competence in research is not the only factor.

Table 13
Predictive Analysis of the Learners' Performance

Variables	df	Residual	R Square	F	β	*p-value*
Constant					86.173	0.000
Exposure	2	57	0.012	0.351	0.114	0.595
Competence					0.058	0.885

Multiple regression was carried out to investigate whether teachers' exposure and competence in research could significantly predict learners' performance in research. The results of the regression indicated that the model explained 1.2% of the variance and that the model was not a significant predictor of learners' performance in research, $F(2, 57) = 0.351$, $p = 0.705$. Both the teachers' exposure ($\beta = 0.114$, $p = 0.595$) and teachers' competence ($\beta = 0.058$, $p = 0.885$) did not contribute significantly to the model. The final predictive model was Learners' Performance = 86.173 + (0.114*Teachers' Exposure) + (0.058* Teachers' Competence).

The findings imply that the learners' performance in research is not solely predicted by teachers' research exposure and competence. Hence, there are other factors to be considered in forecasting the performance of the learners. Experiences and studies found out that several factors would account for the grades. However, no

single factor is singled out in predicting grades. Appositely, it is an interplay of so many factors – gender, IQ, study habits, age, year level, parent's educational attainment, social status, number of siblings, birth order, and the like. (Pogue, 2016; Walberg, 2015). In fact, almost all of the existing environmental and personal factors are considered variables of academic performance.

Conclusion

Senior high school teachers seldom attend to research activities and their exposure and experience in research contribute to their low level of level of exposure and very low competence in research of the senior high school. Moreover, since the senior high school had just started in 2016, the teachers are adjusting to the inclusion of research subjects in the K to 12 Basic Education Curriculum. Senior high school teachers do not vary in their level of exposure in research despite their groupings namely sex, highest educational attainment, length of service, area of specialization, and position. However, in terms of the competence in research, male and female teachers differ significantly as male teachers got a higher mean than the female teachers while the rest of the variables namely highest educational attainment, length of service, area of specialization, and position did not caused significant variation in their level of competence. The competence in research of teachers is affected by their exposure. If they are more exposed to research, then they will be more competent as well. The learners' performance in research is not affected by the teachers' nor teacher's competence in research. Hence, other factors may significantly contribute to the learners' performance like the research inclination and interest of the learners, teachers' teaching methodologies, instructional materials, the school's research facility, and the like. Finally, learners' performance in research is not significantly predicted by the teachers' exposure and competence in research. Hence, other factors other than teachers' exposure and competence in research may predict the learners' performance in research.

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