Best Practices of Winning Science Investigatory Project (SIP) Coaches: Experiences and Challenges

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Abstract

The study explored the best practices of winning Science Investigatory Projects (SIP) coaches in Region XII for the last five years, within School Year 2019-2020. Qualitative research was employed using interviews and focus group discussions (FGD). The data gathered on the best practices of winning the Science Investigatory Project (SIP) in Region XII were analyzed using narrative analysis (Creswell, 2007). Four themes were formulated based on the responses of the participants.

The findings reveal that SIP Coaches/Advisers in Region XII have implemented best practices which enabled them to produce winning entries in SIP competitions. These best practices include setting of criteria in the selection of advisee for science investigatory project; conduct of school-based science fair/competition; implementation of school-based curriculum on SIP; Setting of Criteria in the Choice of the Topic for SIP; enhancing the Research Skills of Advisees/Mentees; provision of on-line educational resources for students' researches; motivation and inspiration of the advisees by the coaches; mentoring/preparing the researcher before and during the SIP competition; and developing good researchers, as a legacy of the coaches.

The study also disclosed that SIP coaches encountered some challenges/problems in the process of mentoring their advisees, such as: financial concerns; time constraints; lack of school and administrative support; pressure from colleagues; advisee's attitude; and lack of laboratory resources and other materials. However, they were able to address these challenges/problems by implementing some interventions and strategies.

Keywords: Practices of Winning, Science Investigatory Project, Coaches

1. Main text

1.1. Introduction

Science Investigatory Project (SIP) is a learning activity that is familiar in the 21st-century education (Dela Cruz, 2015). This learning activity advances the students' research skills, where students are given the chance to be involved in exploring and solving socially relevant issues. They have hands-on involvement in

how the scientific method works by designing their fair tests, performing experiments showing cause and effect relationships, presenting and analyzing results through school-wide science fair.

With the enhanced K to 12 Program of the Department of Education, the new curriculum for Science Education is aimed to develop scientific literacy among students. This will prepare them to be informed and participate citizens who are able to make judgements and decisions regarding application of scientific knowledge that may have social health, or environmental impacts. Incorporating the 21st century skills, which includes: (1) Learning and innovations skills; (2) Information, media, and technology skills; (3) Life career skills in the science educations through the teaching and learning process will improve every Filipino student's way of thinking. Through this, students also expected to become creative critical thinkers, problem solvers, and decision maker (Enhanced Basic Education Curriculum, 2013).

Moreover, since the use of technology is widely used in many fields including education, information and communication technology (ICT) now become a tool for working on investigating scientific knowledge. By acquiring media and information literacy students will be able to filter facts and bodies of knowledge and use them wisely in learning science concepts and processes. Finally, through the application of 21st century skills in Science Education, the lifelong outcome of producing students who are personally and socially responsible and who are equipped with skills of surviving in the real world is anticipated (Enhanced Basic Education Curriculum, 2013).

In this digital and fast-changing era, a knowledge-based economy in science education has a vital role in economic and social development. This knowledge breakthrough seeks an innovative paradigm through scientific skills that serve as a gateway to meet countries promising global growth. (Morales, 2017). Science education motivates people in all countries to combat the challenges of having quality and excellent science education; something must be worked on to make such a powerful tool for economic expansion. Looking at the global perspective, the challenges of having quality science education are evident as the world experiences a drastic decrease in students' interest in science, especially in conducting science-related researches (Dela Fuente, 2019).

Despite the pressing problems on students' interest in science education, well-documented literature revealed that researches on factors associated with students' interest in science and investigatory project are less explored. In an instance, according to Department of Science and Technology (DOST, 2015), 73% of the agency's personnel are researchers, 47% distributed in a public and private government institution where 9,508 are in Higher Education Institution (HEI's), 75% are in public, and 25% are in private institution. Significantly, 24% of researchers are in natural sciences, 12% technology and engineering, 20% agricultural sciences, 8% medical sciences, 8% social sciences, and 11% are in humanities.

In Region XII, it found out that the same schools and divisions are always on the top of the area of SIP competition. There are also some schools and divisions in Region XII which are not performing well in the research competition. They have not sustained or surpassed the baseline reference set by the National Science Technology Fair (NSTF). And so, there are still many schools, divisions, and regions that did not perform well in SIP competitions (Region XII data on SIP, 2018).

Furthermore, learners are also having difficulties in understanding research concepts and achieving the competencies because it entails rich background knowledge and advanced cognitive abilities. Concerning this, SIP coaches are expected to be equipped with new capacities, in-depth competence, and attributes and must particularly have best practices in coaching and training their mentees in conducting science investigatory projects. Advisers have also purposely to look into their learners' needs and development.

To address this concern, the DepEd encourage every school to embrace this scientific challenge, thrusting all the research coaches and experts to conduct a unified intensive training, workshop, and seminars to increase the level of performance of some schools in Region XII. The school, science teachers, science

department head, principal, and research advisers are the front liners in administering the possible solution by enhancing the competence level of the student researchers in their respective research projects.

There is a need to increase the overall performance of Region XII Team in the National Science Technology Fair (NSTF) and to help other schools and divisions to engage in this very beneficial and significant competition in the area of science education. More efforts have to do to enhance the practices in coaching and training of the student-researchers to reach a better achievement in the Science Investigatory Project (SIP). To help enhance the capacity of the coaches and their mentees in undertaking SIP, this study has been conceptualized in an attempt to look into the best practices of the winning SIP coaches.

Their best practices may provide insights to other schools who wish to improve in their performance in the conduct of science investigatory projects. Eventually, it may help the schools in Region XII in its aim to achieve excellent performance not only at the division level and regional level but even at the national and international levels. Having all these, the researcher believes that teaching the conduct of science investigatory project and by sharing the best practices of winning coaches could help science teachers develop a culture of inquiry and investigation in the classroom as well as in the school and community and to excel in SIP competition at various levels.

1.2. Framework of the Study

This study is anchored on Bruner's paradigmatic cognition model (1986). The paradigmatic cognition explains that there is a network of concepts that provides people to construct experiences by highlighting common attributes that frequently appear (Porkinghorne, 1995). Bruner's model underpins the study as the narratives of winning SIP coaches from their experiences were obtained to make meaning of their role in SIP instruction and mentoring process (Sanchez, and Rosaroso, 2019).

Bruner’s cognition model is substantiated by Dewey’s (1938) model on progressive education, which is defined as a creation of discontent with traditional culture, which forces adult standards, subject matter, and methodologies. And so, the best practices which were deduced from the rich experiences of winning coaches were gathered to introduce better means of handling SIPs than what has been traditionally done. Moreover, Dewey’s social learning theory viewed the classroom as a social entity for students to learn and solve problems together as a community (Flinders & Thornton, 2013, p.35; Gutek, 2014). With this, learning how to win in SIP competition is seen a collaborative activity.

This study is also based on the goals of the Science investigatory project established by the International Philippine Science Fair (2019). Accordingly, a science investigatory project is a research activity that aims to develop one's ability to identify and determine possible solutions to a particular problem in one's community or possible explanations of a specific phenomenon. It improves the investigators in the discipline of science and technology (Intel. Phil. Science Fair. 2019). Furthermore, it also aims to develop a student’s capacity to actively and effectively participate in the solutions to problems in the environment. The science investigatory project also seeks to stimulate intellectual growth and provide a sense of fulfillment and satisfaction (Autiere, 2016). The expertise of science teachers plays a significant role in mentoring student-researchers in the conduct of SIP.

In the classroom, children observe as unique individuals; they can be found busy at work constructing their knowledge through personal meaning, rather than teacher-imposed learning and teacher-directed activities. The student will learn by doing, and they will be solving problems through hands-on approaches similar to the conduct of science investigatory projects. When teachers plan for instructions, students will integrate with an emphasis on project leaning. The educational experience encompasses the intellectual, social, emotional, physical growth of the whole child, not just academic growth (Schiro, 2013). So in the teaching of SIP to the

children, several aspects of learning have to be taken into consideration, not only the cognitive aspect but also the affective as well as the behavioral domain.

Republic ACT No. 2067 (also known as Science Act of 1958) is an act declared 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 current administration supports the law through advancing S&T and innovation in the country, as stated in the Philippine Development Plan 2017-2022 (NEDA, 2017). The plan includes the promotion of R&D in S&T and change of the country to Industrial Revolution 4.0 (IR4.0), which has the platform of merging technologies across physical, digital, and a biological system (Technical Education and Skills Development Authority, 2016) that support sustainability in agriculture, education, healthcare, and environment (Albert, Orbeta, Paqueo & Serafica, 2018). These envisioned developments need research-based projects which may start with the conduct of investigatory projects at the classroom level.

To bring research into the classroom level, the science research agenda of the country have to be cascaded to the basic education level. The national research goals embedded in the basic education research plan formulated by the Department of Education (DO No. 39, s. 2016), particularly in teaching and learning (T & L) agenda have to be implemented. Accordingly, in teaching and learning, science studies may be integrated into instructional materials development, community contextualization, and performance-based assessment.

In primary education, the latter two make science research likely to be conducted by elementary and high school students- through science investigatory projects (SIPs). These projects are mechanisms for students to make real-world connections and resolve problems in their community (Autiere, Amirshokoohi, & Kazempour, 2016). In the science classroom, equally important is the adviser or SIP coach. The best practices of the adviser in SIP coaching may address the identified gaps in the student-researchers' achievement, capacity building, training, and workshops, etc. Constant coaching, accordingly, aids to improve performance and increase the competence and motivation of researchers in conducting science investigatory projects (O'Brien & Holmes, 2013).

Furthermore, challenges and problems are experienced by SIP coaches in doing an investigatory project, e.g., the lack of resources and laboratories, the limited background of the advisees may contribute to the low engagement, performance, and poor outcome and conceptual understanding of researchers. As a science teacher and at the same time coaches, the goal is to replace their fear of handling their mentees with motivation and confidence. The coaches and their practices may guide the learners and aspiring SIP advisers in managing science investigatory projects resulting in excellent and winning entries. Thus, adequate content knowledge, skills, and methods and strategies; best practices of advisers like constant coaching, consultations of experts, and well-guided implementation of research procedures may capacitate the student-researchers.

Increasing students' interest in the conduct of SIP is not simply a challenge to scientific organizations but also to the different secondary schools that offer Science Technology Engineering and Mathematics (STEM) curriculum and even in the Basic Education Curriculum (BEC) not only in the Philippines but also across the globe. This phenomenon of declining trends in students' interest in science prompted the author to conduct the study through qualitative research to explore on the possible means of attracting students, science teachers, and other schools to conduct SIPs.

The concepts presented may help address the gaps observed in the conduct and making of quality SIP entries. The study focused on the best practices of the winning coaches in mentoring their student-researchers. These may guide the SIP coaches, research mentees and schools in Region XII and other Regions in the Philippines in surpassing the baseline reference set by the National Science Technology Fair (NSTF), International Science and Technology Fair (Intel ISEF), Department of Science and Technology (DOST), and that of the Department of Education (DepEd) in coming up with quality and relevant researches.

1.3. Statement of the Problem

This study explores on the practices of coaches with winning science investigatory project entries in Region XII during the school year of 2019-2020.

Specifically, it answers the following question:

1. What are the best practices of winning SIP coaches from the schools of Region X11?
2. What are the challenges/problems encountered by SIP coaches from identified winning schools in coaching their advisees/ mentees/ researchers?
3. What are the interventions/strategies employed by the winning SIP coaches to address the challenges/problems they encountered?

1.4. Research Methodology

This study employed a qualitative research design using narrative analysis (Creswell, 2007). Narrative research is a term that subsumes a group of approaches that, in turn, rely on written, spoken words or visual representations of individuals. Narrative or stories occur when one or more speakers engage in sharing and recounting an experience or event. The narrative analysis takes the story as the investigating focus. Narratives or stories maybe be oral or written; be elicited, for example, during the interview, or naturally occurring; be very short or long; be told as a way to share one's bibliography. It also focuses on the event and the meaning of those events; focus on the ordinary stories of people tells us a way to share experiences (Chase, 2005). A qualitative approach makes it possible to study “things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2005).

The research was conducted in Region XII among the schools with chosen coaches who won in the division, regional, and national science fair. These coaches were identified based on the official results of division, regional, and national science fair competition provided by Dep-Ed. SOCCSKARGEN, formerly known as Central Mindanao, was an administrative region of the Philippines, located in South Central Mindanao, numerically designated as Region XII. The name was an acronym that stands for the region of four provinces and one city. The center of the region was in Koronadal, located in the areas of South Cotabato, and the center of commerce and industry was General Santos, which is the most populous city in the Region.

The participants of this study were chosen and were identified from winning Science Investigatory Project (SIP) coaches in the area of Region XII, Philippines, School Year 2019-2020. The participants were selected from SIP coaches who had three (3) or more winning entries within the last five years either division, regional, national, or international level. Practicing SIP coaches for more than ten years, experts in the field of SIP making, teaching research subject for more than ten years among Junior Highschool students under STEM curriculum, graduates of science-related baccalaureate degrees, and recognized as seasoned and awarded SIP coaches in their respective school and division.

1.5. Data Instrument and Procedure

Tools used two data gathering in obtaining the data for this study. Data gathering was facilitated through motive questions for the interview and focus group discussion.

A. Interview

The interview was employed through th use of directed motive questions, which were used to ask the participants regarding their best practices in mentoring their SIP mentees; follow-up questions were then

asked regarding the problems/challenges they encountered, and how they address such challenges/issues.

B. Focus – Group Discussion

The motive questions for the focus group discussion (FGD) were on the best practices of selected winning SIP coaches in Region XII. Questions were also asked about the difficulties/challenges/problems encountered by the participants in the conduct of their winning SIPs. The researcher also asked about the strategies utilized by the participants to address the difficulties/challenges/problems they encountered in mentoring their mentees. During the FGD, the participants were allowed to express themselves in vernacular or in any dialect they are comfortable with.

A letter from the Dean of the Graduate School of Bukidnon State University is requested to allow the researcher to conduct the study. The letter was first handed personally to the Regional Director of Region XII for approval. Upon approval, permission was also requested from the various heads to gather the data from the SIP coaches of the concerned schools.

An orientation then is given to the participants on how the interview and FGD will be administered. The privacy of open-ended responses, as well as the identities of participants was assured to be given utmost security. A semi-structured interview is conducted to allow participants to share his/her best practices and the problems/challenges they encountered as coach/adviser of science investigatory projects and how they addressed such challenges/problems.

Then directed interview is conducted to gather data on the practices utilized by the advisers/coaches from the winning schools in Region XII. Follow-up questions were then asked to explore the best practices of the coaches of winning SIPs. Focus group discussion (FGD) was also conducted, and this is done in structured small group interviews. According to Taylor-Powell (2002), FGD is focused on two ways. First, the persons interviewed were similar in some way, being SIP winning advisers in science investigatory projects. The participants heared and interacted with each other. Second, they gave either different or similar information and could expound on their responses than when they were individually interviewed.

The purpose of focus group interviews was to develop a broad and deep understanding rather than a quantitative summary. The emphasis is on the insights, responses, and opinions of the participants. In this study, the participants were considered experts in their fields and, at the same time, awarded as winning coaches in science investigatory projects in Region XII at least in the Division, Regional, or at the National level. Motive questions were asked from the participants who followed-up by more specific questions regarding their best practices as coaches with winning science investigatory projects. The responses of the participants were recorded and transcribed. Themes and categories were identified based on the commonalities of the responses of the participants.

The motive questions for the interview were used in the conduct of FGD. These were, however, further followed-up with questions on the problems or challenges encountered by the coaches in mentoring their advisees as well as the process of making their SIPs and how they addressed their problems/challenges. The responses were recorded, transcribed, and themes were identified based on the commonalities of the responses.

1.6. Data Analysis

Data gathered through FGD and interviews were analyzed using narrative analysis (Creswell, 2007). Narrative analysis emphasizes the formulation of concepts from the narratives or stories of the participants that would lead to a specific identity of a theme derived from the gathered data. Narrative research was a term that subsumes a group of approaches that, in turn, rely on written, spoken words or visual representations of individuals. Narrative or stories occur when one or more speakers engage in sharing and recounting an

experience or event. The narrative analysis took the story as the investigating focus. Narratives or stories could be oral or written; be elicited, for example, during the interview, or naturally occurring; be very short or long; be told as a way to share one's bibliography.

1.7. Results and Discussion

Table 1. On the setting of criteria in the selection of Advisee for Science Investigatory Project (SIP).

Themes	Subthemes	DISCUSSIONS
I. The Setting of Criteria in the Selection of Advisee for Science Investigatory Project (SIP)	*A. Advisee's Attitude/Character* *B. Advisee's Competence* *C. Support of the Parents.*	Demands and expectations are developed because of awareness, interest, and a favorable attitude toward one's topic of study, according to a study by Moghadam et al (2017). It implies that students will succeed in their chosen careers if they have a positive attitude and a higher level of interest. One of the primary indicators of a future specialist's professional maturity is their knowledge and proficiency in research (Ŝarushkevych et al., 2022). In addition to giving their children the confidence to succeed in their chosen careers in the future (Kinyota, 2013; Mabula, 2012; Okeke, 2009), parents' willingness to support their children can also have a positive impact and inspire the researcher and SIP coach to win the competition.

Table 2. On the S*etting of Criteria in the Choice of the Topic for SIP*

Themes	Subthemes	Discussions
II. Setting of Criteria in the Choice of the Topic for SIP	*A. Student's interest and availability of resources.* *B. The relevance of the Study.* *C. Event's Theme/Guidelines/Criteria.*	Interest is defined as a persistent inclination to reengage over time, as well as a psychological state of attention and affect toward a certain item or topic, according to the research of Harackiewicz, Smith, and Priniski (2018). Dela Cruz (2014) and Tobias (2015) said that research done in the Philippines indicates that a science investigatory project is an endeavor for science students that requires the application of specific scientific concepts and principles that contribute effectively and actively to the solutions of issues facing the community. According to a study from Capipilan et al. (2017), the Department of Education's National Science and Technology Fair adhere to the global regulations and guidelines set out by the Intel International Science and Engineering Fair (ISEF). Therefore, to appropriately mentor the students during the SIP, scientific teachers and advisors must be familiar with these international criteria.

Table 3. On enhancing the research skills of the researchers/mentee

Themes	Subthemes	Discussions
III. Enhancing the research skills of the researchers/ Mentees	*A. The Conduct of Hands-on Research Activities in the Classroom.* *B. Consultation with Experts.* *C. By observing the DOST Symposium and SIP Competition.*	The findings of Jugar (2013), who verified that scientific investigatory projects will interest students and enable them to explore and explain science concepts that develop a practical interest in scientific inquiry because of the hands-on and mind-on activities that take place in the classroom. According to Rajpurohit (2023), research consultants can contribute novel ideas and a fresh viewpoint to undertakings involving research. It facilitates the development of research methods, the improvement of data analysis techniques, and the refining of research questions.

Table 4. On the Coaches Inspire and Motivate their Advisees/Mentees

Themes	Subthemes	Discussions
IV. Coaches inspire and motivate their advisees/mentees.	*A. Spending Extra Time with the Advisee/Mentee.* *B. Providing Advisees with Incentives.* C. *Adviser's Support for their Mentees.*	Balan's (2015), a peer mentorship-buddy system was created and implemented as part of the study as an intervention method to meet the needs of the students about their research skills. He added that offering rewards is a useful strategy for both reinforcing good conduct and re-engaging your researchers. Effective incentives are easy to track for program research coordinators, research advisers, and participants. The study of Aparicio (2018), examined the impact of mentoring support and students' perceptions of their abilities on their performance during the investigatory project. The findings show that student performance is impacted by mentorship during investigatory projects.

Table 5. Responses of the participants during the interview and Focus Group Discussion on the mentoring/preparing the researcher before and during the SIP.

Themes	Subthemes	Discussions
V. Mentoring/ preparing the researcher before and after the competition.	*A. Advisee's Mental Conditioning.* *B. Consultation with scientists/ experts.*	To help students prepare, they present potential inquiries that might be asked during the competition and offer assistance in providing accurate answers. Practice and drills guarantee the success of defense in any science show, claims Liu (2016). Aparecio's (2018) assertion that experts in their field ought to mentor students since they could provide credible help for their research work. To get assistance with research writing and data analysis, student researchers are also urged to connect with their English and math teachers.

Table 6. On the Developing Good Researcher as a Legacy.

Themes	Subthemes	Discussions
VI. Developing a Good Researcher as a Legacy	*A. Developing Future Researchers* *B. Providing Societal Contribution*	Belarmino et al. (2016) provide evidence to support their contention that the innovation and advancement of science in human lives depend on SIP making. Students who receive adequate instruction in scientific research in the classroom will be equipped to do independent research. Therefore, SIP coaches are extremely important in shaping the future generation of researchers. The results validate Salac (2017), who identified the science investigatory project as one of the major scientific accomplishments. Students develop their scientific inquiry and learn about various scientific ideas, concepts, laws of nature, and principles through science investigatory projects.

Challenges/Problems Encountered by the Research Adviser/Mentors

In Coaching their Mentees

Table 7. On Challenges/ Problems Encountered by the Research Adviser/Mentors in Coaching their Mentees

Themes	Discussions
I. Financial Concerns II. Lack of School and Administration Support. III. Unavailability of the Needed Laboratory Resources. IV. Lack of Training for Teachers	According to Neema & Chandrashekar (2021). The infrastructure that is available to perform the research is just as important to the project's success as the researcher's efforts. Funding is necessary to cover the costs of manpower and materials needed to carry out a research endeavor. Due to the lack of laboratories in schools and their need to get accurate study findings, teachers viewed this intervention as acceptable practice (Jugar, 2013). For SIPs to be conducted successfully, teachers are hopeful that their schools will be equipped with functional facilities. It is suggested that to address the difficulties faced by the SIP coaches, the government, school administrators, and educators should develop programs that will meet the needs of the students in carrying out the program (such as research training and mentoring programs) (Aparecio, 2018).

Interventions/Strategies in Addressing the Challenges/Problems Encountered

Table 8. On the Interventions/Strategies in Addressing the Challenges/Problems Encountered

Themes	**Discussions**
I. Coordination with other Agencies.	Sharing distinct research experiences can yield insights that lead to the submission of a more thorough work. According to Viera (2023), researchers need to understand the value of teamwork in advancing scientific understanding and finding universal solutions in today's interconnected society. During the Focus Group Discussion, one of the participants highlighted that having a timetable that must be rigorously adhered to is essential for having an organized, systematic task that can be completed on time. Capacitating the coaches would have a significant impact on the outputs of the researchers. Capacity-building training for Science Investigatory Coaches can provide several benefits. One such benefit is that it can help teachers develop the skills and knowledge necessary to coach students to

	complete advanced authentic science research projects. As asserted by Stirling (2023) there are training programs available that focus on developing coaching capacities for school leaders, STEM teachers, and science communicators.

1.8. Conclusion

Based on the commonalities of the participants' responses, themes were generated, and these are (1) The best practices of winning Science Investigatory Projects in Region XII; (2) Challenges/Problems Encountered by Research Advisers/Mentors; (3) Interventions/Strategies in Addressing the Challenges/Problems Encountered; and (4) Advice of Winning SIP Coaches to Aspiring SIP Mentors. The researcher followed the necessary protocols before, during, and after the conduct of the study.

There were nine (9) identified best practices of winning Science Investigatory Projects in Region XII; these include the following: (1) The setting of Criteria in the Selection of Advisee for Science Investigatory Project (SIP) , which include the advisee's attitude/character; advisee's competence; and support of the parents; (2) The Conduct of School-based Science Fair/Competition; (3) Implementation of School-Based Curriculum on SIP; (4) The setting of Criteria in the Choice of the Topic for SIP – the criteria include students' interest and availability of resources; relevance of the study; and event's theme, guidelines, and criteria; (5) Enhancing the Research Skills of Advisees/Mentees – this done through hands-on research activities in the classroom; consultation with experts; and by observing the DOST symposium and SIP competition; (6) Provision of on-line educational resources for students' researches; (7) Motivation and inspiration of the advisees by the coaches – this include providing the advisees with incentives, and giving support and motivation to the mentees by the advisers; (8) Mentoring/preparing the researcher before and during the SIP competition – this is done by mock defense and debriefing; mental conditioning of the advisee; and consultation with scientists/experts; and lastly (9) Developing good researchers as a legacy of the coaches – this can be done by capacitating future researchers who can contribute to society's development.

The challenges/problems encountered by the research advisers included the following: Financial Concerns; Time Constraints; Lack of School and Administrative Support; Pressure from Colleagues; Advisee's Attitude; Lack of Laboratory Resources and Other Materials. Interventions/Strategies in Addressing the Challenges/Problems Encountered are as follows: coordination with other agencies and time management. The Advice of Winning SIP Coaches to Aspiring SIP Mentors are as follows: To enhance their competence as SIP Advisers; to observe teamwork and collaboration, and To be a committed SIP adviser.

1.9. Recommendation

With the general statements presented, the following recommendations offered:

1. Since SIP coaches play a vital role in SIP making, they are encouraged to passionately guide their students, not only in the conduct of the SIP but also in the planning and assessment phase of the project.
2. The school officials are encouraged to initiate linkage and coordination with private and public agencies to address some of the problems on the lack of materials and laboratory resources needed in the conduct of SIP.
3. The schools and the administration may conduct capacity building activities for the teachers and student-researchers to enhance their research skills.
4. School officials are encouraged to allocate budget for the laboratory equipment and resources needed by the teachers and students in the conduct of their SIPs.

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