

Investigating Filipino school teachers' engagements with research: A bioecological systems case study

Holden Kenneth Alcazaren, Erlene Barandino, Cristian Narvacan and Lizamarie Campoamor-Olegario

University of the Philippines - Diliman, Philippines

Teacher research engagement has been known as one of the best practices to initiate positive changes in education that try to address the diverse needs of students, and to respond effectively to contemporary educational challenges. The Philippines has mandated various policies that encourage and promote research writing in both the tertiary and basic education levels. Grounded in Bronfenbrenner's bioecological model, this study examines various factors, such as personal characteristics, institutional context, research processes, and time allotted for research, that may influence research engagement by senior high school teachers (N=20) in a public high school in Quezon Province, Philippines. The results of this study reveal that the teacher-participants have capable research skills and a positive outlook in doing research. However, the findings also reveal that these teachers struggled to undertake research, owing to large teaching workloads. These findings prompt multiple recommendations for educational reforms that will help the development of institutional research cultures.

Introduction

The Philippines has initiated different educational mandates and policies that are largely geared towards improving faculty research productivity. The Philippine Commission on Higher Education (CHED) enacted Republic Act (RA) 7722 or the "Higher Education Act of 1994" that highlighted the importance of research works and production among higher education institution educators (UNESCO-UNEVOC, 2019). In the Basic Education level, the Department of Education (DepEd) implemented "the enclosed Basic Education Research agenda" which promoted educational research and action research among school heads, supervisors and public-school teachers (DepEd, 2017). In reality, however, a dominant observation among public school teachers is that they view research engagement negatively, where research is only complied with as a requirement for faculty promotion. Good thing, however, is that there are still teachers who view research as a developmental tool for holistic growth, and a means of documenting and analysing practices of teachers in the field. To understand the realities for teachers, it is important to investigate how they were able to involve themselves in various 'teacher research engagements' (Atibuni et al., 2019; Sönmez Boran, 2018).

To outline the context of this investigation on teacher research engagements, it was conducted in a public high school in Quezon Province, Philippines. With one of the researchers serving as one of the school's research coordinators, this study looked into the current conditions and challenges for senior high school (SHS) teachers in engaging and conducting research, especially during an on-going pandemic with its physical restrictions. Experiences of SHS teachers are the primary focus of the study because of their constant exposure in academic papers and research writing as predicated in the competencies and

content of the SHS curriculum. These teachers were supposed to prepare students for academic writing so it is only natural for them to engage in these types of written genres. In this school, research coordinators were assigned, one for the junior high school and one for the SHS, who were in direct coordination with the Research Unit of the School Governance and Operations Division of the School Division Office. This is in view of the adoption of the “Basic Education Research Agenda,” which promotes the conduct of education research (DepEd, 2016). Research is also in line with the Philippine Professional Standards for Teachers (DepEd Order No. 42, s. 2017). Even with these policies and initiatives, research outputs, particularly in this research locale, seemed to be scarce and limited. Because of this, the current study aims to understand the daily realities of teachers in this school in terms of their research engagements so that effective interventions can be made to improve their research productivity.

Research questions

Drawing from Bronfenbrenner’s bioecological model (Bronfenbrenner, 1979, 1992; Bronfenbrenner & Morris, 2006; Rosa & Tudge, 2013), this study helps understand the struggles of public senior high school teachers in their engagement and conduct of research. The questions for this study are:

1. What are the characteristics of teachers who are struggling in research engagement in terms of:
 - a. demographics (i.e., age, gender, educational attainment);
 - b. research competence, experience and background;
 - c. attitudes and motivation towards research; and
 - d. level of research engagement.
2. What factors influence teacher’s research engagements?
3. How do these factors impact the process of research engagement among SHS teachers?

Literature review

Definition of teacher research engagement

The classroom can be seen as an environment where teachers are required to meet the diverse needs of their students and address current educational challenges. Engaging teachers in research is viewed as one means of responding to these needs and challenges (Burns et al., 2010). There has been a burgeoning body of literature examining this topic, focusing on teacher research engagement and productivity (Alhassan & Ali, 2020; Banegas, 2018; Chakraborty & Biswas, 2020; Consoli & Dikilitaş, 2021). Teacher research engagement refers to the capability of a teaching professional to commit oneself to research work, and to expend considerable resources, energy, and time for such an enterprise (Atibuni et al., 2019). This also highlights the importance of a teacher’s voice, which is viewed as “a teacher’s ability to define their educational philosophy, as well as to act accordingly towards implementing sustainable changes in the educational realm” (Kincheloe, 2003, in Iliško et al., 2010, p. 52). For developed or newly industrialised

countries, this can be equated with academics' quantity of scholarly works, typically referred as "publication counts" (Akbaritabar et al., 2018; Heng et al., 2020). For instance, in the UK teachers actively engage in research to provide effective teaching practices that are research-informed, such as evaluating the effectiveness of one's practice and having foresight into future obstacles (Nicholson & Lander, 2022). In the Philippines, teachers are encouraged to do research to generate knowledge (Wa-Mbaleka, 2015), and to maintain international comparability of the country's education system (Tarrayo et al., 2021). Such significance of research engagements impacts not only the professional development of teachers but also their characteristics and identities as teachers.

Through research engagements, teachers are able to have professional development, elevate their teaching practices in their institutions, and produce knowledge that is impactful to other teachers, academics, and policy-makers (Al-Maamari et al., 2017). The findings of Morales and colleagues (2016) revealed that teachers believed that engaging in action research and related training developed their teaching and reflective practice; thereby, empowering them to expand their professional competence. Similarly, Gutierrez (2019) found that teachers regarded their research-based professional development as an experiential learning environment that enhances professional identity and establishes shared leadership.

Issues in teacher research engagements

Research about creating student-centred classrooms needs a focus on how to support teachers' capacity to conduct research while teaching in the classroom. On this basis, several issues were identified that hinder teacher research engagements. One issue is that the majority of academic papers and their research findings are not commonly accessed by teachers because of the style and form that are not usually conducive in engaging teachers (Cordingley, 2008; Sari, 2006). For instance, Alhassan and Ali's (2020) study with Omani EFL teachers (N=20) revealed that teachers reported difficulties when trying to apply various research findings in their own classroom contexts, and when looking for accessible resources. Nasser-Abu Alhija and Majdob (2017) showed that higher-ranking teachers from Israel tended to be more research productive than their lower ranking peers, attributing this to their involvement in professional networks and having more resources for research (i.e., funding, collaborators, assistance). These results accord with Batool et al. (2018) who showed that Pakistani university teachers with more teaching experience tended to have a higher research engagement. Teachers with higher academic rank and longer teaching experience accumulate substantial research exposure and research skill sets that enable them to be more productive in research. Previous studies have also presented issues for teachers in writing and presenting research papers due to their teaching loads. Sönmez Boran (2018) found that workloads (i.e., working conditions and extracurricular responsibilities) of Turkish EFL teachers are demotivating factors that inhibit teachers from engaging in research. In another study, it was revealed that teachers' extra workload and training restrained them from having sufficient research experience and knowledge, resulting in insecurities and lack of self-confidence in research (Nicholson & Lander, 2022). These findings are also in parallel with other studies, such as Wangdi and Tharchen (2021).

In the Philippine context, there are government initiatives in response to the current state of research productivity in the country, being ranked the lowest among ASEAN countries (Vinluan, 2012). Similar with previous studies (e.g., Sönmez Boran, 2018; Nicholson & Lander, 2022), Filipino teachers also struggled to find the balance to manage their workload of both teaching and research responsibilities that created a burden when facing the high expectations of academia (Alcazaren, 2021). In the study by Ulla (2018), lack of support from the school and lack of sufficient reference materials were among the emerging challenges for Filipino teachers. In terms of school support, funding could be a mitigating factor of research engagement. The study by Tarrayo et al. (2021) found that teachers experienced budget-constraint as additional expenses are incurred in fieldwork and data collection. In terms of insufficient materials, Usita (2022) reported that teachers struggled with the lack of access to research journals and library facilities that contributed to their difficulties in doing research.

Theoretical framework

This study on the research engagement of senior high school teachers is grounded in Bronfenbrenner's bioecological theory that is characterised by the *Process-Person-Context-Time* (PPCT) model (Bronfenbrenner & Morris, 1998; 2006). This mature version of Bronfenbrenner's theory highlights the influences of the person's characteristics and contexts on the agents of human development termed proximal processes. Studies that utilise the bioecological systems theory provide descriptions of the person-environment relationships and foreground the different forms of interaction that the individual frequently has with other persons, objects, and symbols in their immediate environment (Tudge et al., 2009). The bioecological systems theory model involves four important elements: process, person, context, and time. The relationships or constant interactions formed by the developing person with others constitute proximal processes. Bronfenbrenner identified three types of person characteristics "that individuals bring into any social situation" (Tudge et al., 2009, p.200). Demand characteristics refer to personal aspects that are immediately known, such as gender and physical appearance. Resource characteristics encompass the person's mental, emotional, social, and material resources, while force characteristics have to do with the individual's motivation, beliefs, temperament, etc. The context in this model is composed of four interrelated systems: [1] the microsystem is where the individual frequents, e.g., home, school, or church; [2] mesosystem deals with the interrelation of two or more microsystems; [3] exosystem is the environment that indirectly impacts the individual; and [4] macrosystem is the broadest context that covers people with shared values or beliefs altogether. Finally, time is included in this model to underscore the developments and changes that occurred at different periods.

In recent publications, the bioecological theory has been utilised to study adolescents' (Chan & Kiang, 2021) and children's (Chen et al., 2016) socio-emotional development and behavioural preferences. In education research, the theory has been used to investigate career development (Liu et al., 2022), and identity options through social acculturation (Nomnian, 2018) of PhD students. In the Philippine context, the study of Porlares and Tan (2021) used Bronfenbrenner's theory to study the permeation of direct and indirect

effects of the risks of the COVID-19 pandemic in the school systems as basis for risk management planning. On the other hand, Bartolome and bin Mamat (2020) explored parental involvement in early childhood education using the model's lens.

Methods

Research design

With the intent to analyse the struggles of SHS teachers in research engagement, this study utilised case study research design. This methodology was appropriate for the needs of this research because it provided a "close examination of people, topics, issues, or programs" (Hays, 2004, p. 218) in their real-life context. Case studies seek to answer 'how' and 'why' questions, understand research participants' uncontrolled behaviour, and thoroughly describe the context under which a phenomenon takes place (Yin, 2003). For this paper, the descriptive case study was chosen. This type of case study aims to develop a detailed account of an experience or phenomenon and provide insights into the research problem through a theoretical lens (Stake, 1995; Yin, 2003.) Moreover, this case study employed both quantitative and qualitative procedures (Montes- Rodríguez et al., 2019) to collect and analyse data "for the broad purposes of breadth and depth of understanding and corroboration" (Johnson et al., 2007, p. 123). The mixed methods procedure is appropriate when quantitative or qualitative approaches by themselves are insufficient to yield more knowledgeable insights into the problem (Creswell, 2008).

Participants

The study is conducted among SHS teachers (N=20, female=12, male=8) of Lucena City National High School selected through purposive sampling. Considering the research design, this non-probability sampling is appropriate for this study as it allows the researchers to select the respondents who will provide the information by virtue of knowledge or experience (Etikan et al. 2016). Although the population is finite, the criteria for selection of respondents were set to ensure that each participant will provide unique and rich data of value to the study. A primary criterion in selecting the participants was whether they are struggling in writing and conducting research so that this current study can be able to assist and help them with their difficulties. Other criteria include easy accessibility, availability at a given time, and willingness to participate.

Participants' ages ranged from 23 to 52 years old. The participants were also Bachelor degree holders ($n=8$), Bachelor degree holders with MA units ($n=8$), MA degree holders ($n=2$), MA degree holders with PhD units ($n=1$), and PhD degree holders ($n=1$). As part of the profiling of the participants, they were also asked to indicate what research-related experiences they have encountered.

Data collection procedure

Adapting research methodologies that have used the PPCT approach (Marynowski et al., 2019; O'Toole et al., 2014), the study employed a hybrid methodology by blending a

traditional case study (Yin, 2012) with a bioecological model (Bronfenbrenner & Morris, 2006). Using a mixed method case study (Brannen, 2008), we explored a single public school to explore the research engagements of teachers and factors that may influence these engagements. In collecting data, multiple sources of evidence are gathered to increase the validity and depth of the case study where a variety of methods are used to generate narrative and numerical data (Luck et al., 2006).

Prior to data collection, participants were asked to complete an informed consent form that included the rationale of the study and the data to be collected from them. For this case study, multiple data sources were collected, including structured questionnaires (using a 4-point Likert scale) and open-ended questionnaires (see Appendix). The decision for this type of scale was to eliminate the “neutral” option for each survey item to attempt a more accurate evaluation from the participants which a 5-point scale might not establish (Finstad, 2010). The survey included demographic questions (e.g., highest educational attainment, research-related experiences), as well as questions derived from previous research that identified key components of research engagements: research competence (Swank & Lambie, 2016), research attitudes (Papanastasiou, 2014), research motivation (Leech & Haug, 2016), and level of research engagement (Borg, 2007; 2010). For the open-ended questions, various developmental systems offered by the bioecological model (Bronfenbrenner & Morris, 2006) were utilised to identify the factors to include in this paper: family, peers, supervisors, undergraduate/graduate program, workload, and institutions. The questionnaires were reviewed and validated by an expert in the field of educational psychology and education research.

Data analysis

The study used an abductive data analysis method to effectively explore complex data from both quantitative and qualitative sources with the intention of eliciting and creating ideas and theories (Locke, 2010; Smith et al., 2013). This method provides a space for researchers to move freely across thematic and statistical analysis of the data. The abductive process combines qualitative and quantitative methods in a sequential manner where inductive results (from qualitative method) serve as inputs to the deductive results (from quantitative approach), and vice versa (Morgan, 2007). In this study, the researcher-made questionnaire elicited both quantitative (Section 1) and qualitative (Section 2) data from the participants. For the structured questionnaires, descriptive statistics were utilised. Responses from the open-ended questions were read and open coded (Cohen et al., 2011) by highlighting sentences or phrases that identified teachers' research engagements, which were then categorised into more refined themes.

Results and discussion

Characteristics of the teachers

Determined by Swank and Lambie's (2016) research competence, Table 1 presents the results of the participants' perceived skills and competencies in relation to research. Participants generally perceived that their current skills were able to accomplish basic competencies in conducting research.

Table 1: Research competence of SHS teachers

Items	Mean	Verbal interpretation
1. I know how to construct clear, concise quantitative research questions and/or hypotheses.	2.95	Agree
2. I can conduct rigorous qualitative investigation in a sound fashion (e.g., credibility, dependability, rigor, and trustworthiness).	2.90	Agree
3. I can present a review of the literature in a clear, concise, cohesive manner	2.85	Agree
4. I know ethical standards and practices in research (e.g., fabrication, falsification, plagiarism).	3.25	Agree
5. I can demonstrate cultural competence and appropriateness in research with human subjects (e.g., respect for people's rights, dignity, and diversity).	3.20	Agree

Based on the result, it can be inferred that the majority of the participants were quite knowledgeable and adept in the various aspects of writing and conducting research. Contrary to most of the literature in the Philippine context (Tindowen et al., 2019; Ulla et al., 2017), findings revealed that lack of research competencies is not a problem among the participants from this school.

Findings showed that the participants were able to review relevant literature coherently, to conduct rigorous research ethically, and to present clear research questions and hypotheses. With previous studies reporting teachers' lack of research knowledge and skills because of insufficient research training (e.g., Ellis & Loughland, 2016; Vásquez, 2017), the advanced educational attainment of the participants, with the majority of them having attended and finished graduate programs, might have given an advantageous starting point for any research undertakings.

The questionnaire also asked the attitudes of the participants towards research. As suggested by Papanastasiou (2014) in her *Attitudes towards Research (ATR)* scale, participants have mixed views on research as can be seen in Table 2.

Table 2: Research attitudes of SHS teachers

Items	Mean	Verbal interpretation
1. Research is useful for my career.	3.50	Strongly agree
2. Research is interesting.	3.20	Agree
3. Research is enjoyable to do.	3.05	Agree
4. Research is difficult.	3.00	Agree
5. Research makes me anxious.	2.85	Agree

As shown in Table 2, participants perceived that doing research is something that is useful and valuable to their teaching profession and careers. They also agreed that doing research can be, at times, an enjoyable and interesting activity to experience. Such results were congruent with the findings of previous studies (Hien, 2010; O'Connor et al., 2006). Having this positive outlook towards research can lead to improvement of teaching practices that can result in favourable outcomes for students' learning (Hine, 2013). In addition, conducting research, or action research, can enhance teachers' pedagogical practice where they can observe not just students' learning progress but also their learning outcomes as well (Young et al., 2010). However, it should be noted that teachers doing research can encounter difficulties and, worse, writing anxieties. To help ease these difficulties, Tindowen and colleagues (2019) suggested an extensive faculty development program on research that can help teachers to be more exposed to doing research and enhancing their research skills.

Table 3 presents the research motivations of the SHS teachers as categorised by Leech and Haug (2016). As a result, participants strongly agreed that their motivation for research is a personal reason for learning new and valuable information in their own respective areas.

Table 3: Research motivation of SHS teachers

Items	Mean	Verbal interpretation
1. I want to do research because I feel I can learn something new and valuable in my area.	3.35	Strongly agree
2. I want to do research because I am generally interested and curious about research.	3.00	Agree
3. I want to do research because I can get rewards (e.g., points for promotion and incentives) from doing research.	2.75	Agree
4. I want to do research because I want to be recognised by my colleagues and peers.	2.65	Agree
5. I do not have any intention to do research.	2.05	Disagree

Based on the results of teachers' research motivations, it was revealed that participants generally view research as a valuable process to improve their knowledge of their profession and areas of expertise. The result showed how teachers felt that engaging in research activities can potentially develop one's pedagogical skills and instructional knowledge. Previous studies have already stressed how research plays a pivotal role in improving instructional delivery, as research allows opportunities for teachers to expand their content and pedagogical knowledge (Chen, 2013; Ozer et al., 2010; Zhou, 2012). With research assisting teachers' pedagogical development, studies have also shown how this process can influence students' learning experiences. As teachers explore a variety of teaching strategies through research work, there are more opportunities to address the needs of the students (Clarke & Fournillier, 2012). Aside from developing their knowledge and teaching strategies, participants can also get recognition from their workplace (i.e.,

promotions and incentives), and their peers. With DepEd's policies for teachers to do action research and requirements for promotions, the results can lead to a positive outlook on how teachers can be "knowledge generators, and not just knowledge borrowers" (Tindowen et al., 2019, p. 1790).

Lastly, one of the focal concerns of this study was to identify the level of research engagements of the SHS teachers - the extent to which they read and do research as presented in Table 4. Parallel with Borg's (2007; 2010) studies, participants were also asked to determine the level of research engagement that they have done in the previous year.

Table 4: Level of research engagement of SHS teachers

Items	Mean	Verbal interpretation
1. In the past year, I have taken every opportunity to join discussions with peers and supervisors on research works.	3.35	Always
2. In the past year, I have read academic articles and journals.	3.00	Often
3. In the past year, I have found time to participate in research seminars and training.	2.75	Often
4. In the past year, I have initiated collaborations with peers in conducting research works.	2.65	Often
5. In the past year, I have conducted research work.	2.05	Seldom

Generally, the results showed positive and proactive engagements of participants towards research and research-related activities. It revealed a relatively positive finding where the participants have engaged in research discussions and peer collaborations during the past year. Among the participants, there have been active discussions with peers and supervisors about conducting research. Furthermore, the participants have read academic articles and research, at least once, in the previous year. Participants already exposed to reading academic articles and journals can more readily initiate collaborations with their peers. The results accord with Borg's (2007) findings among Turkish English language teachers. However, it should be noted that the majority of participants were still unable to accomplish and write research work, either collaboratively or independently.

Factors and their impact on teachers' research engagements

Based on the data analysis, four themes emerged: (1) Family as inspiration to do research; (2) Peers and supervisors as amicable research collaborators; (3) Workload as a constraint in doing research; and (4) Institution as an important support system for teacher-researchers.

Family as inspiration to do research

As one of the determined contexts that influence a person's development as suggested by the PPCT model, the current study elicited experiences of the participants on how their

immediate families might have affected their research engagements. There is very little literature that looks into families of researchers or faculty members as determinants of their research productivity. Based on the answers of the participants, a teacher's relationship towards their family can be a source of inspiration in doing and pursuing their own research works. Teacher8 mentioned that families "established a motivation for conducting research." Teacher19 best described his family when he described them as "my family helped my research engagement in terms of encouragement and serving my inspiration in all endeavours." There are examples where families can be a proactive support system to these teachers in their research works. Teacher11 shared that "my family provides helpful articles, books, etc., as my references for research" while Teacher13 said that his family "helped me to provide efficient decision making." On the other hand, many participants mentioned that their families provide them moral support in every responsibility they do. The moral support given by family members at home can be as simple as what Teacher14 said: "My family helps me in my research by not disturbing me when I'm doing my research papers."

Even with the positive aspects that relationships towards family members bring to conducting research, sacrifices are made to acquire a work-home balance that enables research productivity among teachers. One example would be the sacrifice in allotting time to one or the other. As Teacher6 mentioned, "What hinders me in pursuing research is my time with my family, because as of the moment my priority is to focus on raising my children." Similarly, Teacher8 also shared how lack of time can be difficult, especially to individuals who wanted to maintain relationships with their families. She explained that, "It is not actually a hindrance but more of a lack of time to bond with your family, especially when you need and want to bond with them."

Peers and supervisors as amicable research collaborators

Aligned with previous studies (Furlong & Salisbury, 2005; Zeichner, 2003), one of the significant predictors of teacher research engagement is peer-to-peer collaboration. Collaboration by teachers and supervisors through teacher action research facilitates student achievement (Elder, 2016). The majority of the participants recognised the importance of collaborative practices with their co-teachers and school administrators, especially in research. Teacher8 shared that her peers "became an important part of my research because they understand that I require time to conduct my research. The fact that they are willing to give me some time to do things is extremely beneficial to my research." Similarly, Teacher11 stated that, "My co-teachers and peers help me in formulating and conducting research which will be helpful for the school and for the community." Similar to family relationships, establishing good rapport among peers can improve the moral support system among faculty members. This is expounded by Teacher19 when he shared that his "co-teachers and peers help me in my research engagements in terms of encouragement and giving some tips in crafting a research topic." Teacher20 added that peers "express interest and they give lots of ideas to work on. A lot of moral support is encouraging."

Aside from peers, participants identified the influence of their supervisor and school leaders in enabling research engagements, as Teacher19 stated, "By means of

encouragement to do research work.” Also, Teacher11 shared that, “My supervisors support me in formulating and conducting my research”, while Teacher15 mentioned that, “They provide seminars and workshops for research.” Evidently, strong collaborative practice among peers and school leaders enables an environment conducive to reflective and research-oriented individuals.

Workload as a constraint in doing research

Participants also revealed that high teaching workload becomes a constricting factor for undertaking research. This concurs with the literature findings that workloads of teachers create demotivating factors that negatively affect research performance (Sönmez Boran, 2018), and result in low faculty research productivity (Wangdi & Tharchen, 2021). Many of the participants shared the same sentiments on how their workload can be a hindrance to their research. Teacher11 mentioned that, “My workload can sometimes be a hindrance in terms of time management and productivity.” Teacher20 also stated that, “When there is too much workload, it seems that all my energy has been spent and there would be no time left to do research tasks and if I push to do it my health is at risk which is a prime concern.” A good insight is explained by Teacher3 on why research works might be difficult during the on-going pandemic. She explained, “During the pandemic, teaching students must prioritise because students need the teacher’s guidance, attention, and quick response to their lessons.”

As Borg (2007) claimed, research engagement demands so much time and accounts show that teachers generally do not feel that they have enough available time within their current allocations. Teachers tend to be preoccupied with their own classroom practices (i.e., lesson planning, preparing instructional materials, checking of student’s papers and outputs), and personal life (Ulla et al., 2017). As a consequence, teacher research engagements were done at the expense of teachers’ other duties and responsibilities, either at home or in school. This finding is similar to results from other studies, where teachers were experiencing workload problems with overlapping activities that usually lead to lack of sleep and stress (Tindowen et al., 2019). These issues can lead to viewing research as a workload burden rather than a learning experience.

Institution as an important support system for teacher-researchers

Lastly, the institution plays an important role in providing a supportive environment for teachers to accomplish research. In parallel with the literature that highlighted the importance of institutional research culture (e.g., Bland et al., 2005; Zhang, 2014), the findings here also reveal how participants perceive the significance of institutional support for research engagements. Teacher8 shared how the institution helped her research, “My institution helps me in funding my research, as well as developing and improving it.” Additionally, Teacher11 said, “My institution supports and motivates me as I continue my research engagements.” Institutional support can be in various forms. Teacher16 and Teacher17 both mentioned that the institution provides incentives and promotion for teachers who conduct research. For Teacher13, the institution helped in his research work through “finding solutions to particular problems arising in the classroom or school, underpinning professional learning of knowledge, skills and understanding, and connecting you with sources of information and networks of professional support.”

On the other hand, there are still a few points for improvement in regards to the institutional research practices. For example, Teacher8 mentioned how “there are papers that must be signed first by the proper authority, which prolongs the research because they are not always available.” Also, Teacher20 stated that, “The specifics or actual implementation when not reviewed as to overlap of tasks or too many tasks all at the same time will hinder research engagement.” Based on the insights of the participants, it is clear that an institution’s characteristics, from its research culture to its research support, can be pivotal in predicting faculty research productivity.

Conclusion and recommendations

This study identified factors that influence teachers’ engagement with research, and also how these factors impacted their research engagement. With findings that affirm the research capacities of teachers, it can be inferred that the main struggles for these teachers’ research engagement are in context factors. These include family, peers and supervisors, teaching workload, and the institution’s research culture. Findings revealed that: (a) family serves as inspiration to do research; (b) peers and supervisors are perceived as proactive collaborators who encourage research engagement; (c) the institution acts as an important support system for teacher-researchers; and (d) its research culture is still developing, with points for improvement such as the restrictive teaching workload and rigorous processes for research. The results align with the literature (Bland et al., 2005; Vinluan, 2012; Zhang, 2014), notably the results showed how the institution’s research culture may allow unrealistic expectations of teachers to do research while dealing with high teaching loads. In parallel with previous studies (Sönmez Boran, 2018; Nicholson & Lander, 2022; Wangdi & Tharchen, 2021), teaching workloads can inhibit research engagements among teachers. Even with the right attitudes and efficient capabilities in research, teachers will have a difficult time balancing the rigorous process of conducting research and teaching. This situation for teachers should be addressed by the institutions and education agencies if they are determined wanted to encourage research by faculty members.

Responses by teacher-participants indicate that institutional support should focus on restructuring teacher workloads. Easing teachers' workload could encourage them to pursue graduate studies, further refining their knowledge and skills in conducting research. Another strategy is to encourage cooperative and group research where peer-to-peer collaboration is done as a strategic research process. This can be done as expert-initiated research, where experts are invited to become mentors and teachers become reflective practitioners (Gutierrez, 2019). This allows peers to work together in gathering and analysing data, and writing the report. In addition, with teachers’ positive outlook towards research, there should be reasonable incentives for undertaking research. This way, the teachers will not feel that doing research is burdensome and will treat research as part of their workload and responsibilities as teachers. Incentives should include funding of the research works of these teachers, leave credits to cover field work, and enough points requirements for teachers’ promotions. School administrators could also consider managing a peer mentoring program for research, where more experienced faculty members, e.g., masters or doctoral degree holders, teach those with little research experience. The program will foster the professional relationship among teachers and

provide both mentors and mentees with substantial growth and learning opportunities. For further research, other variables should also be considered in investigating research productivity like home life and other relationships (e.g., family, peers, supervisors) of teacher-researchers.

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Appendix: Survey of SHS research engagement

Demographic profile

This section elicits important details regarding your demographic profile)

Name (last name, first name, MI):

Age:

Sex:

Highest educational attainment:

Recently finished or enrolled program/course (If only acquired units, indicate how many units):

Research-related experiences (Check as many as you can):

- a. Conducted my own research work
- b. Collaborated with a colleague or peer on a research work
- c. Participated in a research-related (i.e., research writing or research methods) training or seminar
- d. Attended a research-related course work in my undergraduate or graduate class
- e. Taught and advised students in their research works
- f. Read academic journals and articles for educational and personal purposes
- g. Do not have any research-related experience yet

Section 1: Structured questionnaire

This section aims to determine your research competence, attitudes, motivation, and level of research engagement.

	Strongly disagree/ Never	Disagree /Seldom	Agree/ Often	Strongly agree/ Always
Research competence				
1. I can conduct rigorous qualitative investigation in a sound fashion (e.g., credibility, dependability, rigor, and trustworthiness)				
2. I know how to construct clear, concise quantitative research questions and/or hypotheses.				
3. I can present a review of the literature in a clear, concise, cohesive manner				
4. I know ethical standards and practices in research (e.g., fabrication, falsification, plagiarism)				
5. I can demonstrate cultural competence and appropriateness in research with human subjects (e.g., respect for people's rights, dignity, and diversity)				
Research attitudes				
1. Research is useful for my career.				
2. Research is enjoyable to do.				
3. Research makes me anxious.				
4. Research is difficult.				
5. Research is interesting.				
Research motivation				
1. I want to do research because I am generally interested and curious about research.				
2. I want to do research because I feel I can learn something new and valuable in my area.				
3. I want to do research because I want to be recognized by my colleagues and peers.				

4. I want to do research because I can get rewards (e.g., points for promotion and incentives) from doing research.				
5. I do not have any intention to do research.				
Level of research engagement				
1. In the past year, I have read academic articles and journals.				
2. In the past year, I have taken every opportunity to join discussions with peers and supervisors on research works.				
3. In the past year, I have initiated collaborations with peers in conducting research works.				
4. In the past year, I have found time to participate in research seminars and training.				
5. In the past year, I have conducted research work.				

Section 2: Open-ended questionnaire

This section aims to determine the factors that affect your research engagement. Please make your responses as lengthy, detailed and descriptive as you wish (although short responses are fine and much appreciated as well). You may respond in English, Filipino, or both. Grammar, writing style, and word choices are immaterial.

1. How does your FAMILY help with your research engagements?
2. How does your FAMILY hinder your research engagements?
3. How do your CO-TEACHERS AND PEERS help with your research engagements?
4. How do your CO-TEACHERS AND PEERS hinder your research engagements?
5. How do your SUPERVISORS help with your research engagements?
6. How do your SUPERVISORS hinder your research engagements?
7. How does your UNDERGRADUATE PROGRAM (Bachelor's degree and courses) help with your research engagements?
8. How does your UNDERGRADUATE PROGRAM (Bachelor's degree and courses) hinder your research engagements?
9. If enrolled/finished with your Graduate program, how does your GRADUATE PROGRAM help with your research engagements?
10. If enrolled/finished with your Graduate program, how does your GRADUATE PROGRAM hinder your research engagements?
11. How does your WORKLOAD (e.g., teaching load, auxiliary responsibilities & part-time jobs) help with your research engagements?
12. How does your WORKLOAD (e.g., teaching load, auxiliary responsibilities & part-time jobs) hinder your research engagements?

13. How does your INSTITUTION (i.e., research policies and incentives) help with your research engagements?
14. How does your INSTITUTION (i.e., research policies and incentives) hinder your research engagements?

Mx Holden Kenneth G. Alcazaren (corresponding author) is a University Researcher and a Senior Lecturer in the University of the Philippines-Diliman. He is currently finishing his PhD in Education with a major in Language Education at the same university. His research interests are in teacher identities, faculty research productivity, sociology of education, instructional communication and gender/queer studies.
ORCID: <https://orcid.org/0000-0002-9684-6961>
Email: hgalcazaren@up.edu.ph

Ms Erlene E. Barandino is currently the research and publication coordinator at Lucena City National High School and a graduate student at the University of the Philippines - Diliman taking PhD studies in Education, major in reading education. Her research interests include literacy and the educational ecosystem of high school learners.
Email: cebarandino@up.edu.ph

Mr Cristian I. Narvacan is a communication arts and literature teacher at Philippine Science High School, Central Visayas Campus. He is currently taking up a PhD in Education majoring in language education at the University of the Philippines - Diliman. His research interests include multilingual education, English language teaching, and world Englishes.
ORCID: <https://orcid.org/0000-0002-6043-5167>
Email: cinarvacan@up.edu.ph

Dr Lizamarie Campoamor-Olegario is an Associate Professor at the University of the Philippines College of Education. She completed her Ph.D. in educational psychology at the same university. Her research interests are critical pedagogy, positive psychology in schools, and alternative embedded assessment. Her advocacies include mentoring educators through action research and promoting safe, equitable, quality, and relevant education.
Email: lcolegario@up.edu.ph

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