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ENHANCING RESEARCH SKILLS OF SENIOR HIGH SCHOOL STUDENTS IN ALBAY PROVINCE: BASIS FOR AN INTERVENTION PLAN

Ma.Teresa B.Ballester

Teacher at Sto. Domingo National High School

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ABSTRACT

Republic Act No. 10533, otherwise known as the Enhanced Basic Education Act of 2013 states, “the additional two years of Senior High School aims to broaden the goal of high school education for college preparation” Basic education is starting to practice and embrace the culture of research. Writing research is one of the fundamental skills that must be developed by every senior high school students. This research study aimed to enhance the research skills of senior high school students in the Province of Albay. This study utilized mixed method. Based on the results of this study, instructional resources are highly needed by the teachers and administrators teaching research subjects, as well as administrative support, and trainings and workshops; Secondly, profiles of research teachers and administrators have a certain degree of relationships to their research needs; Third, there are various existing and prevailing problems that teachers and administrators experience in handling research subjects; and lastly intervention plan can be tailored that it addresses the different issues and problems encountered by teachers and administrators in teaching research subjects.

KEYWORDS:- Instructional resources, trainings and workshops ,administrative support, research skills.

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1. INTRODUCTION

According to Nelson Mandela in 2003, “Education is a weapon to improve one’s life”. Education for a child begins at home. It certainly determines the quality of an individual’s life. Education improves one’s knowledge and skills and develops one’s personality and attitude. It is a long and tedious process. Educated individuals are likelier to be active and engaged citizens who can contribute positively to their communities.

As stated in Department of Education (DepEd) Order No.39 s 2016 states learning is the core of the department. This department is responsible for providing quality education to every Filipino. Every Filipino learner must be equipped with the necessary knowledge for them to become a responsible citizen of the country.

Based on Article XIV of the Philippine Constitution, *“it is hereby declared to be the policy of the state to promote scientific and technological research and development, foster invention, and utilize scientific knowledge as an effective instrument for the promotion of national progress”*. The state should prioritize education. It has the purpose of uplifting the field of education, specifically research.

In the worldwide educational system, research is the soul of education and learning (DepEd, 2016). Aiming to provide solutions to many current problems, research is vital, and necessary part of modern education as this brings about the generation of new knowledge. Research is essential to curriculum creation because it offers empirically supported insights into successful teaching strategies and supports educators' and policymakers' decision-making regarding curriculum material (Courtney, 2023). Stipulated in Republic Act No. 10533, otherwise known as the Enhanced Basic Education Act of 2013 states, “the additional two years of Senior High School aims to broaden the goal of high school education for college preparation” As prescribed by RA 10533, the curriculum shall be relevant, responsive, and research based. Thus, basic education is starting to practice and embrace the culture of research (Santiago, 2022). Because of this law, schools are now encouraging students to do research projects. This helps students learn to think critically, solve problems, and find new information.

The K–12 Program, which was signed into law by former President Benigno Simeon C. Aquino III in 2012 with the goal of improving the nation's educational standards through significant curriculum revisions, represents a significant advancement for the Philippine educational system. The Department of Education (DepEd) is focused on enabling every person to reach his or her full potential by offering meaningful learning in response to this challenge. The goal of the extra two years of senior high school in the basic education program is to better equip our students to meet the demands of the global economy by improving their technical skills. K to 12 graduates is anticipated to become productive and responsible members of society, equipped with a range of essential skills and competencies. These include proficiency in information, media, and technology, as well as learning, innovation, effective communication, life and career skills. These abilities are crucial for graduates to make informed decisions about their future paths, whether they choose further education, employment, or entrepreneurship (Molina, 2019).

Realizing the value of research in the country's development, the Philippine government through the Department of Education embedded Research subjects in its Senior High School curriculum as part of the Applied or Contextualized Subjects. Its main rationale is to enhance the students' critical thinking as well as problem-solving skills as they go through experiential learning. Since research is an advanced course for 21st-century learners, it requires highly skilled teachers who are good enough in both pedagogy and research techniques.

The K to 12 Program encompasses Kindergarten and 12 years of basic education, designed to provide ample time for students to master concepts and skills, nurture lifelong learning, and equip graduates for tertiary education, middle-level skills development, employment, and entrepreneurship (Gazette, 2012). Through qualitative and quantitative research, senior high school students' critical thinking and problem-solving skills are developed through practical research courses.

The curriculum guide for K to 12 of the Department of Education provides for the offering of research courses to both Grade 11 and Grade 12 senior high school students. In the curriculum guide for senior high school, Practical Research 1 and Practical Research 2 are the subjects they are taking up. These applied subjects are research-driven. In this curriculum, academic writing is now vital in the life of every senior high school student. Writing research is a fundamental skill that must be developed by senior high school students. The students are required to present write-ups and research. Senior High school students find it challenging to write research papers on their own.

Based on the conducted preliminary interview to some of the research teachers in the first district of Albay it was found out that comprehension is considered as one of the most challenging part faced by the senior high school students in dealing with Practical Research subjects. When it comes to writing research proposals and projects, students encounter numerous difficulties and barriers. According to a study by Qasem in 2019, approximately 70% of participants reported that writing research or conducting research projects in English is one of their biggest challenges. Students find writing research challenging.

Almazan's (2023) study examined the difficulties teachers have when instructing Practical Research subjects, especially in the framework of the K–12 curriculum. It covers a wide range of problems that affect both instructors and students, including difficulties that teachers face including poor self-esteem, students' lack of research basis, and the uncertainty brought on by late teaching load releases. Further issues pertaining to students include a lack of comprehension of fundamental research ideas and the sequential components of research, which cause delays in paper submissions and misunderstandings regarding research needs.

In the study conducted by Ejica and Siguan (2020), it was discovered that the students of Salcedo Vocational High School (SVHS) Salcedo, Eastern Samar are experiencing problems related to research and 75% of the student-researchers found much challenged which relates to the financial constraints in the compliance and or completion of research. However, Santiago (2022), claims that students view research and its process as a requirement for a degree rather than the foundation of their education.

The aforementioned studies clearly showed the need to enhance the research skills of senior high school students. The problems discussed in the literature influence the researcher. Based on the challenges encountered by the students, what are the actions made by the research teachers as well as school administrators to enhance their research skills. These made the researcher decide to study this problem.

This research study aimed to craft an intervention plan to enhance the research skills of senior high school students in the province of Albay. This study sought to prepare an intervention plan to enhance the research skills of senior high school students in the Province of Albay.

Theoretical Framework

This study aimed to craft an intervention plan to enhance the research skills of senior high school students in the Province of Albay. This study utilized three interconnected theories: Expertise Theory, Human Capital Theory, and Desimone's Professional Development Framework. This study aimed to enhance the research skills of senior high school students in the Province of Albay. This study utilized three interconnected theories: Expertise Theory, Human Capital Theory, and Desimone's Professional Development Framework.

The first theory talked about Expertise Theory. Ericsson, Krampe, and Tesch-Römer (1993) proposed that expert performance reflects a long period of *deliberate practice* rather than innate ability, or “talent”. This aspect can be grounded in Expertise Theory of Ericsson, Krampe, and Tesch-Römer in 1993, which posits that professional growth and research capabilities increase with more years of experience.(Ericsson,2012) More experienced teachers may have enhanced research skills. This theory explains how people become really good at something. Meaning it is all about deliberate practice—which means doing something repeatedly with a lot of focus and effort and making sure you're always trying to improve.

Second theory used was the Human Capital Theory. In the 1960s, economists Gary Becker and Theodore Schultz pointed out that education and training were investments that could add to productivity. Human Capital Theory (Schultz, 1961) is the idea that when people invest in their education and training, they become more skilled and knowledgeable, which helps them perform better in their jobs or tasks. The more you learn and practice, the better you get at what you do. The idea that the more training and education individuals receive, the better their performance. Research training attended is crucial for enhancing research capabilities and increasing the likelihood of publication. If someone takes research training, they will likely improve their research skills. The theory suggests that gaining more knowledge and skills through education and training leads to better performance.

Lasly the study utilized Professional Development Framework by Desimone. This framework focuses on the need for ongoing professional development in terms of training and workshops, instructional resources, and administrative support. Desimone’s framework also emphasizes that training and resources should be aligned with teachers' needs and should foster change in their practice.

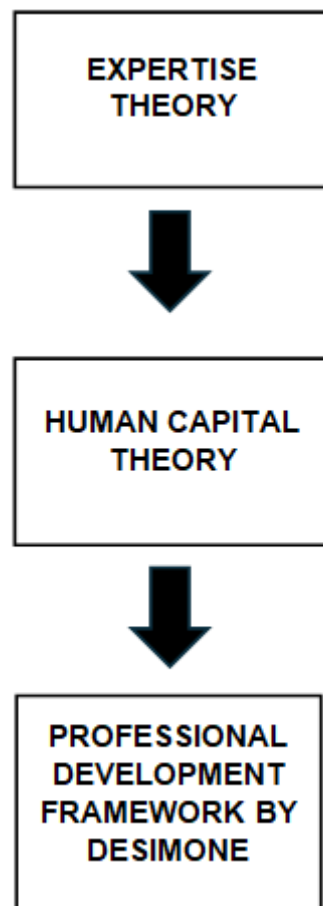


Figure 1. Theoretical Paradigm

Objectives of the study

This research study aimed to craft an intervention plan to enhance the research skills of senior high school students in the Province of Albay. Specifically, it sought to answer the following objectives:

1. Identify the profile of respondents in terms of:
 - a. No. of years teaching research;
 - b. Research training attended; and
 - c. Number of presented and published research papers
2. Determine the research needs in terms of:
 - a. Training and workshops;
 - b. Instructional resources; and
 - c. Administrative support
3. Appraise the significant relationship among the profile and research needs of the respondents
4. Enumerate problems encountered by the respondents handling research
5. Propose an intervention plan to enhance the research skills of senior high school students in the Province of Albay

METHODOLOGY

Research Method

This study utilized a mixed-method type of research. This approach combines qualitative and quantitative research within a single study or research effort. This strategy enabled the researcher to

collect numerical (quantitative) and non-numerical (qualitative) data better to understand the study problem or phenomenon under inquiry. Moreover, an interview is a qualitative research method simply anchored on asking questions to collect data. Furthermore, a systematic assessments, and evaluation, including printed and electronic content such as computer-based and internet-transmitted data, require data to be reviewed and interpreted to extract meaning, gain insight, and provide substantial knowledge of the study.

The Research Instrument

This research utilized an adapted and modified questionnaire by Hukramet.al(2022) focused on the respondents' profile, research needs, the relationship between their profile and their research needs. The questionnaire was further reviewed and evaluated by two experts from the Division of Albay and they were chosen considering their line of expertise and educational background. Upon thorough review and evaluation of the questionnaire, the panel of evaluators convened and approved the questionnaire. The adapted and modified questionnaire utilized a 4-point Likert scale to gather the needed data. The 4-point Likert scale is a popular tool for gauging attitudes and opinions in research studies. There are four possible answers on this scale, ranging from "Highly Needed" to "Not Needed". Researchers employ this scale for several reasons. The 4-point Likert scale strikes a balance between being too general and being too detailed.

The said instrument has two parts. Part I dealt with the profile of the Senior High School teachers handling Practical Research 1 and 2 subjects as well as administrators. Part II asked the teachers' research needs to be categorized into trainings and workshops, instructional resources and administrative support. The study utilized an interview guide to answer questions regarding the problems encountered by research teachers and research administrators in handling research subjects. The research instrument was supplemented by informal interviews with the respondents. In this qualitative portion, open-ended questions allow the respondents to relate unique experiences about the real challenges they are experiencing.

Data Gathering Procedure

The following procedures were observed in the conduct of this study. The researcher secured a letter of permission signed by the schools division superintendent. As soon as the necessary permission was secured, the researcher proceeds to writing an individual letter to the respondents of the study which are the school administrators and research teachers. Upon the principal's approval, the researcher conferred with the research teachers on the data gathering schedule, particularly administering the questionnaires to them. The researcher crafted a survey questionnaire and be validated by the experts.

On the third part of the questionnaire, the researcher conducted one on one interviews. The researcher utilized an interview-guided questionnaire featuring open-ended questions. Additionally, audio recording was employed during each interview session to facilitate data gathering and capture the participants' responses, allowing for a comprehensive and accurate data record.

Due to time constraints and the different calamities that hit the region particularly schools that are situated at the island and upland barangays, the researchers utilized the digital media like Facebook, Google mail and even messenger.

Respondents

The researcher asked the division office about the number of schools in Albay Province. The respondents of the study are the research teachers handling both Practical Research 1 and 2 subjects as well as the school administrators of the public secondary schools in the Province of Albay. They are the individuals who give responses to the questions raised in a certain study. Respondents play a crucial role in research, particularly in surveys, interviews, and questionnaires. Their importance cannot be overstated, as they are the primary source of data and information for researchers. Respondents provide the data needed to answer research questions. The study's respondents were composed of research teachers and administrators in the Province of Albay.

Sampling Technique

In selecting the schools, the researchers used the snowballing technique. In this technique, the members of the sample are asked to identify other people who may meet the requirements to become members of the sample. Those who are already members of the sample will look for other prospective samples.

In selecting the respondents for this study, the researcher used total enumeration. Total enumeration refers to as census, a research technique in which data are gathered from the entire population as opposed to a sample. This strategy has several benefits. Firstly, every member of the population is included, and the results are accurate and trustworthy. Secondly, it facilitates in-depth examination and research of diverse subpopulations. Lastly, total enumeration ensures fairness and equality by giving every member of the population an equal opportunity to participate. Furthermore, the researcher believes that this careful selection process promotes meaningful and reliable results and enhances the validity and credibility of the research. The study used Slovin's formula to get the sample of the population.

Data Analysis Plan

Since it is a mixed method, the researcher used both survey and interview guide. For survey, analysis of variance and regression analysis to check the relationship between the profiles of the respondents to their research needs are used in the study. The study also used percentage and weighted mean to get the results of the respondents' responses. Analysis of Variance, is a statistical method that determines whether significant differences between the averages of three or more unrelated groups. In addition, this technique is especially useful when comparing more than two groups, which is a limitation of other tests like the t-test and z-test. Regression analysis allows for investigating the relationship between variables. Usually, the variables are labelled as dependent or independent. An independent variable is an input, driver or factor that has an impact on a dependent variable (which can also be called an outcome).

For the third research question, the data gathered using the interview guide and was transcribed by the researcher. The researcher used thematic analysis for all the answers of the respondents. It requires the transcription of interview recordings from the respondents.

RESULTS AND DISCUSSION

This presents the gathered data after being analyzed using appropriate statistical tools for relevant interpretation and implications of this present research.

Profile of the Respondents

Profiles of the respondents are needed to be considered in the conduct of research. Through it, findings can be contextualized and ensured valid with respect to the findings of a research study. It can also help in understanding trends among the findings while considering the profile of the respondents. This can also help in ensuring validity. In this present study, the respondents were categorized into groups of research teachers and research administrators. Profile indicators that were considered important in this study were the number of years in teaching research subject, the trainings attended related to research, and the number of research outputs of the teachers as measure of productivity among teachers. Number of years in teaching were said to be significantly related to quality of teaching (Linda, et al., 2022), while training improves student learning outcomes in addition to teacher performance (Babilone&Casupanan, 2022), and lack of research engagements was found among most of teachers (Dayagbil, et al., 2015).

Table 1 Profile of Research teachers and Administrators on Number of Years in teaching research

Indicators	Research Teachers		Research Administrators	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Number of Years teaching research				
11 years and above	0	0.00	15	41.67
5-10 years	23	43.40	21	58.33
Less than 5 years	30	56.60	0	0.00
Total	53	100.00	36	100.00

As shown in Table 1.1, the teacher-respondents were classified as to the number of years they are teaching research subject. Most of them are teaching the subject less than five (5) years with 56.60% of the total number of respondents. 23 out of 53 research teachers or 43.40% of the respondents had five to ten years of experience in teaching the subject. This may be attributed to the lack of teachers in the country as according to a phenomenological study of Bacus & Alda in 2022, new teachers were being assigned to teach senior high school subjects due to lack of teachers in senior high schools. This can support this finding of this research that most of teachers teaching research subject had less than five years of experience in teaching the subject. Meanwhile, there were no teacher-respondents who had more than ten years of experience in teaching research subject. This may be considered justifiable as to period the senior high school curriculum in the Philippines had started only in school year 2016-2017 (Perez, 2015).

As shown in Table 1, the research administrators were classified as to the number of years they are teaching research subject. Most of them are teaching the subject in a span of five to ten (5-10) years with 58.33% of the total number of respondents. 15 out of 36 research administrators or 41.67% of the respondents had eleven years and above of experience in teaching the subject. This finding can be related to other engagements of the research administrators aside from teaching in public high schools. Meanwhile, there were no research administrators who had less than five years of experience in teaching research subject. This may be considered justifiable as this teaching-related assignment entails expertise and fluency of transactions inside or outside the system.

Table 1.1. Profile of Research teachers and Administrators on Trainings and their Research Outputs

Indicators	Research Teachers		Research Administrators	
	Frequency	Rank	Frequency	Rank
Trainings Attended related to research				
Local	79	1	51	1
National	25	2	12	2
International	5	3	5	3
Number of Research Outputs				
Presented	18	1	12	1
Published	7	2	0	2

Another profile indicator considered in this study was the number of research-related trainings attended by the teacher-respondents. Based on Table 1.1, local trainings ranked first with seventy-nine (79) occurrences attended by the respondents. These are distributed to different key topics discussed. Twenty-three (23) had topics on introduction to research methods, fifteen (15) on developing research questions and hypotheses, thirteen (13) on literature reviews, fourteen (14) on statistical analyses, and fourteen (14) on research methodologies. Come second in ranking was national-based training with twenty-five (25) trainings. This is an accumulation among different key topics specifically the four (4) on introduction to research methods, six (6) on developing research questions and hypotheses, and five (5) each of literature review, statistical analysis, and research methodology. Last in rank is the international-based trainings. It only had one of each of the key topics mentioned above. Based on these, it can be seen that most of the teachers had at least one training on each of the key topics of research may it be local-, national-, or international-based training.

Another profile indicator of research teachers explored in this study was their research outputs. Based on Table 1.1, there were eighteen (18) of the respondents that had presented and seven (7) that had published their research outputs. Conversely, this means that there thirty-five (35) or 66.04% and forty-six (46) or 86.79% that hadn't presented and published their research output respectively or may had no research output at all. This is aligned with research findings of Dayagbil, et al. (2015) where they recommended that teachers need to be capacitated from conceptualizing until they publish their research outputs.

The number of research-related trainings attended by the research administrators was also examined in this study. Based on Table 1.1, local trainings ranked first with fifty-one (51) occurrences

attended by the respondents. These are distributed to different key topics discussed. Twenty (20) had topics on introduction to research methods, thirteen (13) on developing research questions and hypotheses, five (5) on literature review, three (3) on statistical analysis, and ten (10) on research methodology. Come second in ranking was national-based training with twelve (12) trainings. This is an accumulation among different key topics specifically two (2) each on introduction to research methods, statistical analysis, and research methodology, and three (3) each on developing research questions and hypotheses and literature review. Come last in ranking was the international-based training with one of each of the key topics mentioned above. Based on these, it can be seen that most of the research administrators had at least one training on each of the key topics of research may it be local-, national-, or international-based training.

Another profile indicator of research administrators explored in this study was their research outputs. Based on Table 1.1, there were twelve (12) among thirty-six (36) of the respondents that had actually presented, while no one had published their research outputs. Conversely, this means that there was another twenty-four (24) that hadn't experienced to present their research output respectively or may had no research output at all. This is also aligned with research findings of Dayagbil, et al. (2015) where they recommended that teachers need to be capacitated from conceptualizing until they publish their research outputs.

As can be seen in the profiles of the research-teachers and research administrators, they have more or less enough teaching experience in teaching research subject and trainings on key topics of research. However, in terms of research outputs, both two groups of the respondents lack research outputs and actual research engagements. This is aligned with the research findings and framework recommended by Caraig (2022) which suggests passion, exposure, and engagement in research among teachers should be considered in selecting teachers that will teach research subjects.

Research Needs

Research needs of the research teachers and research administrators were also examined in this study. It is only rational to assess their needs to come up with actionable plan that may be proposed to enhance quality in teaching research subject. Their needs were distributed to areas of trainings and workshops, instructional resource needs, and administrative support needs. The respondents indicated the degree of necessity of each through a 4-point Likert scale checklist.

Research Needs Areas	Research Teachers		Research Administrators	
	Average	Adjectival Interpretation	Average	Adjectival Interpretation
Trainings and Workshops				
Skills gaps	3.94	Highly Needed	3.92	Highly Needed
Professional Development Demand	3.87	Highly Needed	3.83	Highly Needed
Updated Pedagogical Strategies	3.85	Highly Needed	3.83	Highly Needed
Assessment and Feedback Techniques	3.94	Highly Needed	4.00	Highly Needed

Adaptation to Curriculum Changes	3.85	Highly Needed	4.00	Highly Needed
Overall Weighted Mean	3.89	Highly Needed	3.92	Highly Needed
Instructional Resource Needs				
Inadequate Learning Materials	4.00	Highly Needed	4.00	Highly Needed
Technology Access and Support	3.94	Highly Needed	3.95	Highly Needed
Resource Customization Tools	3.94	Highly Needed	3.97	Highly Needed
Access to Updated Content	3.85	Highly Needed	3.83	Highly Needed
Multimedia and E-Resources	4.00	Highly Needed	4.00	Highly Needed
Overall Weighted Mean	3.95	Highly Needed	3.95	Highly Needed
Administrative Support Needs				
Mentorship and Guidance	4.00	Highly Needed	3.83	Highly Needed
Support in Workload Management	3.85	Highly Needed	3.83	Highly Needed
Professional Development Funding	3.85	Highly Needed	3.95	Highly Needed
Access to Classroom Supplies	4.00	Highly Needed	3.95	Highly Needed
Involvement in Decision-Making	3.94	Highly Needed	3.92	Highly Needed
Overall Weighted Mean	3.93	Highly Needed	3.90	Highly Needed

Legend: 1.00-1.75 = Not Needed; 1.76-2.50=Slightly Needed; 2.51-3.25=Needed; 3.26-4.00=Highly Needed

Table 2. Research Needs of Research Teachers in terms of Training and Workshops

As shown in Table 2, research needs of research teachers and research administrators were categorized into trainings and workshops, instructional resources, and administrative support. Firstly, trainings and workshops gained an overall average rating of 3.89 and 3.92 with both an adjectival interpretation of “Highly Needed” among research teachers and research administrators, respectively. However, it should be noted that this category came the least among the three among research teachers while it ranked second among research administrators. Included in this category are the skills gaps. In reference to Tindowen&Baquiaran (2024) which also identified very important for the teachers to be trained in aspects such as research mentoring, proposal writing, conducting literature search, developing research designs and methods, data analysis and interpretation, publishing in indexed journals, and using digital tools in research. In this study, it gained an average rating of 3.94 and 3.92 with both adjectival interpretation of “Highly Needed” among research teachers and research administrators, respectively. A professional development opportunity, on the other hand, was considered an important factor to uplift attitude among research teachers, according to Oestar& Marzo (2022). In this study, it gained an average rating of 3.87 and

3.83 with both an adjectival interpretation of “Highly Needed” among research teachers and research administrators, respectively. Another soft skill included along trainings and workshops was the focus on updated pedagogical strategies that may be incorporated on how to deliver topics and actual conduct of research among learners. It gained an average rating of 3.85 and 3.83 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Moreover, assessment and feedback were also considered in this study as it is equally important in the teaching-and-learning process (Elander, et al., 2021). As per evaluation, it gained an average rating of 3.94 and 4.00 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Lastly, Pak, et al., (2020) suggested that being adaptive to curriculum changes is necessary for teachers to be competent and responsive in curricular demands. In this study, it gained an average rating of 3.85 and 4.00 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively.

Needs for instructional resources was the next category determined in this study. This category emerged with the highest rating among the three categories examined in this study both among research teachers and research administrators. It gained an overall average rating of 3.95 with an adjectival interpretation of “Highly Needed” study both among research teachers and research administrators. Along this category, all of the research teachers and research administrators signified they highly needed learning materials and multimedia and other e-resources that can be used in teaching research subjects. Moreover, technology access and support gained an average rating of 3.94 and 3.95 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Needs for resource customization tools gained an average rating of 3.94 and 3.97 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Lastly, access to updated content gained an average rating of 3.85 and 3.83 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. This item came least in this category in both groups of respondents. All of these findings are consistent with the study of Oestar& Marzo (2022) where they found that lack of materials and resources really hinders teacher-researchers in conducting research activities.

Needs for administrative support were also studied in this present research. This category emerged with an overall average rating of 3.93 and 3.90 with both an adjectival interpretation of “Highly Needed” among research teachers and research administrators, respectively. However, it should be noted that this category came the least among the three among research administrators while it ranked second among research teachers. Mentorship and guidance gained an average rating of 4.00 and 3.83 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Support in workload management gained an average rating of 3.85 and 3.83 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Professional development funding gained an average rating of 3.85 and 3.995 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Access to classroom supplies gained an average rating of 4.00 and 3.95 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. Lastly, involvement in decision-making gained an average rating of

3.94 and 3.92 with both an adjectival rating of “Highly Needed” among research teachers and research administrators, respectively. These are all in consistent to Walker, et al., (2017) statements that school administrators should provide access to classroom supplies, offer professional development opportunities, and allocate reasonable workload and time management as support to research teachers to significantly enhance their professional development and improve educational outcomes.

Relationship of Profile and Research Needs of Research Teachers and Administrators

The researcher is interested in looking at the relationship between the profile and research needs of the research teachers and administrators in order to statistically validate other findings of this present study. Thus, a Pearson-product moment correlation analysis through Microsoft Excel were conducted by the researcher along number of years in teaching research subject, number of trainings attended related to research, and the number of research outputs of the research teachers and administrators.

Relationship of Profile and Research Needs of Research Teachers

Looking into relationship of profile and research needs of research teachers is beneficial in making professional development programs, in crafting technical support, as well as to develop policies that can improve teaching-and-learning experience among teachers (Dignos, 2021). Thus, this area was also examined in this present study.

Relationship of Number of Years and Research Needs of Research Teachers. The researcher analyzed the relationship of number of years in teaching research subject and the research needs of research teachers as presented in Figure 3.1a below.

It can be seen that the computed r-value is 0.848 which suggests a very strong positive correlation or relationship between the number of years teaching research subject and research needs of research teachers. This suggests that as the number of years in teaching increases, the research needs of research teachers also increase. Conversely, as the number of years in teaching decreases, the research needs of research teachers also decrease. However, to test the significance of this relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.355 which is higher than the α -level of 0.05, thus means null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

Relationship of Number of Trainings Attended and Research Needs of Research Teachers. Through Pearson-product moment correlation done in Microsoft Excel, the researcher analyzed the relationship of number of trainings attended and the research needs of research teachers.

It can be seen that the computed r-value is -0.827 which suggests a very strong negative correlation or relationship between the number of research-related trainings attended and research needs of research teachers. This suggests that as the number of years in teaching increases, the research needs of research teachers also decrease. Conversely, as the number of years in teaching decreases, the research needs of research teachers increases. However, to test the significance of this

relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.381 which is higher than the α -level of 0.05, thus means null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

Relationship of Number of Research Outputs and Research Needs of Research Teachers.
Through pearson-product moment correlation done in Microsoft Excel, the researcher analyzed the relationship of number of research outputs and the research needs of research teachers as presented in Figure 3.1c below.

It can be seen that the computed r-value is -0.746 which suggests a very strong negative correlation or relationship between the number of research outputs and research needs of research teachers. This suggests that as the number of research outputs in teaching increases, the research needs of research teachers also decrease. Conversely, as the number of research outputs decreases, the research needs of research teachers increases. However, to test the significance of this relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.464 which is higher than the α -level of 0.05, thus means null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

The different profile indicators had very strong relationships to the research needs of the research teachers. Specifically, the number of years in teaching research subject had very strong, positive, non-significant relationship towards research needs of the teachers. On the other hand, number of trainings attended related to research and number of research outputs had both very strong, negative, non-significant relationship towards research needs of the research teachers.

Relationship of Profile and Research Needs of Research Administrators

Looking into relationship of profile and research needs of research administrators is equally beneficial in making professional development programs, in crafting technical support, as well as to develop policies that can improve teaching-and-learning experience with the teachers (Dignos, 2021). Thus, this area was also examined in this present study.

Relationship of Number of Years and Research Needs of Research Administrators.

Through pearson-product moment correlation done in Microsoft Excel, the researcher analyzed the relationship of number of years in teaching research subject and the research needs of research administrators.

It can be seen that the computed r-value is 0.937 which suggests a very strong, positive correlation or relationship between the number of years teaching research subject and research needs of research administrators. This suggests that as the number of years in teaching increases, the research needs of research administrators also increase. Conversely, as the number of years in teaching decreases, the research needs of research administrators also decrease. However, to test the significance of this relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.228 which is higher than the α -level of 0.05, thus means

null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

Relationship of Number of Trainings Attended and Research Needs of Research Administrators.

Through pearson-product moment correlation done in Microsoft Excel, the researcher analyzed the relationship of number of trainings attended and the research needs of research administrators.

It can be seen that the computed r-value is 0.027 which suggests a very small, positive correlation or relationship between the number of research-related trainings attended and research needs of research administrators. However, to test the significance of this relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.983 which is higher than the α -level of 0.05, thus means null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

Relationship of Number of Research Outputs and Research Needs of Research Administrators.

Through pearson-product moment correlation done in Microsoft Excel, the researcher analyzed the relationship of number of research outputs and the research needs of research administrators.

It can be seen that the computed r-value is 0.308 which suggests a moderate positive correlation or relationship between the number of research outputs and research needs of research administrators. However, to test the significance of this relationship, there is a need to consider the computed p-value. In this case, it can be observed that the computed p-value is 0.801 which is higher than the α -level of 0.05, thus means null hypothesis cannot be rejected which further equates to an insignificant relationship between the said two variables.

As shown in Table 4.2, the different profile indicators had distinct relationships to the research needs of the research administrators. Specifically, the number of years in teaching research subject had very strong, positive, non-significant relationship towards research needs of the administrators. On the other hand, number of trainings attended related to research had very small, positive, non-significant relationship towards research needs of the research administrators. Lastly, the number of research outputs had moderate, positive, non-significant relationship with research needs of the administrators.

Problems Encountered by Respondents in Handling Research subjects

This section discusses the challenges that teachers have experienced in teaching research. They were highlighted through the creation of codes and themes using thematic analysis. Through thematic analysis, the researcher was able to obtain information regarding the challenges encountered by research teachers and research administrators in handling research subjects.

Problems Encountered by Research Teachers in Handling Research subjects

Research teachers encounter different challenges and difficulties in handling research subjects. These challenges are examined in this study and considered to plan out an intervention plan that can address these challenges and problems to improve research skills of senior high school students.

Theme 5.1.1: Student Reliance on Technology. Artificial Intelligence can be advantageous and disadvantageous to students. This theme highlights how students are increasingly turning to technology for help. Students are becoming too dependent on technology, especially AI tools. This is similar to Huang, et al., (2024) findings that there had been an increase in artificial intelligence dependence among youth and adolescents.

One of the participants mentioned *“Students rely on AI applications instead of their own intellectual prowess.”*

It only proved that there are students who are using artificial intelligence (AI). The AI tools readily provide answers, and the students will not be engaged in problem-solving and analytical skills. Huang, et al., (2024) added that youth and adolescents turn to artificial technology specially when tasks provided becomes more difficult. Over-reliance on AI can make students overly dependent on it and less capable of functioning independently.

Theme 5.1.2: Resource Constraints. Resource constraints are the limitations on the availability of essential elements needed to conduct research. Teachers themselves frequently face challenges along financial constraints, time constraints, and material constraints. In fact, these challenges were also experienced by the learners which consequently affect the research teachers. These challenges are what had been happening in the field based on the interview conducted to the participants of the study.

Problems along material constraints are expressed as follows by Participant 2, Participant 5, and Participant 10:

Participant 2 said *“Students find it hard to properly execute research due to lack of materials, gadget needed such as laptop, resources and sometimes even time due to activities and class interruptions. It is very challenging on our part.”*

Participant 5 mentioned that *“Students limited access to technology and internet, their varied levels of intelligence and their motivation in continuing or finishing the research project they started.”*

Participant 10 said *“Computers and laptops must also be accessible to students. I found it hard to teach the subject.”*

Problems along financial constraints are expressed as follows by Participant 11 and Participant 12:

Participant 11 emphasized *“Lack of resources, financial constraints of the students those are the challenges I encounter in teaching research.”*

Participant 12 responded *“Lack of equipment and resources for learners to make innovations. A financial constraint is also a problem.”*

Moreover, Participant 13 answered *“Time needed in achieving the objectives of research. It is really hard in managing our time.”* This indicates time constraints as one of the problems also experienced by the research teachers.

Participants expressed their frustration in handling the research subjects. Based on the responses of the respondents, resource constraints are one of the challenges they encounter in handling Practical Research 1 and 2 subjects.

Theme 5.1.3: Students' Attitude toward Research.

Despite the fact that research is a vital component of academic life, students' opinions on it may vary greatly. Some students view research as a tedious and unpleasant task, whereas others regard it as an opportunity to learn new things and contribute to the academic community. According to this study, one of the difficulties teachers have while instructing Practical Research 1 and 2 courses is that students lack research interests. This is a consideration to take into account when analyzing why teachers could find the subject difficult to teach.

Participant 3 said *“Students' attitude on conducting their own research study.”*

Participant 4 responded *“The mindset of the students towards the subject”.*

Participant 6 answered *“Students attitude towards the subject. They don't see the importance and application of research in others' lives.”*

Participant 9 said *“Lack of interest of some students”.*

Lloyd-Lewis, Miller, and Krause (2024) discovered that undergraduate students perceived research subjects as significantly less interesting and valuable relative to non-research subjects. This was evidenced by students' responses that research subjects are especially difficult, requiring skills they did not possess or enjoy using, and lacks relevance to their future studies and intended careers.

Theme 5.1.4: Instructional and Management Issues. Time restrictions and increasing instruction can provide management issues for teachers. Insufficient time for teachers to prepare the required tasks and functions. Teachers may find it challenging to meet each student's needs because of this constraint. The following statement is how these issues are declared:

Participant 7 said *“The teachers who are experienced and who have finished publishing some research should teach research subjects.”*

Participant 8 answered *“The school should have a uniformed research format and must be strictly followed by teachers and students in research.”*

Based on the statements provided by the teacher-respondents, it can be observed that faculty loading of research subjects should be carefully considered. Some of which is the experience in actual conduct and publication of research outputs as said by Participant 7. Meanwhile, Participant 8 tried to emphasize the importance of formal and official guidelines and mechanisms that should be established in schools.

Theme 5.1.5: Student Learning Challenges.

Even though research is crucial, students' opinions on this aspect of academic life may vary greatly. Although some students view research as an unpleasant and time-consuming task, others consider it an opportunity to learn more and contribute significantly to the scholarly community. The observations of the participants lend credence to this notion.

Participant 12 said *“Students had difficulties in learning the concepts and making research paper preparations.”*

As asserted by a research teacher, there are still difficulties in learning the actual concepts or topics of research subjects among the learners. Diversity of learners is one of the factors that are usually considered by teachers in their conduct of class discussions. This finding is consistent with the study of Lloyd-Lewis, Miller, and Krause (2024) which emphasized that students perceive research subjects to be difficult and characterized with practices and operations unfamiliar or uncomfortable to them.

Research administrators encounter different challenges and difficulties in handling research subjects. These challenges are examined in this study and considered to plan out an intervention plan that can address these challenges and problems to improve research skills of senior high school students. These.

Theme 5.2.1: Resource Constraints. These are the challenges encountered by the research administrators. First is the limited access to technology, second is the insufficient printed resources, and lastly the lack of dedicated classrooms for research classes. It is supported by these statements:

Participant 2 stated *“I am teaching Pr1 and PR2 with two different tracks and strands in one class due to unavailability of classrooms”*

Participant 3 mentioned *“Some of the students don’t have personal laptop or computers which make it hard for them to encode their manuscript and search on the web”*

Participant 6 said *“Support from school is also one.”*

Participant 7 answered *“Limited printed resources on research subject”*

Theme 5.2.2. Student Learning Challenges.

This theme encompasses a range of difficulties encountered by students during the research. The first problem is related to Difficulty understanding research concepts and theories. Secondly, Challenges in research paper preparation and lastly, difficulty formulating research problems and crafting research instruments.

Participant 4 answered *“Other students are not interested with the subject and find it hard to write manuscript”*

Participant 1 said *“the students don’t understand both the theory and practical applications of research methods”*

Participant 7 responded *“Students encountered difficulty formulating their research problem, writing, and finding related literature and studies.”*

Theme 5.2.3. Student Engagement and Motivation. Administrators are increasingly focused on finding ways to engage students in research activities, recognizing that such involvement is critical for developing essential academic and professional skills. However, many students remain unmotivated to participate in research, seeing it as secondary to their primary coursework or as an optional activity with little immediate benefit.

Participant 5 said that *“Many students don’t see the value of engaging in research early in their academic careers, often prioritizing grades over research experience.”*

Addressing student engagement and motivation requires research administrators to take a holistic approach, integrating research opportunities into the broader educational experience.

Participant 3 emphasized, *“We need to make research an integral part of the student journey, not just an isolated activity, by linking it to students’ academic development and career outcomes.”*

Administrators can achieve this by offering a variety of research experiences, creating supportive environments, and encouraging faculty involvement in mentorship. As research engagement becomes increasingly critical to students’ academic success, administrators must continue to refine their approaches to motivation and engagement to ensure that all students have the opportunity to participate meaningfully in research.

Theme 5.2.4. Teaching and Learning Environment. This theme has emerged as a significant theme in the challenges faced by research administrators, as they navigate the complexities of fostering environments that support both teaching and research. A supportive and dynamic learning environment is necessary for students to feel empowered to participate in research activities.

Participant 9 said that *"We often see students struggling to engage with research because the learning environment doesn't emphasize critical thinking and inquiry outside the classroom. Without that foundation, they lack the confidence to pursue research opportunities."*

This highlights the challenge of creating an academic culture that encourages curiosity, exploration, and independent learning.

Theme 5.2.5. Administrative Support.

Administrators often encounter difficulties related to the allocation of resources, compliance with ethical guidelines, and providing adequate training and support for faculty and students involved in research. One research administrator noted,

Participant 8 stated that *"A lack of sufficient administrative support can lead to delays in processing research proposals, which can discourage faculty from submitting their work or students from pursuing research."*

This sentiment highlights the need for streamlined administrative processes to effectively support research activities, especially as research demands increase in both scope and complexity.

CONCLUSIONS

Based on the results of this study, the following can be concluded:

1. Most of the research teachers and research administrators had at most ten (10) years of experience in teaching research subjects;
2. Instructional resources are highly needed by the teachers and administrators teaching research subjects, as well as administrative support, and trainings and workshops;
3. Profiles of research teachers and administrators have a certain degree of relationships to their research needs;
4. There are various existing and prevailing problems that teachers and administrators experience in handling research subjects; and
5. Action plans can be tailored that it addresses the different issues and problems encountered by teachers and administrators in teaching research subjects.

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