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FEATURE

Establishing Research Culture in Oriental Mindoro through STARTS: An Appreciative Inquiry

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Abstract. *The State Universities and Colleges are mandated to conduct sustainable extension programs that are relevant to the needs of the community. This study aims to evaluate the extension program, Sustainable Training for Academic Rigor among Teachers and Students (STARTS), through Appreciative Inquiry (AI). This study was grounded on experiential learning theory by Kolb (1984) and the social construction of reality theory of change by Barrett, Thomas, and Hocevar (1995). Purposive sampling was done to select teachers and senior high school students from the three beneficiary schools in Oriental Mindoro. Data were gathered through appreciative interviews, observations, FGD, and documentary analysis and were analyzed through transcription of the interviews, coding, categorizing, and thematic analysis (Merriam, 1989). The results were presented using the 4D model (Discovery, Dream, Design, and Destiny) of AI (Cooperrider & Srivastva, 1987). Results showed that among the best features of STARTS are needs-sensitive, contextualized, performance-based, collaborative, output-based, and self-sufficient.*

Keywords: discover, dream, design and destiny, Sustainable Training for Academic Rigor among Teachers and Students, extension project evaluation, Oriental Mindoro, Philippines, Asia, Appreciative Inquiry, 4D model, public school teachers, senior high school students

Introduction

Instruction, research, and extension are fundamental to the work of higher education institutions. Professors nowadays are expected to focus on three major aspects: teaching, research, and service to the community (Salazar-Clemeňa, & Almonte-Acosta, 2007). In the Philippines, state universities and colleges are mandated to perform extension activities aside from instruction, research, and production (Commission on Higher Education, 2012, Memorandum Order No. 46). To date, various institutions are offering extension services to their stakeholders. However, careful evaluation or needs assessment of the community should be done first to identify the services that the community needs and for the institution to extend. Establishing an extension program is not just a one-shot, big shot activity. It requires careful planning and systematic monitoring and evaluation to assess its effectiveness and impact and to ensure its sustainability.

The Sustainable Training for Academic Rigor among Teachers and Students (STARTS) is an extension project that aims to provide capability training in conducting qualitative and quantitative research among the teachers and senior high school students of public secondary schools in the Second District of Oriental Mindoro, specifically in the municipalities of Bansud and Gloria. The project was based on the study of Candelario-Aplaon (2017), which concluded that the teachers needed training on conducting research because their knowledge level on the conduct of research is below the expected level (Candelario-Aplaon, 2017). Further, Practical Research 1 and 2 are part of the senior high school curriculum as applied track subjects (Official Gazette of the Republic of the Philippines, 2013). That is why it is important for public secondary school teachers to be knowledgeable in conducting research. More so, research is a required domain in the Individual Performance Commitment and Review (IPCR), a critical performance indicator in the new Result-Based Performance Management System (RPMS) and an important component for promotion. This project STARTS included technical assistance wherein series of seminar-workshop on qualitative and quantitative research were conducted to public school teachers and senior high school students. Mentoring and technical support such as statistical assistance, panel/committee member during students' proposal, and final defense were also conducted.

As an extension program, ensuring the sustainability of project STARTS is a major concern for the extension department of the institution. Aside from the existing plan on carrying out the project, improvement/revisions may be formulated to continuously improve its services for the remaining 4 years of implementation. Instead of conducting a usual Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis, an Appreciative inquiry (AI) is more appropriate to employ (Trye, 2017) as it identifies its best practices as well as the aspects that should be improved based on the specific needs of the beneficiaries of the project. AI as a research design allows the harnessing of best practices to

formulate frameworks needed to address the motivation of behavior if the proposed behavior change is to be successful (Sigauke & Swansi, 2017). The purpose of this study is to explore positive stories of STARTS practices among its beneficiaries in order to present a new model that would make it more effective and sustainable. The beneficiaries, through AI, would be able to identify the needs that were not addressed during its first year of implementation. That way, they would receive better services on the succeeding years of implementation.

Review of the Literature

This section reports a review of the literature based on related government issued documents and other research literature. The purpose is to help present the research topic in a clear context. The review includes discussions on the mandate of the Department of Education (DepEd) on the conduct of research, the status of research production, extension program, research capability building, and AI.

Mandate of the Department of Education

In the Philippines, public school teachers are required to conduct research just like higher education faculty. The Republic Act 9155, otherwise known as the Basic Education Governance Act of 2001, gave emphasis on the indispensable role of research on the basic education system on the aspect of management and administration. Chapter 1 Section 7(5) states that

> the Secretary of Education shall have the authority, accountability, and responsibility for the following: . . . (4) Monitoring and assessing national learning outcomes; (5) Undertaking national educational research and studies, and (7) Enhancing the total development of learners through local and national programs and/or projects. (Official Gazette of the Republic of the Philippines, 2001, pp. 5-6)

The presented roles could only be addressed when public school teachers do their part by conducting research at the school level. On the national level, the Department of Education (DepEd) initiates the establishment of the Research, Innovation, and the Policy Evaluation Secretariat (RIPES) in 2003 and Policy Research and Development Division (PRDD) in 2015. The RIPES are tasked to rationalize/prioritize the conduct of future research innovation undertakings in accordance with the DepEd research agenda (Department of Education, 2003, Order No. 65). The PRDD, on the other hand, "is tasked to conduct, support, and manage empirical studies and thereby promote evidence-based decision and policy-making at various levels of the department" (Department of Education, 2015, Order No. 13). The department also devises strategies to encourage teachers to conduct research by providing financial assistance through the Basic Education Research Fund (BERF) that allots fund per approved research (Department of Education, 2015, Order No. 43), which falls on the research agenda of the

department. The research area includes teaching and learning, child protection, human resource development, governance, disaster risk reduction management, inclusive education and gender and development (Department of Education, 2016, Order No. 39). It is evident from the programs and policies issued by DepEd of the high regard in the importance of research in improving the standards of education in the Philippines.

Status of Research Production

Despite the mandate of conducting research and the support offered by the Department of Education, research outputs among basic education teachers is low. According to the gap analysis conducted by Ramos (2017), 90% of teachers per school were not skilled in conducting action research. Moreover, 10% of the teachers conducted individual action research instead of collaborative type (Ramos, 2017). Among the causes of low research outputs are the lack of training and knowledge needed to write a research (Wa-Mbaleka, 2015); a disconnection between research or theory and practice (Boykin & Noguera, 2011); limited financial resources for research development (Justimbaste, 2004; Wa-Mbaleka, 2015); limited time, lack of training, lack of interest in writing and research, laziness, and lack of institutional support (Wa-Mbaleka, 2015); and difficulty in identifying research problem, designing/mapping the research process, and applying appropriate statistical tools and formulation of conclusion and recommendation (Candelario-Aplaon, 2017). Because of the aforementioned points, the proponents of the project STARTS decided to conduct this extension program to help the public school teachers and the senior high school students in conducting research by providing research capability seminar-workshop.

Extension Program

The extension program is one of the four-fold functions of the HEIs in which services relevant to the needs of the community were extended to help the lives of the beneficiaries (Mindoro State College of Agriculture and Technology, 2014). Higher Education Institutions (HEIs) could provide technical assistance, such as research capability training. HEIs have facilities, resources, and experts that could help the public school teachers in acquiring the necessary skills in conducting research (Candelario-Aplaon, 2017).

To address the difficulties encountered by the public school teachers in writing research, DepEd officials, as well as school administrators, devise plans on uplifting the knowledge and skills of the teachers in conducting research. Aside from various seminars and trainings conducted by DepEd, the school heads from basic education levels could strengthen their research culture by collaborating, coaching, mentoring, consulting, and inviting experts from partner institutions and agencies for technical assistance and funding (Ramos, 2017). Further, the extension

program could help strengthen the research culture of the public school teachers (Ramos, 2017).

Research Capability Training

Wa-Mbaleka (2015) recommended that capability-building training on research be conducted by the institution to help address the negative factors of low research production. Research capability building program should be conducted because it provides teachers with the necessary knowledge, skills, and attitudes to conduct research as well as improve the competency, quality and productivity of the teachers (Ramos, 2017). It is also a more practical way of training a larger number of faculty and much cheaper than sending them to attend seminars in another city or places (Wa-Mbaleka, 2015).

Appreciative Inquiry

An extension program, just like any other program, should be regularly monitored and assessed. Different methods may be employed. AI may be the best method because it focuses on the best practices, which in turn help to come up with a better model for future implementation. AI was used to unearth the best attributes of the STARTS from the stories of its beneficiaries. Cooperrider and Srivastva (1987) defined AI as a "form of action research that attempts to create new theories/ideas/images that aid in the developmental change of a system." AI offers a suitable research model for evaluating organizational development by harnessing the imagination and passion of the dream organization (Jordan & Thatchenkery, 2011). AI involves integrating the best of the past into the future with the use of dream and imagination in order to design blueprint for change (Cooperrider, Sorensen, Whitney & Yaeger, 2001; Couch, 2017; Egan & Feyerherm, 2005). AI is a process of change that offers the opportunity to experience doing something different that makes life more pleasurable (Egan & Feyerherm, 2005). It focuses on the positive aspect with the belief that communities or organizations can be strengthened through collaborative inquiry as a method to turn problems into transformative change (Openo, 2016). AI is defined by Bushe and Kassam (2005) as the process which begins with a positively framed topic of inquiry to solicit new ideas and practices which aim to improve current organizational status.

Theoretical framework

The study was anchored to the experiential learning theory (ELT) by Kolb (1984). The ELT defines learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41). The ELT depicts a four-fold model for acquiring knowledge which is composed of two modes of grasping experiences known as concrete experience (CE) and abstract conceptualization (AC) followed by the two modes of transforming experience

through reflective observation (RO) and active experimentation (AE; Mc Carthy, 2016). In this study, the concrete experiences (discovery) of the beneficiaries are taken into account to formulate new knowledge (dream) by reflecting on what had happened. The result will be used to formulate future directions (design) through systematic planning and actively testing the formulated abstract concepts that would serve as a guide in creating new experiences (destiny).

Another theory that bears significance to the current study is the social construction of reality theory of change by Barrett, Thomas, and Hocevar (1995). According to this theory, there is nothing inherently real or true about any social form. Organizations' success depends on the imagination and collective will of its members. It requires effective communication since language is considered as the basic building blocks of social reality. As people talk with each other on what is the organization's best and dream together for an alternative future, they create a powerful way of shaping and changing the organization. In this study, the beneficiaries were asked to imagine the best description of the project. Employing AI among the beneficiaries seeks new images, best intentions, and noblest aspirations to come up with a collective envision of what the STARTS program could be at its very best.

After the presentation of the different literature, it was found that there are few studies conducted that assessed extension program. Further, AI was mostly used for organizational development. It was also worth noting that a limited research capability program was provided by an HEI to basic education faculty as an extension project. Because of such gaps, the researchers were motivated to conduct the study to give a contribution to the field of knowledge.

This study aimed to assess the implementation of the extension project STARTS by determining its best features from the viewpoint of the beneficiaries. Based on the result of the study, the researchers could come up with a new proposal for STARTS' second year of implementation. Moreover, the extension department could be informed of the areas that need to be included, like budget, resource persons, materials and the like. Further, the College of Teacher Education would be able to receive feedback and evaluation of the status as well as the impact of the extension project to the beneficiaries. To meet these objectives, AI was conducted to understand how the project could be improved using positive inquiry. The following research questions were addressed in the study:

1. How would you describe STARTS? (Discovery)
2. What does the best description of an effective research capability program look like? (Dream)
3. What would be your suggestions for an effective five-year plan for the development of STARTS practices? (Design)
4. What would need to be included to ensure the long-term implementation of STARTS? (Destiny)

Methodology

This section presents the research design used to answer the presented research questions. It describes the research setting, participants, and sampling procedure. The detailed data gathering procedures and analysis are also presented.

Research Design

The study aims to assess the STARTS project. The proponents of the STARTS extension program would like to assess the project and make sure that the project is sustainable. To do so, an annual assessment in the form of research was conducted. Instead of determining the strength, weaknesses, opportunities, and threats, the researchers opted to focus mainly on the best practices of project STARTS. To meet the objectives of the study, a qualitative study will be conducted using AI. AI is the most suited research design to address the objectives of the study because it involves asking positive questions in order to explore the best practices of an organization (Cockell & Mc Arthur-Blair, 2012; Cooperrider & Whitney, 2005). The 4D model of AI by Cooperrider and Srivastva (1987) was used in the study. The 4D model includes the discovery, dream, design, and destiny phases. The discovery phase is about searching for positive stories, the dream phase involves choosing positive themes from the stories for further investigation, the design phase entails constructing positive images for the future, and the destiny phase is about implementing dream (Watkins, Mohr & Kelly, 2011). According to Bushe (2013) "AI involves studying and changing social systems that advocate collective inquiry into the best of what is in order to imagine what could be, followed by the collective design of a desired future state that is compelling" (p. 1). Through the AI process, the strengths and what is needed for improvement were described while maintaining a positive atmosphere (Trye, 2017).

Research Setting

The study was conducted on three beneficiary schools of the STARTS project. The said beneficiary schools are public secondary schools in Bansud and Gloria, which offered the newly introduced senior high school program. The said beneficiaries are among the schools in the Second District of Oriental Mindoro, which needed research capability training based on the study of Candelario-Aplaon (2017). School A had a total of 27 teachers and 323 senior high school students, School B has 17 teachers and 83 senior high school students, and School C had 25 teachers and 172 senior high school students.

Sampling

Purposive sampling was used for selecting the participants. The participants were selected based on the pre-set criteria. The participants were all (a) from the beneficiary schools, (b) attended the series of trainings conducted through

STARTS, (c) presented a research proposal, (d) completed the proposed research and (e) were willing to participate in the study. The participants were grouped into two, the teachers and the students. This study included a total of 45 participants, which consisted of 15 teachers and 30 students.

Data Collection

The data needed for the study were gathered through an appreciative interview, observations, focus group discussions (FGD), and documentary analysis. The appreciative interviews were conducted with the teachers, while the FGD were conducted among the students. The purpose of the AI and FGD was to gain insights from the teachers' and students' perspectives about the STARTS implementation in their schools. The interview and the FGD are both guided by the AI's 4D model: discovery, dream, design, and destiny. Observations were made during the proposal presentation and oral defense of the students while the teachers' performance and presentation were observed during the workshops. Another source of data considered by the researchers was the documents. These include the sample research outputs of the students and teachers before and after the implementation of STARTS, as well as the lesson plans and instructional materials used in teaching Practical Research 1 and 2.

Data Analysis

The data were analyzed through the transcription of the interviews, coding, categorizing, and thematic analysis (Merriam, 1989). For trustworthiness issues, credibility and dependability of the results were ensured. For the credibility of the study, we used triangulation, members' check, peer examination, and researchers' bias, as suggested by Merriam (1998). In terms of dependability, audit trails were conducted through a review of books and articles, field notes, interview transcriptions, and documents were carefully managed and analyzed. For the peer-review process, the study was presented to the Director for Research and the Vice President for Research, Extension and Development, and some experts during the institutional in-house proposal and paper review.

Ethical Considerations

Permission to conduct the study was secured from the College President through the Vice President for Research, Extension, and Development prior to the conduct of the study. Further, approval was also requested from the principals of the beneficiary schools. Informed consent was secured from the participants to ensure voluntary participation. The consent form detailed the purpose of the study, the assurance of confidentiality, and their right to withdraw their participation in the study. Also, the safety of the researchers and the participants was observed at all times. This was done by interviewing in a safe and secure environment like the

classroom. Further, the privacy of the participants was ensured by conducting the interview and the discussion in time and place they are comfortable.

Researchers' Reflexivity

In qualitative research, the researcher is often considered as the main instrument in the process of gathering data (Malterud, 2001; Merriam 2009; Silverman 2000). According to Malterud (2001), "A researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate and the communication of the conclusions" (p. 484). As the researchers are also implementers of the project STARTS, they may face a question of bias. To deal with the issue of researchers' bias, the researchers used triangulation, audit trail, and made our position explicit in the study. The principal author had also experienced difficulties in conducting research and was once a public secondary school teacher, and that is why she was interested in helping the teachers overcome their challenges in conducting research. She is the current project leader of the program STARTS, and she knew that assessment plays a vital role in ensuring the sustainability of the program and serving its beneficiaries better. The second author, who is the Extension Director had significant experiences when it comes to impact, needs, and performance-based assessments of an extension program. The third author is also one of the resource speakers on some sessions for senior high school students. All the researchers understand the importance of arriving at a sound conclusion. After sharing our biases, we made sure that the data was dependable.

Results

Discovery: Best Features

Discovery is the first phase in the 4D model of AI. This phase aims to identify the best of what is (Cooperrider & Srivastva, 1987). In this study, AI aims to identify the best features of STARTS from the point of view of its beneficiaries. Based on the results of appreciative interviews and focus groups, six features were identified.

First, the participants identified STARTS as *needs-sensitive*. For the teachers, conducting research aids in their promotion as well as uplift their performance. "I'm MTI *Matagal na* Teacher I (Teacher I for a long time) hahaha. . . . I was never promoted because I have not finished my master's. If only I could write research. . . . Thanks to STARTS, I can write research now and eventually be promoted in the future" (T1). Another teacher participant said, "I want to conduct research, I just don't know how to start. I am thankful that the training provides tips on how to get started from the planning stage to choosing the topics and how to present the topic" (T5). "The needs questionnaire enables me to reflect on what I

need to know in writing research that way the topics were exactly what I needed to know" (T12), added another teacher participant. "I really want to know how to write qualitative research because I am teaching PR1. I do not have training in qualitative research even in master's. We only study quantitative research," says T10. On the part of the students, the STARTS project aids them in writing their research requirements. According to one of the students, "Last year (Grade 11), writing RRL is a real struggle. Through the workshops, we learned some tips on how to choose, download, manage, and write the RRL. The speakers also shared some websites and applications that helped us a lot" (S8).

Second, it is *contextualized*. STARTS provides contextualized discussions as the topics and presentations followed the format provided by the DepEd on conducting research (Department of Education, 2015, Memorandum Order No. 43). "Some of the sample researches presented during the training are also existing problems in our community. That way, I have an idea what I will study next time" (T3). "During proposal making, the facilitator recommends that we choose topics that we observed which our school and community need" (S10). The teachers familiarized themselves with the template given by DepEd as one of the teacher participants stated that "the guidelines used by the facilitators are parallel to the specified template by BERF" (T6).

Third, it is *performance-based.* The program provided workshops that enable the participants to work on their research proposals and full papers. "After each session, we are required to complete a task. And since we are working in group, the task becomes easier" (T4). "We are 4 in our group. We are all interested in solid waste management, so I think for the first-timer like me, working together is a good strategy to come up with a complete research paper" (T12). "The facilitators roam around during workshops making sure that all of us are doing our part in the group" (S21). "There is no one excused during workshops; even the principal they had to work either alone or with a group" (T11).

Next, the participants regarded the project as *collaborative,* wherein they mentioned that mentoring/consultation is one of its best practices. The implementers of the project provide comments, suggestions, and technical assistance during workshops, output presentations, and scheduled consultation. "What I like best is the consultation; the facilitators give their suggestions for the improvement of our study" (T9). "Aside from giving comments during workshops, they served as our panel during the proposal and final defense" (S2). "Through STARTS, statistical computation is no longer our problem. All we have to do is tabulate the data, and they do the computation. What a relief" (S20). The result is parallel to the result of the study of Ramos (2017) that one of the best practices of research capability training are consultation, peer-review, and critiquing during the workshop.

Another best feature of project STARTS is that it is *output-based*. After the end of each workshop, the participants were required to present their outputs to

showcase the learnings they had gained. “We are required to finish, present, and submit the outputs, or else we will not be given certificates, and they are not bluffing” (T7). “We have to submit our outputs after the workshop. They returned it with corrections after some time” (S15).

Last but not least, the program was *self-sufficient*. This was because of the self-instructed module (SIM) provided by the program, which was used by the teacher beneficiaries as they completed their papers and teaching materials in Practical Research 1 and 2. “The module is self-explanatory and provides a step-by-step guide in writing research, and it’s for free! Though the copies are limited” (T15). “Our research teacher has a copy of the module that we borrow from time to time” (S4). “The discussion in the module is easy to understand” (S1). As the availability of reference materials in developing action research is one of the challenges encountered by the teachers (Ramos, 2017), providing a module that is updated and simplified could help the beneficiaries write research easier. Figure 1 presents a summary of the best features of project STARTS.

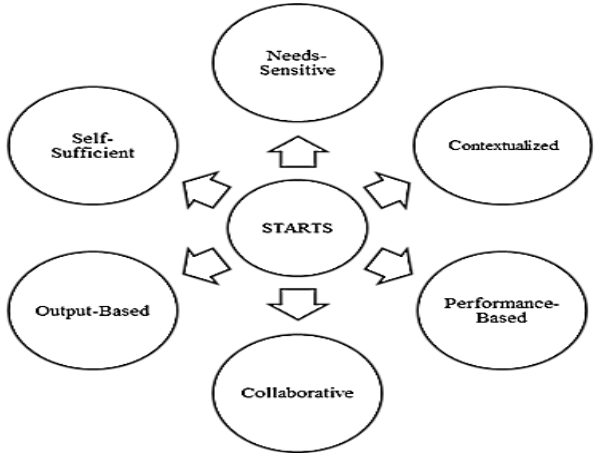

Figure 1. Discovery: Best features of STARTS.

Dream: Envisioned Research Capability Best Practice

The dream phase in AI solicits the views of the participants on what might be. Question number 2 aims to conceptualize a dream of how an ideal research capability program would look like. Figure 2 presents the dream research capability program.

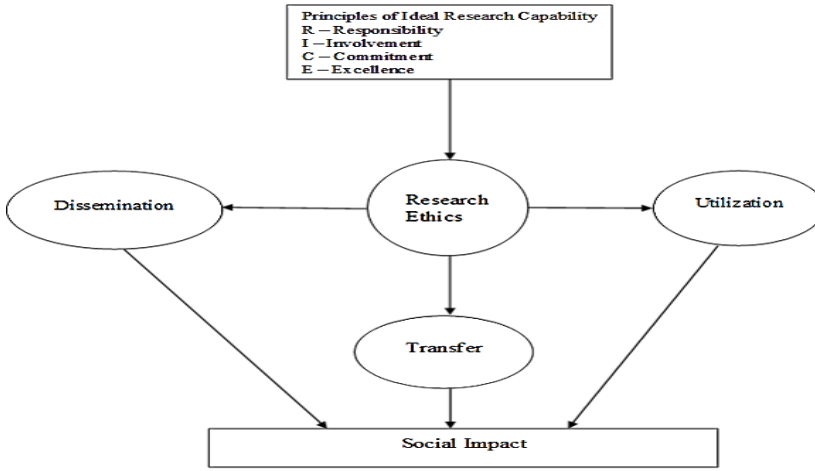

Figure 2. Dream: Envisioned research capability program.

For the participants, the effective research capability program should help the beneficiaries to produce research that would impact the community. To achieve this, the program should encourage its beneficiaries to be reminded that they should be responsible, involved, committed, and excellent at conducting research. "The beneficiaries must be reminded from time to time of the vision of the program" (T8). The research capability should not focus only on the technical aspect of conducting research but most especially, with the integration of ethics of research. "It is now clear that in conducting research, especially qualitative research, it is important to be sensitive with what the participants want to say than on what I think they would say" (S6). The result of the training needs assessment also showed that some were not aware of the research ethics and how these ethics will be considered and integrated into the conduct of a study. Further, in an ideal research capability program, the participants thought that it is good that the research results be disseminated, implemented, and transferred to the community to contribute to the body of knowledge and the improvement of the well-being of the people in the community. "We have come up with the waste management plan. Now what? I think it will help the school and the Barangay if we could present the plan to them" (T12).

Design: Improved STARTS Model

The design phase entails constructing positive images for future implementation. This section shows how a research capability program would be. Figure 3 presents the improved STARTS model after incorporating the suggestions of the participants for the 5-year implementation of the program. The model included the best features of the previous model of STARTS with the integration of the suggestions of the participants.

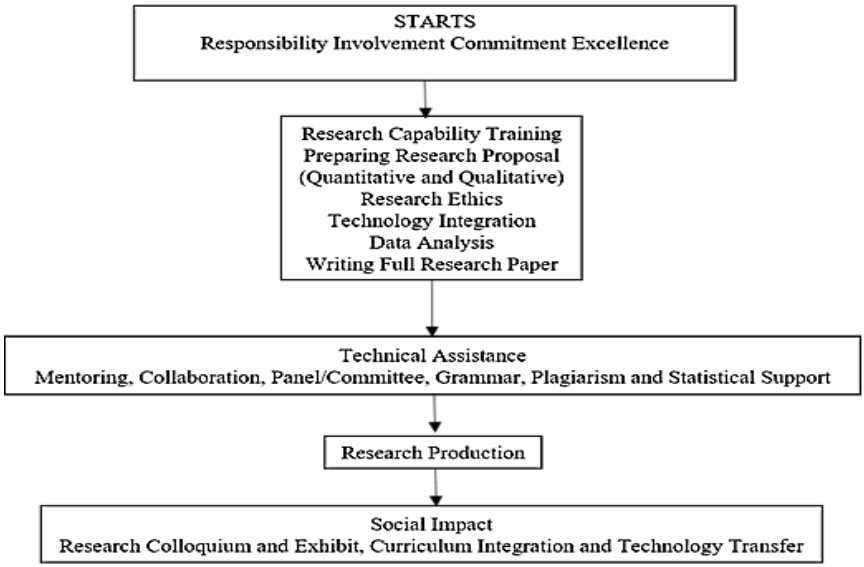

Figure 3. Design: Improved STARTS model.

According to the participants, the beneficiaries must be reminded of the mission of the STARTS, which is to produce researchers that are responsible, involved, committed, and excellent for them to produce research that would impact the community. This conforms to the social construction of reality theory of change (Barrett et al., 1995) that for a program to be successful, effective communication of the values, goals, and plans be observed by every member of the organization.

The training should include topics for qualitative and quantitative research with a greater focus on qualitative research. Based on the results of the documentary analysis, two of the beneficiary schools do not have completed qualitative research. Also, the subject Practical Research 1 was used by the teachers as lecture-discussion for the research method, and the students were only required to prepare a research proposal that will be conducted and completed when they are on Practical Research 2. During observations, it was noted that the research teachers also had no experience in writing qualitative research, which made it difficult for them to teach. Although one of the schools already had qualitative researches, however, all of them utilized phenomenological design, because according to the teacher, that is the only research design she knew. The observation and documentary analysis showed that there really is a need for providing training in conducting qualitative research among students and teachers.

Aside from the training conducted, mentoring is also an important component of research capability (Wa-Mbaleka, 2015). Faculty members from the HEI with experiences in writing research should mentor novice researcher from the beneficiary schools. Though it was part of the original strategies of STARTS, it

could be improved further by assigning such experts, not only as a mentor but as a co-author as well. That way the mentor will have responsibility and accountability in producing complete, interesting and responsive research.

Destiny: Implementation of the Improved STARTS Model

The destiny phase is the last phase in the AI. This section presents the details about implementing the dream. The Dream phase includes stages from planning, implementation, monitoring, and evaluation of the proposed model.

As shown, each year's implementation will start with Training Needs Assessment (TNA) using Ghupta's (2007) model, which starts with the gap analysis, design, data collection, data analysis, and feedback. The purpose of such TNA is to specifically determine which topic should be focused on during the training. It will be followed with a series of training from research proposal writing, ethics, technology integration, methodology, and writing a complete research paper. Afterward, technical assistance can be employed, which includes activities like mentoring and collaboration among teacher beneficiaries. This will be done by assigning faculty researchers from the implementing institution to serve as co-authors of the research paper related to their field of expertise. For the student beneficiaries, the facilitators will still serve as panel and committee members during their proposal and defense. Technical support like grammar, plagiarism, and statistics will also be provided because the beneficiary schools have limited resources while the implementing institution could provide these services. Monitoring will be conducted regularly to ensure the completion of all the proposals as well as their compliance with the research ethics. Next, the implementers would make an annual inventory so that the research production will be monitored from before the implementation of STARTS until the last year of the implementation of the project. Social impact is what makes research important. To ensure that it is the case with STARTS, research findings will be disseminated through research colloquium and exhibits. The results will also be integrated into the curriculum, and the technology/innovation generated from the researches will be extended to the community through technology transfer. After each year of implementation, STARTS will be assessed to determine whether it had served its purpose, which is to produce teacher and student researchers who are responsible, involved, committed and excellent. Figure 4 shows what would be the destiny of STARTS program.

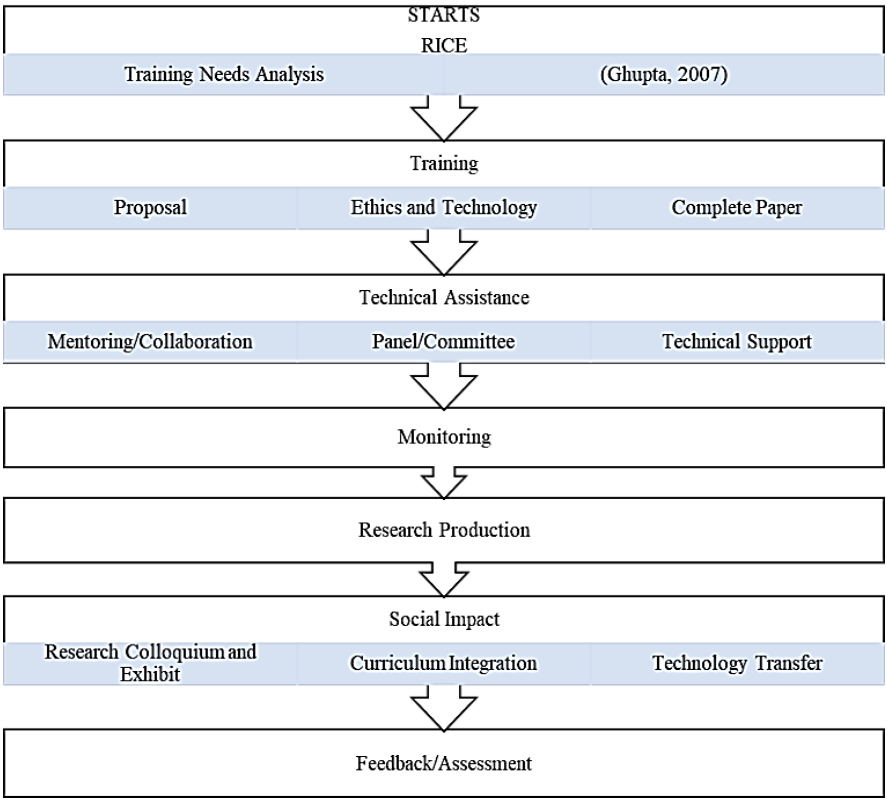

Figure 4. Destiny: Implementation flowchart of the improved STARTS model.

The redesigned model would serve as the blueprint for the continuation of the implementation of the program for the remaining 4 years. The institution, being true to its mission to provide sustainable community service, recognizes the significance of the program. The institution had provided financial, technical, and even facilities to support the project on its first year of implementation, with this new model, the institution would be more supportive than ever.

Conclusions and Recommendations

The use of AI in the study allowed the harnessing of best practices (Sigauwke & Swansi, 2017) of the project STARTS after its first year of implementation. Further, through the 4D model, a new implementation plan was proposed. Based on the results of the study, the participants had identified six best features of STARTS, such as needs-sensitive, contextual, performance-based, collaborative, output-based, and self-sufficient. It was also worth noting that the ideal research capability program should not only focus on helping the beneficiaries produce

research but most especially for producing research outputs that would have an impact on the community. The STARTS program for the succeeding years of its implementation should inculcate among its beneficiaries the ethics of research for them to become responsible, involved, committed, and excellent researchers.

The researchers recommend the adoption of the research capability program provided that proper needs assessment is first conducted. However, some limitations have been identified. The documentary analysis was not that effective as an ex-ante evaluation tool in this study because only one of the school beneficiaries has qualitative researches conducted before the implementation of the program. So, the researchers were not able to compare the three schools when it comes to their research productivity. It is therefore recommended for future use that gap analysis should be conducted first to identify the appropriate ex-ante evaluation. Also, 5D model of AI may be used to define first the project's purpose, content, and what needs to be achieved.

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