The Paradox of Research: The Learning Engagement of Senior High Students in Magsaysay National High School, A Grounded Theory

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Abstract: *This study aims to explore how senior high students learning engagements with research and learning difficulties through participation in research subjects. The method of this study will draw on grounded theory, to know what the processes in their learning engagement in research subjects from participants' perspective (n= 10), senior high students in Grade 12, who are currently taking the Research project. Data will include semi- structured individual interviews to conduct as reflections. Reflections will indicate research processes including researcher autonomy, collaboration and knowledge. Furthermore, acknowledgement of the linkage between learning engagement processes and difficulties indicated an epistemological change leading them to take a deep approach in learning senior high school research. Recherche Grounded theory:Prior learning experience, values towards interpersonal communication, understanding of research process, social relationships with groupmates and peers, and financial matters. However, encountered difficulties in undertaking group/partner research projects. These will be attributed to their prior learning experiences, differences in valuing towards interpersonal communication, understanding of the process, social relationships with others and more importantly, financial matters. Thus, this study will provide insights into the potential of the process of learning engagement in research subjects. Senior high students will help them to cope in the process, addressed their difficulties in conducting research and addressed how may the financial aspects as perceive problems. This research is exciting because it helps us understand in very tangible ways steps that teachers can take to increase student engagement. And students who are not engaged aren't learning.*

Keywords: Learning engagement, senior high students, research subjects, difficulties in research

1. Introduction

Research is that the basic instrument in mounting lives of individuals. Through it, data has deeply woken up its pedestal. The items we tend to never be thought came in instant as doableto possible one. Everything that we enjoy today is brought by research. It is where an individual is doing a careful study in order to preserve and improve the quality of human life. However, numerous of individuals don't appreciate research, most especially student researchers.

Research activity is considered one amongst the high-impact academic practices in this generation, although it is very important skill, the perspective of lifelong learners may be cultivated through inquiry. The analysis was outlined as any teaching and learning activity during which senior high students are hesitant to engage with the analysis content, method or issues of their subject. That is, analysis isn't just pursuit of educational career and advancement of data, rather it conjointly includes a side of learning method. Development of analysis skills is additionally vital in K to 12 programme specially in the fields / tracks of senior high curriculum. That's why, it's vital learning engagement must inculcate insenior high students in early stages of their education. These analysis activities by senior high students are powerful approach of enhancing students' basic skills and perspective necessary for future higher education.

Senior high curriculum on research, basically these curricula provide senior high students with opportunities to select study areas of interest and to pursue what they want to know through inquiry. This can be potentially be pedagogically effective vehicles for critical appraisal and research skills development. Likewise, in State Universities and Colleges, most of the tertiary students implemented a research – based course in tertiary curriculum. Although the duration, study area and assessment method are different among the high schools, the common educational purpose is to provide opportunities leading to the development of research skills and basic skills necessary to continuing their professional development in the future.

In congruent to this, The K to 12 curricula in senior high school in the Philippine has three types of researches for the entire two - years: Practical Research I – the qualitative research and Practical Research II – Quantitative Research. Although it has to be a culminating activity, many of the senior students still taking up the research subject. When they reach Grade 12, the Research Project or culminating activity is also one of their subjects. As a result, many of students are very bombarded with research requirements. They feel exhausted when taking these subjects as 6 times for 2 years.

Hence, this study will provide insights into the potential of the process of learning engagement in research subjects of senior high students in Magsaysay National High School and difficulties in engaging to these subjects. In conducting research, student researchers must be cautious. The students must allocate plenty of time to complete eachstage of theactivity. The senior high students must be conscientious and need to work in the library for a certain number of hours each week.They need to feature some additional hours or weeks before the scheduled point as a result of there are some things that take longer than what's planned, and there aresome stages in analysis work that are tougher than what the researchers expect..In short, there are process of learning engagement and encountered problems (Trimmer, 1992) and

most of the times, these processes of learning engagement may lead to academic failures.

This research is urgently conducted since the students are currently doing their research project. This will help them know what process of their learning engagement and difficulties that are affecting them and their outputs.

Generally, this study aims to find out what are the difficulties in conducting research which affect the student researchers and their outputs. This will help us know how these difficulties affect them. This will help the student identify the common research difficulties that occur during the research. They will be able to establish proper ways to survive and provide certain solution for the future students.

Therefore, this study will undertake as an initial investigation into this area, Magsaysay National High School – Senior High. A better understanding of students' research experiences from an emic viewpoint allows educators to clearly identify why and how research activity promotes meaningful learning. Furthermore, identifying the process of learning engagement and difficulties encountered of the students' research activity can provide important practical implications to effectively encourage and facilitate research opportunities for senior high students in Magsaysay National High School.

Central (or general) Problem
In order to make contribution to this gap inthe literature, this study aims to analyze;
1) What factors affect the process of their engagement in senior highresearch?
2) What is the very difficult problem the student-researchers encountered?
3) What is the effect of these difficulties on the required research output?

2. Significance of the Study

Any investigation made is done for some reasons. The results of this study significantly benefit the following group of people:

- **Senior High students**- as the primary group that will benefitfrom the results of this study as this will help them determine the difficulties in conducting a research.
- **Administrators/Curriculum Implementors**- will gain insights and will be able to develop educational strategies to lighten the problems that the student-researchers encounter in their research work.
- **Faculty members**- will be more responsive on what help they can   extend to the make the student-researchers feel that research work is a fruitful endeavor.
- **Incoming Grade 12 Students -** thisresult of this studywill enlighten themind of other senior high student - researchers   and enrichtheir understanding of students' behavior and could be of great help to them when theyconductstudies onrelated issues.

3. Scope and Delimitations of the Study

Magsaysay National High School is offering senior high school to cater the nearest and convenient for students around the barangay for 2 years now, wherein the student –

participants of the study enrolled. Amidst to situations of senior high students the researcher derived a theory with regards to the process of learning engagement and difficulties of student researchers that they encountered and felt when they are conducting their research study during the second semester of the current school year. Grade 12 students of Magsaysay NHS in the S. Y. 2018-2019 are the respondents of the study. They are chosen and selected based on their performances under the Practical Research I & II. This study will focus on the specificprocess of learning engagement of the senior high students in Magsaysay National High school. The students -researchers are selected through purposive – random sampling, because the student – researchers are based on their particular qualifications, (interests and tracks). The researcher used semi- structured interview for the collection of data. The participants were interviewed alsowrote their perception about research subject learning engagement.

4. Definition of Terms

Student engagement
Student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education.

Recherche Engagement Theory
Recherche Engagement Theory states that senior high students in public schools has a process of learning engagement in research and difficulties how this affect their outputs.

Recognition of prior learning
Previously acquired skills and competencies can be identified, assessed and acknowledged. These competencies may have been acquired through formal studies or a variety of non-formal and informal means, including life and work experience.

Research Process
Research is a creative process proceeding in stages. The process usually follows a certain pattern, in which the researcher proceeds from forming a focus for the study to reporting on the conducted research. The sequence of stages below presents a basic example of the research process.

Social Relationship
A social relation or social interaction is any relationship between two or more individuals. Social relations derived from student's environment specifically at school, it forms the basis of social structure and the basic object for analysis.

Financial Problem
Financial difficulties of senior high students in doing their outputs, where in haven't funds to generate during research processes.

5. Framework of the Study

The Philippine Department of Education (DepEd) is currently undertaking a succession of major reformsaffixed

on the implementation of a new K to 12 system as it seeks to improve basic education outcomes for Filipino children and achieve its national Education for All commitments. The new K to 12 Basic Education Program involves the introduction of additional years of secondary education in the form of a senior high school, plus a year of mandatory kindergarten anchored on a new 12-year basic education curriculum, benchmarked against international standards. The 12-year curriculum includes six years of elementary education (Grades 1 to 6), four years of junior high school (Grades 7 to 10), and two years of senior high school (Grades 11 to 12) marked with multiple pathways and elective subjects supported by a comprehensive career guidance program.

As to their subjects, there are 31 total subjects needed for junior school college, fifteen of that were core subjects and sixteen of that were track subjects, the latter counteracted into seven contextualized subjects and nine specialization subjects. From the identical slide came the "non-negotiable" announcement: Each subject has eighty hours per semester. And part of these subjects are three research subjects (Practical Research 1& 2 (English& Filipino) and Research Project or 3is.).

5.1 Inquiry and an evidence-based approach

Research activities by senior high students in Magsaysay National High School are a powerful way of enhancing students' basic skills and attitude necessary for future professional practice. ***Analysis and an evidence-based method*** *(developed by researcher)* in research project subject are complimentary processes in that they include recognition of important questions, search for the best research evidence, critical appraisal of the evidence, and application of the evidence to practice. Modern senior high students, therefore, must understand both the principles of research and how evidence is derived.

Integration of AEA elements into the senior high students' curriculum now has increasing significance. A student researcher didn't appreciate research at first quarter, got a very excellent learning engagement during last quarter. Another instance, in the first edition of Practical Research issued in 2013, urged innovation in senior high students' curricula in order to reduce direct instruction of accurate content and provide more analysis-based, student-centered learning environments. One fundamental change was the introduction of wide-ranging student choice of study modules, which is currently termed 'student selected components' (SSCs). Basically, these curricula provide senior high students with opportunities to select study areas of interest and to pursue what they want to know through inquiry. This can potentially be pedagogically effective vehicles for critical appraisal and research skill development. Likewise, in Japan, 63 out of 80 senior high schools have implemented a research-based course in the senior high curriculum. Although the duration, study area and assessment method are different among the schools, the common educational purpose is to provide opportunities leading to the development of research skills and basic skills necessary to continuing professional development.

Although research activity as an educational practice has been increasingly employed in a variety of disciplines/ subjects as well as in diverse cultural contexts, senior high students might take different preferred approaches to learning across cultures. For instance, Asian students have been portrayed as typically passive, uncritical and rote learners. Asian students' strong perceptions of teachers as knowledge providers are considered one of the influential factors that affect their passive participation in a classroom. On the other hand, there is a paradox between such a description of Asian learners and their academic attainment.

5.2 The Paradox of Research

Marton and Dall'Alba (2016) indicated the qualitatively different ways of experiencing learning in different cultural contexts. Given the variation in ways individuals experience various phenomena, it is important to understand how Asian learners participate in a student-centered learning environment. In the Philippines, according to Manuel E. (2018) a senior high student needs to undertake a collective research project in this study, mutual engagement is essential to the process of high school research. While there is an overabundance of deliberations on learning outcomes in senior high research based on the findings underpinned by a quantitative research paradigm, few studies have examined epistemological changes in research and learning through qualitative analysis of students' research activity.

The questions always mumble in the researcher ears every day. Many academics believe that "research" is a field of education appropriate to higher-level students. In researcher's opinion, even kids could be taught to think in terms of research if we (1) encourage them to tell their stories and (2) create their awareness that their stories should be supported by evidence and reasoning. To these kids, exploring other people's perspectives and emotions and developing empathy are appropriate to develop their "research" (difficult word) or "storytelling" (interesting word) acumen. Thus, the research skill should be developed in earlier years and not in senior high years. This is a gap in the current education system.

Although research is not easy, partly because the student must be able to think well and work independently. Senior high students need a certain curiosity and a certain passion to get to the root of the research problem. Need to think and concentrate, and not be distracted. This is especially so when the researcher reviewing many articles, otherwise, the information is not connected like a sensible 'story'.

For a senior high student who can get this big picture in place, s/he can decide in which direction the story should sensibly unfold and set up objectives from the research problem and the review. Even a supervisor cannot be in the student's shoes, he/she goes the journey alone. That's why in research, student must be independent. But for a good student, the journey to gain new knowledge is an enjoyable journey and rewarding.

5.3 Difficulties in Research

As perceived, majority of students find research as the most challenging, if not the most problematic, task in senior high school. What causes these problems? If research is also the most rewarding activity, then why many are avoiding research? Research is conducted to address a particular issue. This is to be done in precise and systematic manner to look for new knowledge, skills, attitudes and values, or for the re-interpretation of existing knowledge, skills, attitudes and values. Student researchers' task is to make use of the existing data to investigate and find results and analyze whether his newly gathered facts are also true to another environment.

5.4 Student Engagement in Research Subjects

Student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivationthey have to find out and progress in their education.

Generally speaking, theconcept of "student process of learning engagement" is based on the hypothesis that learning progresses once students areintrusive, interested, or impressed, which learning tends to agonize oncestudent's area unit bored, fair, malcontent, or otherwise "disengaged." Stronger student engagement or improved student engagement area unit common educational objectives expressed by educators.

6. Theoretical Framework

6.1 Engagement theory

Constructivism is that the concept that learning is that the results of assimilation and accommodation.In this theory, learning refers to each the event and also the determination of which means behind that knowledge.

The underlying basis of The Engagement Theory, Kearsley & Schneiderman is that students should be meaningfully involved in their learning through interactive and worthwhile tasks. Although the use of technology is not imperative, it is found that technology can promote engagement that is difficult to achieve otherwise; 1) working collaboratively, 2) project-based learning and 3) have an authentic focus.

Recherche Engagement Theory *(see Figure 1)*, states that most of the learning engagement of students inresearch subjects go through a processin the public school. A process wherein the senior high students believed that affect their outputs. After decoding the participants, the following process brought up; *Prior learning experience, values towards interpersonal communication, understanding of research process, social relationships with groupmates and peers, and financial matters*.

The researcher formulates a theory that would explain if the process of learning engagement and difficulties of student researchers to the subject affects studentresearcher to have aquality output, or if s/he will go through process wherein s/he encounters problem affects his/her productivity. Aframework that offers a more complete understanding of senior high student learning engagement and difficulties in research subjects.

6.2 Research Design

Research style is vital and needs analysis severally of analysis results.This chapter is thus involved with method alternative and therefore the impact of this on the processes and outcome of the analysis. The main stages related to deciding the research approach, identifying data requirements and subjects, memo writing sorted and resorted during the writing process (this will provide on writing a firm base for writing reports) and the techniques by which data was gathered and analyzed are examined. The final decision to present a using grounded theory principles to establish process of learning engagement of senior high students and difficulties of research subject is justified with a description of factors that led to:
a) Data collected from in-depth interviews and observations;
b) The development of the data collection schedules from the government documents, newspapers, & books, anything that may shed light on the questions of the study;
c) The means of coding the data collected for subsequent analysis;
d) An engagement analysis of the data that employed paradox-of-research theory.

From the outset it was recognized that there are problems associated with collecting data about the learning engagement and difficulties in research subject.Constructivism is that the concept learning is that the results of assimilation and accommodation.

In this theory, learning refers to each the event information of dataand therefore the determination of which means behind that knowledge. So, constructivist theory states that everyone assimilate information.The theoretical framework below was developed for the aim of this study.

Locale of the Study
The School of Magsaysay is situated in Barangay Magsaysay, Dinalupihan Bataan. It was built 2007, through the effort of its constituents/community leaders, and helping hands of the province Governor and Congressman. Magsaysay National High School offers Senior high for almost 3 years now.

Respondents of the Study
The respondents are Grade 12 senior high students who are currently taking Research Subject or the 3is. They were selected based on the performance and characteristics that would fit in the study. They have been invited to participate in this particular study and actually taken part of the study.As Qualitative research aims to give voice to the individual or participants who decide to participate in the study.

6.3 Data Analysis Procedures

Interview data will be used qualitatively analyzed based on the principles of grounded theory as an empirical approach to describing the qualitatively different means of people's experience. There are seven common steps of data analysis in grounded theory.The first step is familiarization in which the researchers need to read through transcripts to become familiar with empirical data and obtain a sense of the whole. The second step involves compilation ofanswers from all respondents to a certain question. The most significant elements in the answer need to be identified here. The third step is a condensation of the individual answers to find the central part of longer answers. The fourth step contains a preliminary grouping, and the researchers allocate answers expressing similar ways of understanding the phenomenon to the same category. The fifth step is a preliminary comparison of categories with regard to similarities and differences. The sixth step consists of labelling to express the core meaning of the category. The seventh step is a contrastive comparison of categories. Comparing the categories through a contrastive procedure, the unique character of the categories and its relationship between them are described.

7. Discussion

This study has drawn on grounded theory as research methodology to explore the process of learning engagements in senior high student's research from the lens of study participants. Specifically, the focus of this study was on examining how research difficultiesinformed students' perceptions of research and process engagement to learning. Whilst all students were originally identified as aligning to a 'content-oriented' approach to studying, by the final week of the research project, 7 out of 10 students in this study expressed their engagement in the learning research. By tracing process of learning engagements over time, data analysis revealed that, through participation in research project, their engagementto learning became qualitatively deeper and yet affect their outputs - **recognition of prior learning**, **understanding of research process, social relationships with groupmates and peers**, **financial matters**. Although four students' perceptions of research remained content-oriented, their strategic approaches to learning were also qualitatively changed. Although students took different approaches to learning in the undergraduate research, this study fully described the processes of changes in their perceptions of research and approaches to learning.

8. Findings

This study found that students' learning engagement of research and difficulties were formed through their actual research experiences in practical research 1 & 2, and these epistemological changes led to the adoption of deep approaches to learning in this subject.

The findings concurred with the previous studies which specified the key learning outcomes related to research skills. Specifically, two types of learning outcomes would be expected in research-based education.

The first type is research skills learning outcome which includes management of resources (financial ready) and time, self-directed learning, and communication skills. Students in this study could regard research as an activity with inquiring mind and mutual engagement within the context of "Research Project" subject in Grade 12. Thus, a given context, their process of learning engagement and difficulties in learning are reciprocally related.

The second type is research skills learning outcome which includes critical appraisal and synthesis of evidence, formulating a research question and study design, data analysis and management. This learning outcome is fundamental not only to pursuing a research career in their college or tertiary in the future, but also to the routine practice and scholarly activity of all clinical professionals.

Therefore, introduction of research-based education into the early senior high curriculum or Grade 11 allows senior high students to cultivate both research-specific skills and transferable skills, which are basically necessary for continuing for Grade 12 – Research Project. The corroboration of this grounded theory study's findings with those from prior studies on Grade 11 research in public education indicate that collaborative research-based education should be implemented at the level of senior high curriculum as an essential springboard for becoming a good student researcher.

Findings from this study also demonstrate that students' awareness of the links between research and learning is an important outcome in undergraduate research. Through the research experience, students in this study could identify the vital link between research and learning. For instance, *GAS A1,* Yen -*Yen* mentioned in a final reflection that "I feel research can include not only scientists' work but also our daily activity of learning". As development of research skills is seen as an underlying principle in all education especially in Public School here in Bataan and in any other provinces, learning through research is also pivotal to future career.

Specifically, the inductive process of inquiry is closely connected with the principle of lifelong learning, abstract reasoning and collaborative approach. Thus, research activity as an educational practice provides senior high students with an opportunity not only to understand how the research process can contribute to the advancement of knowledge but also to enhance their research skills and active learning.

Research activity must promote students' active and reflective learning. In this study, some students were regularly reflecting on the progress of their research project and their own contributions to collective learning. Branch and Paranjape stated that "reflection leads to growth of the individual-morally, personally, psychologically, and emotionally, as well as cognitively". Learning journals and feedback are effective ways to further enhance their reflective learning in senior high research. In particular, provision of feedback from teacher and researchers' professors in Graduate Studies is essential for promoting students' deep approach to learning.

Learners' cultural assumptions in relation to a collective activity are considered one of the elements that shape new learning process. In this study, students' values towards interpersonal communication were highly influential in their research experiences. Senior high students addressed some difficulties in self-expression during the discussions, for instance, *ICT 3* said that *"I don't want to bother others by sharing my uncertain idea"*. Such a tendency came from not only their limited experience of student-initiated learning but also their values that priorities a collective activity.

However, as they recognized the importance of active self-expression in the group, the influence of their cultural assumptions gradually diminished. As educators need to understand that learning is shaped through students' ongoing participation, and they can adapt to the new learning context. Therefore, Senior high students, like other Asian students, cannot simply be categorized into a stable perception of quiet, passive and dependent learners. Exploring the process of individuals' participation allows for better understanding variation in their ways of knowing, doing and being a member in a context of student-centered classroom of the K to Programmed.

An important aspect of facilitating students' active participation in research lies in keeping a balance between tutors' intervention and students' autonomy at each step of the research process.[5,36] This study found that as the relationships between tutors and students in undergraduate research were socially dynamic, the roles of tutor needed to be defined according to students' prior research/learning experiences, the quality of research questions set by the students, and difficulties encountered during the research process.[4-7] A better understanding of cultural, social or experiential factors that affect students' research activities are, thus, critical for enhancement of their active learning through undergraduate research.

9. Conclusion

Senior high Student researches to date have tended to focus on students' perceptions of research and curriculum descriptions of research-based education. This grounded theory study revealed qualitative changes in students' learning engagementin research and difficulties to learning over time through observation of and reflection on their on-going participation in the research project. Although the sample size appeared to be relatively small, these findings could provide insights into the potential for student researchers in in public schools, which can further enhance students' deeper approach to learning and cultivate their basic skills necessary to continuing professional development. Furthermore, this evidence in this study can be a springboard for making more elaborative exploration of students' learning process in undergraduate research in the future.

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