ISRG Journal of Multidisciplinary Studies (ISRGJMS)

DETERMINANTS OF RESEARCH CULTURE IN THE PUBLIC SECONDARY SCHOOLS

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Abstract

In a deep perspective of the ongoing discussion about what works and why, there are many advantages to researching one's own practice. These advantages can include, but are not limited to, improving the practice directly through action research or, more generally, learning about and gaining insight into relevant and interesting areas of disciplines. Research, therefore, is incorporated into teaching. This reaps a number of gains when this gets more integrated into the workflow. This study examines the extent of practice of the research culture among teacher-researchers in the public secondary schools in the Philippines along with their knowledge , skills and attitude leading to finding the prevailing determinants. By and large, there is robust indication to suggest collaborations, implementation of a development program, tie-up with government and non-government agencies who sponsor funding, efficient channels of communication along research aspects. Values and beliefs should be enhanced since these serve as the highest determinant. Moreover, this framework of sources proposes that the long-term support, thorough improvement on research knowledge, and connection procedures should be strengthened. Teachers must be given veracity though equipping them enough and necessary skills, competencies and attitudes in dealing with research.

Keywords: *determinants, research culture, Philippine public secondary schools, attitude, skills, knowledge*

Background of the Study

Since the beginning of humanity, research has attracted the interest and imagination of some of the world's best minds. The field of research encompasses practically every topic area that a person could desire to pursue, from exploring novel concepts to revealing long-kept truths about the natural world. When discussing research, the sciences are frequently the first field of interest that comes to mind. This is understandable given how the way people live has changed significantly as a result of advancements in the medical, chemical, and other sciences. Researchers are working on initiatives today to better understand the human experience, including the physical, mental, and emotional aspects that influence it. Being able to fully understand humanity is a tall objective that will likely never be achieved. However, the work that scholars produce moves their disciplines closer to this goal.

For instance, biological studies describe the functioning of the human's cells, tissues, and other anatomical components. Philosophy investigates the ideas that influence people's behavior. While psychology also examines the brain, it focuses on the emotions and neurological factors that may contribute to the significant distinctions between different personalities (Stahmer, 2017)

Globally, Sixty-four and two (64.2) zettabytes of research studies have been developed, recorded, duplicated, and used as of 2020, according to projections. Global data generation is anticipated to increase to more than 180 zettabytes over the following five years, up until 2025. The number of new and duplicated research studies produced in 2020 hit a record high. However, only a tiny portion of this freshly created data is stored; in fact, only 2% of the data generated and consumed in 2020 was saved and held throughout 2021. The installed base of storage capacity is anticipated to rise, growing at a compound annual growth rate of 19.2% over the forecast period from 2020 to 2025, in keeping with the high expansion of the research volume. Storage capacity installed base reached 6.7 zettabytes in 2020 (Statista, 2022)

In the Philippines, Research and Development is work done regularly to grow the body of knowledge as well as the application of that body of information to the development of new or improved goods, procedures, services, or other applications. The presence of an appreciable element of novelty and the resolution of issues and uncertainties through scientific or technological means serve as the fundamental criteria that separate R&D from similar activities (PSA, 2020)

The study by Guido, et al. (2020) provided a systematic analysis of the development and present state of the Philippines' research productivity in the context of education research among Scopus journal publications. It also presented the Philippines' research productivity in comparison to the other seven Southeast Asian nations. The study used the Scimago database, and data were cleaned and processed using Python programming and various scientific computer programs. Data were presented using Tableau software and were analyzed using SPSS. The metrics used in the study were restricted to published research, number of citations, number of self-citations, and country ranking over 23 years. The data presented in the study discoursed the Philippines has a temporal trend compound annual growth rate (CAGR) of 19.19% while maintaining 5th rank among the 7 Southeast Asian countries, and it is anticipated that by 2021, it will have produced several more education research publications than Singapore. Additionally, the comparative performance between the Philippines and the other 7 Southeast Asian nations was displayed. Only a few Philippine works have been cited, and the nation's research culture is increasingly centered on self-citation. As publishing is necessary for faculty promotion and students' degree requirements, it is anticipated that the Philippines will sustain its growth rate. According to the psycho-social biosphere, research is a thorough investigation into a particular issue or problem using the scientific method. It's an adult version of the science fair projects students did in elementary school, where they conducted experiments and learned something in the process. The ideal way to do this is to frame the problem as a question, with the research's goal being to provide an answer. The goal of research is to better understand human behavior. It could involve a person's thoughts, feelings, actions, or a combination of these things. The results of scientific

investigation and the ensuing understanding influence society. Research is ongoing and competitive.

To this end, determining how teacher-researchers behave, act, and perform in different ways when conducting research studies is somehow very important. The norms, standards, expectancies, expectations, and behaviors of research communities are collectively referred to as research culture. It affects who conducts research, what is researched, and how the results are conveyed. Integrity, diversity, career trajectories, rewards and recognition, open science, and the collaborative spirit are all impacted by research culture (The Royal Society, 2020)

Research culture, according to a piece of work by Leed (2019) characterizes the setting in which research and innovation take place. It entails the methods by which we cooperate, converse, and engage; the attitudes, expectations, behaviors, and values that influence how our study is generated, carried out, distributed, and used; and the procedures by which our work is acknowledged and rewarded. The declaration on research culture represents a dedication to bringing about improvement. To foster an atmosphere that is more encouraging, diverse, and collaborative, it outlines five major themes: collegiate and supportive environment, personal growth, rewards and recognition, open research and impact, equality, and diversity and inclusion in research.

The culture of research, the contribution of science to knowledge creation, the role of science in and for society, and the sustainability of research systems as a whole are all factors that have an impact on the institution's core values. Research and researchers will flourish in sustainable research environments that are defined and put into place by Science Europe and its member organizations. A variety of research culture approaches exist both internationally and within the European Research Area (ERA), and they have an impact on how science is managed, funded, carried out, and disseminated.

The career paths taken by researchers and those holding roles related to research are also influenced by research culture. A research system's culture has a significant impact on the caliber of its outputs and results. Finally, the pace of the conversation on research culture is picking up. This presents an opportunity to consider the connections between the activities of persons engaged in the scientific enterprise on the one hand, and the cultures, procedures, and rules that govern research systems on the other. When exploring reforms to areas like research assessment systems and open science, a comprehensive perspective is required, to understand the interconnectedness of these important subjects.

Additionally, Herold (2019) noted in his article that research culture focuses on the fundamental principles that are placed at the heart of scientific inquiry and works to ensure that these principles are reflected in practices and policies. This culture specifically aims to: (a) Inspire a reevaluation of institutional approaches and values to support the diversity and sustainability of research systems. Lead and guide discussions about the limitations, level of self-organization, and values of the existing and proposed systems; (b) Create frameworks for awarding recognition to research cultures that are quality-driven and robust. This is accomplished through encouraging procedures and regulations that acknowledge, honor, and reward acts and behaviors that uphold the fundamental principles that guide research systems; (c) Encourage coherence between policy areas to enhance the research ecosystem and the conditions for researchers within it, such as Open Science, access

to Research Infrastructures, research integrity, promotion of equality, diversity, and inclusivity, and recognition of me; (d) Foster research recognition systems that value a broader array of research activities and outputs and support a larger variety of career pathways for researchers and research-related staff.

Likewise, Kezang, et.al (2019) discussed the value of research, the state of Bhutan's research culture, its potential and difficulties, and a path forward for the key players in fostering and advancing research culture. According to research, inquiring minds foster creativity, invention, critical thinking, and problem-solving. In many nations, R&D plays a significant role in the formation of policies and practices rather than being based on ideology. The body of existing literature also suggests that there is a solid, advantageous connection between research and practice.

Higher education research and the expansion of the national economy are also strongly and favorably related. Policymakers and other leaders must be aware of the potential contribution that research may make to the development and implementation of sustainable policies and programs. Bhutan still has a long way to go in terms of comprehending the true meaning of the word research and how it produces knowledge and tackles societal concerns, despite some public awareness being raised in this regard. In Bhutan, the word research has recently gained popularity in common conversation among all societal groups. This shows that research has been accepted as valuable, but it also shows that the phrase has been badly misapplied. For many people, research just refers to gathering data. Research, on the other hand, is a far more organized and rigorous academic activity that uses the right approach to produce new information and address issues faced by humans.

Moreover, Wong (2019) identified seven factors that could support strong research integrity and enhance research culture. The first factor is that minor changes can have a significant impact. By offering researchers the ability to share their experiences of not just their triumphs but also their failures, open dialogues can promote a more collaborative environment. Open communication and support when things don't always go according to plan promote respect and trust among the research team. Second, creating support networks helps raise spirits and advance productive research. It may help to lessen demands in a research setting, which is crucial to staff well-being, by making career counseling, coaching, and support services available to staff. Connecting researchers to additional resources within their institution, such as forms for deadline extensions, support programs, career services, and mental health and well-being services, can help to reduce stress and time demands. Third, *ensure everyone is on the same page.* To reach an agreement on their group's and each member's behaviors and attitudes, research teams might freely debate, modify, and improve upon already-existing guidelines. To ensure that everyone on the team is aware of what is expected in the research environment, this might be utilized to construct a group standard or promise. Fourth, *sharing best practices through a research culture is quite effective.* Encourage support workers and researchers to schedule meetings where they can exchange ideas and experiences. Discussions might concentrate on enhancing research integrity and culture by involving other departments, institutions, and industries, sharing best practices on what has worked, what hasn't, and its impact. Fifth, *organization, department, and team leaders lead by example in promoting an excellent research culture.* Organization, department, and team leaders who are at the forefront of promoting

a positive research culture, such as by participating in training, encouraging discussions to address difficult questions openly and honestly, and having an open-door policy, set a "norm" and redefine standards. They are frequently seen as role models to their early-career peers. Sixth, *discuss training gaps for all team members.* A significant element in retention is career advancement, which benefits the institution's and the research community's overall research quality. If skill requirements are examined both individually and collectively, ensuring that all researchers have the required abilities for their position, such as statistics, data handling, proposal writing, and resource management, they may feel more valued. Seventh, institutionalize a culture of research. By holding a research culture and integrity day, you may emphasize the significance of research culture and involve all employees within the organization. There may be presentations, workshops, and panel discussions from all areas of the organization. The ways that various departments have enhanced research culture and integrity might be highlighted, along with any areas that still need work.

Additionally, one of the reasons and fruitful locations for conducting research is the culture in its research institutions. It is necessary to have a supportive research culture if one wants to conduct outstanding research. Local policies, attitudes, and behavior of personnel at all levels also have an impact on this, in addition to national policies and initiatives. The official and informal ethics, standards, protocols, and norms that researchers adhere to in their setting make up an important component of research culture. Organizations are becoming more aware of the significance of research integrity. The largest-ever poll examining research culture experiences included thousands of researchers. The findings demonstrate that change is necessary, and everyone in the research community can contribute to reimagining research (Narbarte, et.al, 2018)

On the same wavelength, research culture is a vague notion, according to the study by Mirasol, et al. (2017). It covers how it is assessed, encouraged, and rewarded the quality of research, how it is acknowledged various contributions to a research activity, and how to promote various career trajectories. altering career paths and promotion standards to promote a distinct research culture. Success would not be achieved by establishing policies, but rather by implementing real-world improvements that indicate how we do things around here. Even if university policies are read, they won't stick around unless the underlying ideas are ingrained in everyday behavior. Furthermore, if it takes the actions seriously, no one will believe that have good intentions. The responsible use of metrics policy requires acceptable and impartial methods to assess the caliber of the study.

However, on the other side of the note, according to Anderson (2021), creating a research culture requires time and commitment. But in the end, creating a user-research culture benefits as well as the firm. People will recognize the value it offers, and as time passes, it will be simpler to monitor the beneficial effects. As a result of the contribution of human capital and resources, Olvido's study (2021) aimed to describe the evidence of the evolution of research culture from gestation to maturation. Key informants from seven reputable teacher education schools in Region VII participated in a narrative inquiry that was based on the Gestation-Expansion-Maturation Theory of the Development of Research Culture. Interview transcripts were coded with the aid of NVIVO 11.3.2. Six broad themes were found, each with matching traits and qualities, regarding the outputs or return on investments of a

research culture inside an institution. The establishment of a research culture is an investment, thus it is evidence-based and characterized by outputs that can be observed and measured in terms of performance and output. Gestation is accomplished by production, which entails doing research and creating publications. When research results are shared through paper presentations and journal articles, expansion occurs. Maturity in terms of outputs leads to creativity, which is the ability to influence legislation and adopt technology aimed at promoting growth and innovation.

Evans (2018) defines research culture as the collective ideals, presumptions, beliefs, rituals, and other types of behavior aimed at recognizing the importance and relevance of research practice and its products. Research projects are seen as essential and significant to the overall functioning of the academic community. Activities that contribute to improving research culture include participating on a panel during an oral defense, supervising and mentoring researchers, publishing research articles, and presenting them at national and international conferences (Narbarte, et.al, 2018). Activities alone, though, are insufficient. According to the study that has been done on the research cultures in educational institutions, there must be obvious signs of highly regarded research practice and output for those cultures to be considered strong. According to Stahmer, et al. (2017), this even pushes institutions to develop thorough research plans and inquiries to make sure that objectives ranging from basic science to application can have an impact on the community.

Shared values, beliefs, attitudes, and practices that have an impact on how research is conducted inside an institution are referred to as research culture. Practices and statements—the way individuals act and express themselves—are how culture is expressed. Additionally, Stahmer, et al. (2017) stressed that a research culture within an institution can be defined as the knowledge about research topics and processes that are recognized as appropriate and relevant; the values, beliefs, attitudes, and norms that surround the research process within the institution; and the various material ways in which the institution supports or denies support to its researching individuals and groups.

On a more significant note, along with determinants of research culture, Gonzalez-Brambila, et al (2019) study examined the factors that influence the output and impact of research using a special data set of Mexican researchers. The results supported a quadratic link between age and the quantity of papers published. However, contrary to what earlier research has suggested, publication peaks when scholars are about 53 years old. Overall, the findings imply that aging does not significantly affect the productivity and effect of research. Additionally, it was discovered that publications do not affect reputation, only the quantity of citations. The results also highlighted significant knowledge domain heterogeneity.

The study by Jeong, et al. (2017) had given the high priority given to research collaboration and the presumption that it produces results with higher productivity and impact rates than non-collaborative results, research collaboration modes are evaluated for their advantages and disadvantages before being put into practice. Researchers are responsible for choosing their modes of collaboration; this choice is the result of strategic decision-making that is impacted by their contexts and the trade-offs between potential solutions. This paper examined the suggested but unproven determinants of research collaboration modes that the SCI data set cannot reveal through a Multinomial Probit Model in this context, using bibliographic data and related internal data from the Korea Institute of Machinery and Materials (KIMM, a representative Korean government institute of mechanical research). According to the findings, certain types of collaboration, including exclusive research, internal collaboration, domestic collaboration, and international collaboration, are significantly influenced by informal communication, cultural proximity, academic excellence, external fund inspiration, and technological development levels. To help research managers, encourage researchers to collaborate in an appropriate decision-making context, this paper improves collaboration mode studies by describing the actual collaboration phenomenon as it occurs in research institutes and the motivations prompting research collaboration.

Muneor (2017) outlined the driving forces behind a research-friendly culture and noted that effective institutions significantly encourage faculty research initiatives. They can pick from a variety of strategies to foster a research culture and boost faculty research productivity. Research-centered institutions offer a range of benefits, such as strong leadership and well-defined objectives, training and support programs for faculty, research facilities, recognition of research output, encouragement of faculty collaboration, a balance between teaching and research responsibilities, and compensation that is appropriate for the work expected of them. Setting up a good research culture calls for specific objectives and strong leadership from the university and unit administration.

In like manner, Bland, et al. (2018) underlined the four crucial traits that leaders of a good research culture hold. Important actions of "high-level" administration include research culture development as an item on important committee agendas; providing a clear and publicized articulation of institutional research goals and expectations for individual researchers; aligning all levels of the university with the cultural development strategy; and making use of participative governing.

Also, the survey of the Times Higher Education (2015) discovered that to foster a culture of research, institutional and unit-based leaders must establish precise research objectives and effectively convey them. The goals must be supported by a clear plan for measuring research success and any corresponding modifications in compensation. Additionally, administrators should change job descriptions to reflect requirements for research and instruction. Institutions that want to foster a research culture must commit large funds to faculty development and support. To become proficient, faculty with little expertise in producing scholarships will probably need training and one-on-one assistance. Institutions may provide support services or continuing education programs in grant management, grant writing, and research techniques.

These initiatives might be located in a multidisciplinary or centralized research center. Open and cooperative interpersonal ties among faculty members are essential for the development of a research culture. A faculty-to-faculty research mentoring project would be successful if the faculty members were friendly with one another. Such mentorships have the potential to be crucial in establishing culture. The success of a research culture is a hallmark of successful research collaboration, which is likely to be facilitated by personal connections among faculty. Administrators must be ready to modify resource allocations based on faculty members' present motivations and skills to execute cultural change. The best use of training and support resources will probably be

made by those with strong motivation and low ability. Those who lack motivation would probably benefit most from making friends both inside and outside of their academic environment. A culture of research may take years to build and, once it is, needs ongoing upkeep. Before they are adopted, new policies about research must be consistently followed over time. Administrators must be ready to handle ongoing issues once new policies have been adopted, such as preserving research funds, forming alliances with other institutions to increase research prospects, and dealing with institutional changes.

Likewise, Iqbal's (2018) study uncovered the faculty members' perspectives on the elements influencing the research culture present in the public sector universities in Punjab. A survey that collected quantitative data asked university faculty members for their opinions on a five-point Likert scale. All of the professors from 18 general public sector universities made up the study's population. Through the use of a multistage random sampling procedure, the sample was chosen. Out of a total of 18 public sector universities, seven were chosen at random for the first stage. The study includes every professor working in the education departments at the universities used as a sample. One hundred and sixty academic members voluntarily responded to the survey. Environmental, institutional, and individual elements that influence research culture were listed in the survey form. By calculating the means and standard deviations of the responses to each statement, data were evaluated. Using a t-test for independent samples, the significance of the difference between the opinions of male and female faculty members was evaluated. It was discovered that none of the environmental, institutional, or personal elements were advantageous for the research culture in Punjab's public universities. The study's findings showed that institutional and individual elements were seen as having a greater proportional influence on the development of a research culture than environmental factors.

On the same trend, According to Välimaa (2018), there are so many different ways that culture can be understood and applied in higher education research that a reader who is not familiar with these practices might find the variety to be confusing. She put into context diverse viewpoints on culture as a social phenomenon and how it is used as a research tool in higher education. To situate them in the current environment, it started with a discussion of the many interpretations of the term "culture" and continued with a brief history of the cultural approach in higher education studies. and focused on examining the state of cultural studies research in higher education. Several issues with research culture, according to Wooding (2019), are related to the fact that there aren't enough opportunities for researchers to discuss their professional progress openly and honestly with the academics who supervise them and other people they collaborate with. To assist researchers in receiving, giving, and receiving feedback on their research leadership skills, this project will investigate a variety of tools and ways that enable these kinds of interactions. Participants in professional development programs will be used as test subjects.

As grounded in a culture of research, the research, whether indigenous or cross-cultural, must be conducted ethically, according to Worthy (2017). To direct psychologists' professional and scientific responsibilities, the American Psychological Association (APA) has developed a set of shared norms and ethical guidelines. The principles and code of conduct's main objective is to inform the public, psychology professionals, students,

colleagues, and patients about the ethical norms of the profession. Beneficence and non-maleficence, faithfulness and duty, integrity, justice, and respect for individuals are among the ethical values. Psychologists generally concur that morally sound research is informed by a fundamental regard for people's safety and dignity.

In American psychology, there is now a discernible presence of Ung's (2015) study of culture in research, education, and practice. The increased focus on cultural awareness is largely a result of professional and student groups' efforts to support research that reflects the complexity of the culturally diverse society in which we live, such as APS and the APS Student Caucus. The study employed empirical research techniques to investigate how culture affects psychology. In the context of an integrative theoretical model of culture, psychology, and behavior, the researcher outlined the need for cultural study.

However, the study by Fussy (2017) examined the strategies used by Tanzania's higher education system to foster a culture of research and examined ideas for enhancing the research capability of Tanzanian universities. The results demonstrated that the higher education policy setting in Tanzania has workable policies and strategies that support the growth of research in the nation's universities. However, there are insufficient effective procedures in the higher education policy setting to foster practical development and the oversight of research Additionally, it was discovered that the methods utilized to develop research were less rigorous in enforcing the research culture despite being reported to improve institutional research profile. As a framework for universities and researchers throughout Tanzania, Africa, and the world to use when making decisions and taking actions aimed at fostering successful research cultures, the findings also identified several other factors crucial to creating a research culture, such as research training, research mentoring, research funding, and research incentives. The study concluded that Tanzania must establish a strong research culture within its higher education system to enhance knowledge production and application and, ultimately, realize its National Development Vision 2025, which aims to transform the nation from a deplorable "less developed" country into a respectable "middle-income" nation. As a result, the study suggested changing the country's higher education policy to close the gap between policy articulation and actual policy implementation.

According to Bernery, et al. (2022), concentrating solely on research can occasionally be draining; therefore, investing time in other pursuits, such as overseeing students, imparting knowledge, or working on outreach, can break the monotony and foster a sense of accomplishment. A first draft, an accepted paper, a conference presentation, or the filing of a grant proposal are examples of accomplishments that should be honored (and, obviously, a successful grant proposal). These accomplishments can be honored in person, online, or in both. It is simpler to understand that past challenges have been overcome, that progress has been made, and that expertise, skills, and knowledge have been acquired by consistently emphasizing positive outcomes. Parallel to this, it's critical to make an effort to lessen the negative effects of the Ph.D. experience because they are real, diverse, and may be debilitating if unchecked. It is crucial to contextualize them first. Remember, for instance, that failure is typically only a temporary setback rather than a defeat and is an essential component of progress. This is particularly true when a manuscript is turned down by a journal: seeing the rejection as a chance to improve the article and realizing

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that the reviewers' comments are about the research, not the authors, can help reframe rejections in a positive perspective. Even the most accomplished researchers have been turned down numerous times. Furthermore, as was already mentioned, science is a group endeavor, and when assistance is needed, one is rarely alone themselves. In this regard, discussing the difficulties one faces while pursuing a PhD with other students or researchers can also help one put those difficulties into perspective and recognize their benefits.

Correspondingly, in the study of Darwin, et al. (2016) identified the factors that influence the involvement in research and research-related activities among Catholic university professors. They also examined institutional research initiatives, national goals for research, and the extent of convergence among the institution's three trifocal functions in terms of fostering a research culture. The study found that the involvement of the faculty depends on the institution's encouragement of making research a fundamental component of the organizational culture. Major contributing elements were identified as the existence of a research unit, a financial reward and merit system, expertise, research competency programs, and institutional regulations, while exploitation of research output was deemed to be the least effective. similarly, Garde-Hansen, et. al (2017) noted the high value placed on student research within universities, which is exemplified by the dissertation or extended written work that is required after many programs, as well as the broader advantages of integrating research-based learning into a curriculum to foster higher-order learning. To run an undergraduate conference for first-year students on how to establish a research culture, staff and students collaborated to conduct problem-based learning (PBL) activities. These activities are described in this article. To foster a research culture much sooner in undergraduate programs, it is important to better understand how students conduct their research.

Salazar-Clemea's (2017) study sought to comprehend the dominant research culture in Philippine HEIs as perceived by the academic staff. To analyze the dynamics of the interaction of CHED policies and mandates, HEI practices related to developing a research orientation in their institutions, and faculty perspectives who are expected to conduct research in addition to their other responsibilities, a conceptual framework of research culture was developed (i.e., teaching and community service). Ten faculty members were interviewed using open-ended questions after 40 faculty members from 14 institutions and colleges around the nation completed a survey. After 40 faculty members from 14 universities and colleges around the country completed a survey, 10 faculty members were interviewed using open-ended questions. They determined (a) the impact of research, (b) administrative practices, (c) inter-institutional collaboration, (d) institutional research strategy, (e) financial reward system, (f) infrastructure, (g) the presence of ethical policies, and (h) the availability of research funding were only moderately present indicators of research culture. The faculty further believed that time, a strong commitment to the research endeavor, faculty involvement, a positive work environment, working conditions, organizational communication, a decentralized research policy, research funding, and a clear institutional policy for research benefits and incentives are all necessary factors for enhancing research productivity. These findings lead the study to suggest that while creating a research culture, it is important to consider how the trifocal function of HEIs, the researcher's thinking, and the body of institutional policy interact.

The research culture profiles of six out of the seven member institutions of the Philippines' SUCs (State Universities and Colleges) in the NCR were critically reviewed by Roxas-Soriano, et al. (2020). The data required to profile the research cultures of the participating universities was collected using a survey instrument that was developed by researchers and content validated. Accordingly, the participant-SUCs, whether they are classified as teaching- or research-intensive clusters, strive to construct an operational research center to oversee all associated operations, according to the study's findings. The concept of a stand-alone research center gives the center autonomy, which likely enables a more effective and efficient management of research. This management change has a significant impact on the research culture profile, which is defined in three ways: development; environment; and beliefs, skills, and customs, which together comprise the majority of the university's research capability. Finally, to fully express the university's genuine identity, efforts to enhance the research culture profile should maintain the university's trifocal nature, which consists of teaching service, community outreach provision, and research culture. A strong faculty profile will make it easier to collaborate internationally and develop a reputation for research culture in the context of teaching and community service. Building a culture of research within the university that is distinctive to the university requires significant and purposeful efforts as well, without sacrificing the university's primary mission of teaching and community improvement.

The writings of Belkhodja, et. al (2017) study focused on how managers and professionals in Canadian health sector companies practice research culture (ministries, regional authorities, and hospitals). The findings of the analysis of the 928 replies highlighted the significance of the variables that affected utilization, including absorption, learning, culture, and connection mechanisms. The significance of the connectivity mechanisms, research experience, unit size, and research relevance for the users was confirmed by general linear regression and regression by organizational type. The emphasis could therefore be on research activities, research experience, connectivity mechanisms, unit size, research culture, and relevance for consumers depending on the type of organization. Furthermore, by expressing these contextual elements as organizational variables and adopting a more organizational perspective of knowledge usage analysis, the article further highlighted the high degree of significance of the individual and organizational contextual factors (Hanover Research, 2014)

The DO 39, S. 2016 on Basic Education Research Agenda, which guides DepEd and its stakeholders in the conduct of education research and in the utilization of research findings to inform the Department's planning, policy, and program development in alignment with its vision, mission, and core values, must be adopted by the Department of Education (DepEd) by the end of 2016. The Research Agenda will consolidate findings from earlier research, produce new knowledge in priority research areas, direct DepEd's attention to pertinent educational challenges, and make the most of the resources available for both internal and external research.

The Governance of Basic Education Act of 2001 (RA 9155) requires the Department of Education to implement guidelines and procedures that will constantly enhance the provision of basic education of the highest caliber. Chapter 1, Section 7 (5) lists "educational research and studies" as one of DepEd's duties across

all levels of governance. These studies will be one of the foundations for any essential improvements in policy formation.

DepEd has made progress in introducing research and its use in policy and program development to promote an atmosphere of evidence-based decision-making. In the department, a systematic method for formulating policies that are backed by research studies was established by DO No. 13 series (2015). Likewise, DO 16, S. 2017 on research management guidelines in support of the Department's policy development process, research agenda, and policy and program development and implementation, the Department of Education (DepEd) continues to promote and strengthen the culture of research in basic education. DepEd hereby establishes the Research Management Guidelines (RMG) to guide in managing research initiatives at the national, regional, division, and school levels. The enclosed policy also enhances research support methods like financing, collaborations, and capacity building. The Department's research culture will be strengthened by this policy, which is based on the improvements in evidence-based decision-making brought about by various education reforms or projects. By disseminating, utilizing, and advocating for research, it also strengthens the connection between research and educational procedures and fund-sourcing methods.

Additionally, the main goals of the Research O'clock program are to support the use of research findings and data in decision-making, program design and implementation, plan formulation and adjustment, and to support open dialogue and ongoing learning opportunities for basic education leaders, researchers, policymakers, and educators. During the series of forums, a selection of research studies from the Basic Education Research Fund (BERF) facilities and studies carried out by collaborator organizations such as research institutions and academic institutions will be presented. Following each presentation, a policy dialogue will be held to gather additional information regarding resolving issues and concerns related to education that were brought up during the presentation. All DepEd employees, researchers, enthusiasts, policymakers, program managers, and anybody interested in the particular educational issues or themes covered by Research O'clock are encouraged to participate.

Moreover, the Division of Pangasinan II envisions better schools thereby enhancing learning outcomes through the conduct of qualitative and quantitative types of research which is anchored on 3As (*Assess, Analyze, and Act*), 5As (*Assess the situation, Ask a question, Act to seek answers, Acquire information, Analyze and reflect*), UP-KUMILOS (*University of the Philippines- Kilalanin ang Kakayahan, Usisain ang Kalagayan, Magplano, Isagawa, Linangin at Ayusin, Organisation and Tunguhin, at iSalaysay*) and *Lesson Study frameworks*.

It is within these prevailing concepts that the researcher intended to identify the determinants of research culture in the public secondary schools in the Division of Pangasinan II. Since no research studies have been conducted along this dimension, this present study is considered a pioneering study.

Theoretical/Conceptual Framework
This study is based on John Watson's (1913) behaviorism theory which holds that most human behavior is learned. The ability to precisely watch and measure behaviors is one of behavioral psychology's greatest assets. Observable behaviors are the foundation of behaviorism, making it frequently simpler to quantify and gather data when conducting research. Additionally, this is a product of a person's regular interactions with their surroundings. The main criticisms leveled against this theory are that behavioral theories do not fully account for changes in moods, feelings, and thoughts and that the theory takes a singular approach to conduct. This theory's strength is that it is based on observable behavior, making it simple to quantify and gather data.

Another theory that is related to this one is the culture theory, which claims that social beings and their unique ideas, beliefs, values, and knowledge are what give rise to expectations rather than the fact that they are made up of autonomous individuals free from social constraints. It can aid in comprehending and advancing growth in settings where interpersonal interactions rule, and individualism is restrained.

These two theories are related to the present study because the culture that has been considered as its main point depicts the ways or behaviors exemplified towards research.

This research study entitled; "*Determinants of Research Culture in the Public Secondary Schools*" delved into the determining factors of the culture of research in the public secondary schools in the Division of Pangasinan II. The profile of the teacher-researchers across the following: a) Personal Professional-Related Variables (Academic position, Years of service in teaching, Highest educational attainment, Number of research training attended, and Number of research studies conducted), b) Working Environment-Related (Human Resources and Physical Resources), c) Organization and Administration-Related (Research Agenda and Policies), d) Funding Support-Related (Internal and External) served as the independent variables. The extent of practice of the research culture among teacher-researchers in Public Secondary Schools along with knowledge, skills, and attitude, the challenges encountered by the teachers in conducting their research studies as well as the determinants of research culture in the public secondary schools will serve as the dependent variables. The enhancement program can be proposed to improve the research culture in the public secondary schools served as the output of the study.

Statement of the Problem
This study delved into the determinants of research culture in the public secondary schools in the Division of Pangasinan II.
    1. What is the profile of the teacher-researchers across the following:

A. Personal and Professional-Related Variables
    1) Academic position
    2) Years of service in teaching
    3) Highest educational attainment
    4) Number of research training attended
    5) Number of research studies conducted

B. Working Environment-Related
    1) Human Resources
    2) Physical Resources

C. Organization and Administration-Related
    1) Research Agenda
    2) Policies

D. Funding Support-Related
    1) Internal
    2) External

2. What is the extent of practice of the research culture among teacher-researchers in the Public Secondary Schools along the following areas:
   a. knowledge;
   b. skills; and
   c. attitude?

3. What are the challenges encountered by the teachers in conducting their research studies?
4. Is there a significant mean difference in the extent of practice of the research culture of the respondents across the profile variables?
5. Is there a significant relationship between the extent of practice of the research culture and the selected profile variables?
6. What are the determinants of research culture in public secondary schools?
7. What enhancement program can be proposed to improve the research culture in public secondary schools?

Methodology

This chapter presents the research design and strategy, the population of the study, data gathering instruments, procedure, and statistical treatment.

Research Design and Strategy

This study utilized a mixed method of research. A mixed method of research combines elements of quantitative research and qualitative research to answer the research question. Using mixed approaches, which combine the advantages of both quantitative and qualitative research, can help to obtain a more comprehensive picture than either method alone (Tegan, 2021)

The correlational descriptive design was also used in other sections of the study. This approach focuses on figuring out whether there is a relationship between two or more things or variables and what that relationship looks like (Rcragun, 2015). However, a phenomenological design was employed to extract the numerous difficulties faced by the teachers in carrying out their research investigations through the conduct of an interview. A qualitative research strategy called "phenomenological research" aims to comprehend and characterize a phenomenon's fundamental elements. The methodology examines human experience in daily life while putting aside the researchers' prior notions about the phenomenon. In other words, phenomenology research investigates actual events to learn more about how people interpret them. The premise behind phenomenological research design is that individuals employ a common structure or essence to interpret their experiences. To elucidate the essence of the event under inquiry, they interpret the participants' emotions, perceptions, and beliefs. When using a design for phenomenological research, the researcher must set aside any preconceived notions they may have about the experience or phenomenon (Delve. 2022)

These designs were considered appropriate since they delved into the determinants of research culture, and the extent of the practice of the teacher researchers in the Division of Pangasinan II along with their profile variables, significant mean difference in the extent of practice of the research culture of the respondents across the profile variables, significant relationship between the extent of practice of the research culture and the selected profile variables.

Population and Locale of the Study

This study included the total enumeration of secondary teacher-researchers of the Schools Division of Pangasinan II who have ongoing and completed research studies for the School Year 2021-2022. A total of forty-seven (47) teacher-researchers were considered in this study as respondents specifically those who have approved research studies in the division, those who have completed such research study, and those who have finished a course that requires a thesis or a dissertation.

Data Gathering Tool

A researcher-made questionnaire was utilized in this study which was patterned from the related studies. It was made by the objectives of the present study. The questionnaire consisted of various parts:

Part I of the instrument focused on the profile of the teacher-researchers across the following: a) Personal Professional-Related Variables (academic position, years of service in teaching, highest educational attainment, number of research training attended, and number of research studies conducted; b) Working Environment-Related (Human Resources and Physical Resources); c) Organization and Administration-Related (Research Agenda and Policies); and d) Funding Support-Related (Internal and External). Items on the Research Agenda were crafted from DO 39, S. 2016 – Adoption of the Basic Education Research Agenda and DepEd Order No. 16, s. 2017.

Part II of the instrument elicited the extent of the practice of the research culture among teacher-researchers in Public Secondary Schools along the knowledge, skills; and attitude. Some items are adopted from the Essential Things to Do Before Starting Your Research Study by Enago (2022), the research study by Hayward (2018), and research knowledge, reliability, and validity by Nicolas (2021) for the indicators included along knowledge.

Likewise, the sources for the research skills will be adopted from the What Are Research Skills? Definition, Examples, and Tips by Birt (2020) and 7 Skills of a Good Researcher Must Have by Awal (2019). Further, the indicators of values will be adopted from the study of Greenbank (2013), the article What Is Ethics in Research & Why Is It Important? by Resnik (2020), and Research values by Kaiser (2019).

Part III covered the challenges encountered by the teachers in conducting their research studies.

Part IV unearthed the details of the determinants of research culture in public secondary schools. Items were from the study of Kapur (2019).

Data Gathering Procedure

The descriptive survey was employed to answer the questionnaire of the data with the interview guide as a medium to answer the questions along with challenges. In gathering the details along challenges, a **semi-structured interview style** was deployed to have more responses, and follow-up responses were noted.

A questionnaire was shown to the Adviser for comments and suggestions to improve the final draft of the instrument. After the questionnaire was simplified, improved, and refined, the questionnaire underwent content validation. The experts determined the content validity of the questionnaire. The average

weighted mean of 3.95 based on the responses of the validators, the questionnaire was deemed highly valid.

Treatment of Data

The data gathered were analyzed through the Statistical Package for the Social Sciences (SPSS). The frequency counts and percentage were utilized to determine the profile of the teacher-researchers along personal and professional-related variables as to academic position, years of service in teaching, highest educational attainment, number of research training attended, and number of research studies conducted.

A qualitative elaboration and textual presentation explained into themes were used to determine the challenges encountered by the teachers in conducting their research studies.

Moreover, to determine the significant mean difference in the extent of the practice of the research culture of the respondents across the profile variables, **the Kruskal Wallis test,** a non-parametric test for three or more groups of independent samples, was utilized. In like manner**, the Spearman-rho correlation coefficient was** used to determine the significant relationship between the extent of practice of the research culture.

Lastly, the frequency counts and percentages were employed to determine the determinants of research culture in public secondary schools.

Results and Discussion

PROFILE OF THE TEACHER-RESEARCHERS IN THE PUBLIC SECONDARY SCHOOLS IN THE DIVISION OF PANGASINAN II

Table 1. Profile of the Teacher-Researchers Along Personal and Professional-Related Variables (n=47)

Profile Variable	Category	Frequency	%
Academic Position	Teacher I	10	21.3
	Teacher II	6	12.8
	Teacher III	**22**	**46.8**
	Master Teacher I	5	10.6
	Master Teacher II	**2**	**4.3**
	Principal I	**2**	**4.3**
Years of Service in Teaching	1-5 years	11	23.4
	6-10 years	**19**	**40.4**
	11-15 years	6	12.8
	16-20 years	**2**	**4.3**
	21 and above	9	19.1
Highest Educational Attainment	With MA units	**16**	**34.0**
	Master's degree	10	21.3
	With PhD/EdD/DA units	12	25.5
	PhD/EdD/DA degree	**9**	**19.1**

Number of Research Trainings Attended			
International	1-2	**8**	**17.0**
	3-4	2	4.3
	5-6	**1**	**2.1**
	7 and above	3	6.4
	None	33	71.7
National	1-2	**6**	**12.8**
	3-4	2	4.3
	5-6	**1**	**2.1**
	7 and above	6	12.8
	None	32	69.6
Regional	1-2	4	8.5
	3-4	**6**	**12.8**
	5-6	0	0
	7 and above	**6**	**13.0**
	None	31	67.4
Local/Institutional	1-2	**24**	**51.1**
	3-4	**2**	**4.3**
	5-6	3	6.4
	7 and above	11	23.4
	None	7	15.2
Number of Conducted Research	1 only	**27**	**57.4**
	2-3	13	27.7
	4-5	7	14.9

Academic Position. It could be gleaned from the table that most of the teacher-researchers are Teacher III as indicated by the frequency of 22 or 46.8%. Ten (10) or 21.3% and six (6) or 12.8% are Teachers 1 and Teacher II, respectively. Further, five (5) or 10.6% are Master Teacher I while only two (2) or 4.3% for each of the respondents are Master Teacher II and Principal I. The data imply that conducting research in the academe is a requirement for all teachers regardless of academic position. Their will to pass such a study is encouraged for further evaluation yet approval is still in the hands of the committee. DepEd Order No. 16, s. 2017 aims to guide in managing research initiatives at the national, regional, school division, and school levels and improves support mechanisms for research such as funding, partnerships, and capacity building where which provides a mechanism for the conduct of basic research and action research (Catane, 2020)

Years of Service in Teaching. It is deemed on the table that most of the teacher-researchers are already in the service for 6-10 years as indicated by the frequency of 19 or 40.4%. Only eleven (11) or 23.4% have 1-5 years of teaching experience. Moreover, two (2), or 4.3%, and nine (9), or 19.1% are already in the service for 16-20 years and 21 years and above, respectively. The data imply that though there are those in the service for quite some time, many of them are still new in the service. This only denotes that research is somehow more appealing and being given more attention among

new entrants in the educational system. However, Konstantinou (2018) mentioned that research is increasingly important to what schools try to do. Schools are increasingly designating senior positions for research leads, preparing teachers to conduct research, and creating centers to support research efforts. Researchers in schools' network, work together, break down barriers, and attempt to "persuade" anyone who isn't completely convinced that research has a place in the hectic schedule of a school day.

Highest Educational Attainment. The table shows that most of the respondents do have their MA units as indicated by the frequency of 16 or 34.0%. Twelve (12) or 25.5% are still in the process of completing their PhD/EdD/DA. Moreover, ten (10), or 21.3%, and nine (9), or 19.1% are already Master's degrees and Ph.D./EdD/DA degree holders. The data manifest that the teacher-researchers are exposed to conducting studies because some are already post-graduate and others are pursuing their graduate education. Increased post-secondary educational attainment would not only result in more employment opportunities and higher salaries, but it would also strengthen and broaden the economy and provide more options for research exposure (Holtz-Eakin, et.al, 2019)

Number of Research Trainings Attended

1. *International.* The table shows that most of the teacher-researchers do not have exposure or attendance in the international training as evidenced in the frequency of 33 or 71.7%. However, there are 8 or 17% of them have 1-2 training, and three, or 6.4% have 7 and above number of international training.
2. *National.* It could be gleaned from the table that the majority of the respondents have no national training in research as indicated by the frequency of 32 or 69.9%. Moreover, six (6), or 12.8% of them have 1-2 training and only six (6) have more than 7 training.
3. *Regional.* It is again seen on the table that the majority have no regional training as indicated by the frequency of 31 or 67.4%. Six (12.8%) and four (8.5%) have 1-2 and 3-4 number of trainings, respectively.
4. *Local/Institutional.* The table shows that most of the respondents have 1-2 local training as indicated by the

frequency of 24 or 51.1%. Eleven (11) or 23.4% and seven (7) or 15.2 have 7 and above and those who do not have at all, respectively.

The data above imply that there is limited training given or availed by the teacher-researchers. With adequate professional development, teachers' capacities must be increased. Teachers shouldn't feel pressured to dive into research at breakneck speed because it takes time to learn and conduct (Hairon, 2022). Each classroom is unique. Teachers have a compelling motive to examine their teaching practices more carefully because of the complexity of the environment in which they operate. They can do this, for example, by conducting research in their classroom (singteach, 2018).

Several Conducted Research. It could be gleaned from the table that most of the teacher-researchers have only one (1) research as indicated by the frequency of 27 or 57.4%. Thirteen (13) or 27.7% have 2-3 research studies completed and seven (7) of them or 14.9 have conducted 4-5 research studies. This implies that the teacher-researchers have exposure to conducting research and are somehow active in doing research despite the heavy load that is faced by teachers in the field.

Fostering a research-based approach to practice development gives evidence to bring about change in teaching, the classroom, the school, and beyond. Austin (2020) mentioned the advantages of the study. Research can support professional learning of knowledge, skills, and understanding, connect to information sources and networks of professional support, clarify purposes, processes, and priorities when introducing change, and improve understanding of the professional and policy context. Research can also help find solutions to specific issues that arise in the classroom or school.

Profile of the Teacher-Researchers Along Working Environment-Related on Human Resources
The table shows that most of the respondents have their research committee (35), coordinators (36), information disseminators (27), research format evaluators (26), and critic readers (24). However, the respondents have few numbers of analysts (18) and data processors (11).

Table 2. Profile of the Teacher-Researchers Along Working Environment-Related on Human Resources (n=47)

ITEM *Do you have a/an…*	YES		NO		Level of Proficiency					Weighted Mean	Descriptive Equivalent
	Freq	%	Freq	%	Frequency						
					1	2	3	4	5		
Schools Division Research Committee?	35	74.5	12	26	1	6	9	15	16	3.83	Highly Proficient
school research coordinator?	36	76.6	11	23.4	2	8	3	13	21	**3.91**	**Highly Proficient**
school research consultant?	20	42.6	28	**57.4**	4	13	12	7	11	3.17	Moderately Proficient
data processor?	11	23.4	36	**76.6**	8	19	9	3	8	**2.66**	**Moderately Proficient**
statistician?	19	40.4	28	**59.6**	8	13	6	3	17	3.17	Moderately Proficient
research format evaluator?	26	55.3	21	44.7	2	12	9	8	16	3.51	Highly Proficient
grammarian/critic reader?	24	51.1	23	48.9	5	15	2	12	13	3.28	Moderately Proficient
information disseminator?	27	57.4	20	43	3	13	6	12	13	3.40	Moderately Proficient

data analyst?	18	38.3	29	**61.7**	7	19	3	9	9	2.87	Moderately Proficient
reference evaluator?	20	42.6	27	**57.4**	7	16	5	10	9	2.96	Moderately Proficient
Average Weighted Mean										3.21	Moderately Proficient

Legend: *1-1.8=Least Proficient; 1.81-2.6=Slightly Proficient; 2.61-3.4=Moderately Proficient; 3.41-4.2=Highly Proficient; 4.21-5=Very Highly Proficient*

In terms of their level of proficiency, it is deemed that the coordinators are highly proficient as indicated by the mean of 3.91. However, the data processors are evaluated as moderately proficient with a mean of 2.66. The data imply that there is a dearth in the staffing of research units in the Division because there are still those schools that do not have these certain designations. This is maybe because of a smaller number of teachers in some schools, having multiple designations, and not also aligned to their fields of expertise.

Staffing issues at schools, particularly in research-based units, are a result of growing knowledge work, labor shortages, applicant competitiveness, and workforce diversity. Nonetheless, despite the urgent need for efficient staffing practices, many organizational decision-makers continue to disregard or misunderstand staffing research. To address these issues, staffing academics must shift their attention from individual-level recruitment and selection research to multilevel research illustrating the influence of staffing on units and organizations (Ployhart, 2018)

It could be gleaned from the table that in terms of facilities, most of them have reading rooms (32 or 68.1%). However, most of them do not have a research center (34 or 72,3%), statistics center (41 or 87.2%), and lounge area (37 or 78.7%). This implies that research-related units are still needing such improvement because of these essential conditions especially the statistics center that is responsible for data analysis. The capture here is that the treatment of data is not monitored and managed by the Division, rather, it is of full liberty of the researcher who is to statistically treat the data of the research.

Coinciding with the findings of the study, Frost (2019) mentioned that the office of the statisticians is essential for developing reliable analysis and forecasts. They make ensuring that a study's entire design adheres to the recommended procedures to get reliable results.

In terms of adequacy, the research center, library intended for archives of research studies, and reading room are assessed as moderately adequate as indicated by the means of 2.83, 3.13, and 3.35, respectively. However, the statistics center (2.35), cafeteria (2.52) and lounge area (2.50) are slightly adequate. It is concluded that the facilities of research as part of the profile of the respondents are moderately adequate as evidenced by the average weighted mean of 2.78. The availability, sufficiency, provision of a well-equipped library, and relevance of school facilities to the performance of the teachers and students were all revealed by Bolajoko (2021) in his article.

Likewise, to speed up the improvement of the research unit, the school should put numerous strategies into practice. Analyzing the availability of infrastructure and research facilities is one way to accelerate improvements in educational quality. Facilities support learning to raise the standards of education. Likewise, the quality of school research is influenced by the infrastructure that is currently in place (Nurabadi, 2020).

On the other hand, in terms of equipment, the table shows that the schools have laptops (42 or 89.4%), printers (41 or 87.2%), scanners (39 or 8%), and xerox machines/photocopiers (35 or 74.5%) and projectors (31 or 66%). However, most of the respondents do not have research tools like Mendeley, etc. (34 or 72.3%). It cloud also be noted in the table that laptops are deemed much adequate as indicated by the mean of 4.00%. However, though few of the respondents claimed that they have research tools, it is noted that this is moderately adequate as revealed by the mean of 2.77. With all these results, it could be gleaned from the table that the equipment utilized by the schools for research is adequate as indicated by the mean of 3.51.

Overall, the working environment-related profile of the respondents on physical resources is moderately adequate as evidenced by the overall weighted mean of 3.22.

Profile of the Teacher-Researchers Along Organization and Administration-Related On Research Agenda

Table 3. Profile of the Teacher-Researchers Along Organization and Administration-Related on Research Agenda (n=47)

ITEM *Are you familiar of the following research agenda:*	YES		NO		Level of Familiarity					Weighted Mean	Descriptive Equivalent
					Frequency						
	Freq	%	Freq	%	1	2	3	4	5		
Teaching and learning	47	100.0	0	0	0	0	2	26	19	**4.36**	Very Highly Familiar
Child Protection	47	100.0	0	0	0	0	5	26	16	4.23	Very Highly Familiar
Human Resource Development	47	100.0	0	0	0	0	18	16	13	**3.89**	Highly Familiar
Governance	37	78.7	10	21.3	0	2	17	10	18	3.94	Highly Familiar
Gender and Development	47	100.0	0	0	0	2	8	16	21	4.19	Highly Familiar

	47	100.0	0	0	0	3	15	10	19	3.96	Highly Familiar
DRRM	47	100.0	0	0	0	3	15	10	19	3.96	Highly Familiar
Inclusive Education	38	80.9	9	19.1	0	1	19	9	18	3.94	Highly Familiar
Average Weighted Mean										**4.07**	**Highly Familiar**

Legend:1-*1.8=Least Familiar; 1.81-2.6=Slightly Familiar; 2.61-3.4=Moderately Familiar; 3.41-4.2= Highly Familiar ; 4.21-5= Very Highly Familiar*

It could be gleaned from the table that the majority of the agenda is deeply known by the teacher-researchers specifically along Teaching and Learning (47 or 100%), Child Protection (47 or 100%), Human Resource Development (47 or 100%), Gender and Development (47 or 100%), and DRRM (47 or 100%).

DO 39, S. 2016 states that the Basic Education Research Agenda is adopted by the Department of Education (DepEd), which offers direction to DepEd and its stakeholders on how to conduct education research and use the findings to develop planning, policies, and programs that are consistent with its vision, mission, and core values. This will expand on discoveries made by earlier research, produce fresh information on important research areas, direct DepEd's attention to pertinent educational concerns, and make the most of the resources available for both internal and external research (Llego, 2019)

Moreover, they have very high familiarity in terms of teaching and learning and child protection as indicated by the means of 4.36 and 4.23, respectively. Further, the indicators where the respondents have high familiarity are Human Resource Development (3.89), Governance (3.94), Gender and Development (4.19), DRRM (3.96), and Inclusive Education (3.94).

Overall, the respondents have a high familiarity with the agenda of research in the Division as indicated by the average weighted mean of 4.07. The focus on teaching and learning encourages the notion that it is necessary to modify the teaching and learning process according to the demands of the student while carefully cultivating experiences. To close the gap that has always existed between theory and practice, teachers today must foster a culture of divergent thinking about research and instruction. The focus should also be on innovative adjustments to the teaching and learning processes (Singh, 2020)

Likewise, child protection orders and issuances are directed from D.O. no.3, s. 2021 (Department of Education's creation of the Child Protection Unit and the Child Rights in Education Desk), D.O. no.57 s. 2017 (Protection of Children in Armed Conflict Policy), D.O. no.18, s. 2015 (DepEd Policies and Procedures for the Management of Children in Conflict with the Law and Children at Risk), D.O. no.55, s. 2013 (Anti-Bullying Act of 2013 Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 10627), D.O. no.40, s. 2012 (Child Protection Policy of DepEd) and D.O. no.49, s. 2006 (Updated Department of Education Administrative Case Process Rules).

Along Research Policies

Table 6. Profile of the Teacher-Researchers Along Organization and Administration-Related on Research Policies (n=47)

ITEM *Are you familiar of the following policies:*	YES		NO		Level of Familiarity					Weighted Mean	Descriptive Equivalent
					Frequency						
	Freq	%	Freq	%	1	2	3	4	5		
Policy Statement	43	91.5	4	8.5	2	2	6	19	18	4.11	Highly Familiar
Research Management Guidelines	44	93.6	3	6.4	1	3	6	23	14	3.98	Highly Familiar
Research Management Cycles Call for Research Proposal	46	97.9	1	2.1	1	0	8	21	17	**4.13**	Highly Familiar
Evaluation Proposals	44	93.6	3	6.4	0	1	9	23	14	4.06	Highly Familiar
Notification of Results	41	87.2	6	12.8	1	3	9	22	12	3.87	Highly Familiar
Progress Monitoring	42	89.4	5	10.6	0	5	11	16	15	3.87	Highly Familiar
Technical Assistance	42	89.4	5	10.6	0	7	8	21	11	3.77	Highly Familiar
Provision of Changes and Extension	38	80.9	9	19.1	0.0	6	9	17	15	3.87	Highly Familiar
a. *Submission and Acceptance*	45	95.7	2	4.3	0	4	8	17	18	4.04	Highly Familiar
Dissemination and Utilization	40	85.1	7	14.9	1	5	9	18	14	3.83	Highly Familiar

	YES Freq	%	NO Freq	%	1	2	3	4	5	Weighted Mean	Descriptive Equivalent
Archival	37	78.7	10	21.3	3	6	9	20	9	3.55	Highly Familiar
Monitoring and Evaluation	41	87.2	6	12.8	4	2	9	18	14	3.77	Highly Familiar
Fund Sources (BERF)	39	83.0	8	17.0	7	4	6	17	13	3.59	Highly Familiar
Eligibility of Proponents	41	87.2	6	12.8	0	3	8	19	16	4.04	Highly Familiar
Release and Liquidation of Funds	25	53.2	22	46.8	4	3	19	12	9	**3.46**	Highly Familiar
Submission of Deliverables	39	83.0	8	17.0	3	2	10	20	12	3.83	Highly Familiar
Research Ethics	41	87.2	6	12.8	1	2	10	16	18	4.09	Highly Familiar
Plagiarism and Fraud	41	87.2	6	12.8	1	2	11	17	16	4.02	Highly Familiar
Partnerships in Research	40	85.1	7	14.9	2	2	11	17	15	4.00	Highly Familiar
Average Weighted Mean										**3.89**	**Highly Familiar**

Legend: 1-1.8=Least Familiar; 1.81-2.6=Slightly Familiar; 2.61-3.4=Moderately Familiar; 3.41-4.2= Highly Familiar; 4.21-5= Very Highly Familiar

The table shows that majority of the respondents are updated with the research policies specifically on Policy Statement (43 or 91.5%), Research Management Guidelines (44 or 93.6%), Research Management Cycles that include Monitoring and Evaluation (41 or 87.2%), Fund Sources (39 or 83.0%), Eligibility of Proponents (41 or 87.2%), Release and Liquidation of Funds (25 or 53.2%), Submission of Deliverables (39 or 83.0%), Research Ethics (41 or 87.2%), Plagiarism and Fraud (41 or 87.2%) and Partnerships in Research (40 or 85.1%).

DO 16, S. 2017 details that the Department of Education (DepEd) continues to support and strengthen the research culture in basic education through its policy formulation process, research agenda, and program and policy development and implementation. The Research Management Guidelines (RMG) are hereby established by DepEd to serve as guidelines for managing research efforts at the national, regional, school division, and school levels. The enclosed policy also enhances research support methods like financing, collaborations, and capacity building. The Department's research culture will be strengthened by this policy, which is based on the improvements in evidence-based decision-making brought about by various education reforms or projects. By disseminating, utilizing, and advocating for research, it also strengthens the connection between research and educational procedures and fund-sourcing methods (deped.gov.ph, 2017)

Further, it could be seen in the table that the respondents have high familiarity with the call for research proposal as indicated by the mean of 4.13. This greatly implies that the respondents are looking for the chance for their study to be included in the list to be approved after the various stages of defense. Fontanilla (2022) said that writing a proposal can also be a great way to investigate a subject that interests one a lot. The research phase enables one to become knowledgeable about a chosen subject, and the writing process aids in remembering what one has learned and comprehended on a deeper level.

Profile of the Teacher-Researchers on Funding Support-Related on Internal

Table 7. Profile of the Teacher-Researchers Along Funding Support-Related on Internal

ITEM *Are you aware of the following*	YES		NO		Level of Awareness Frequency					Weighted Mean	Descriptive Equivalent
	Freq	%	Freq	%	1	2	3	4	5		
Special Education Fund (SEF)	27	57.4	20	42.6	6	3	20	13	5	4.02	Highly Aware
Local Funds	39	83.0	8	17.0	4	5	11	22	5	3.40	Moderately Aware
Basic Education Research Fund	27	57.4	20	42.6	7	3	18	10	9	3.23	Moderately Aware
Average Weighted Mean										**3.55**	**Highly Aware**

Legend:1-*1.8=Least Aware; 1.81-2.6=Slightly Aware; 2.61-3.4=Moderately Aware; 3.41-4.2= Highly Aware ; 4.21-5= Very Highly Aware*

The table shows that most teacher-researchers know the internal support of the department along with research like the Special Education Fund as indicated by the frequency of 27 or 57.4%. Thirty-nine (39) of them or 83.0% and 27 or 57.4% are in the know of the Local Funds and Basic Education Research Fund, respectively.

DepEd-DBM-DILG Joint Memorandum Circular No. 1, s. 2020 entitled "*Revised Guidelines on the Use of the Special Education Fund (SEF)*" allows payment of expenses for the operation of schools (Llego, 2020). As well, as the DO 43, S. 2015 (Revised Guidelines for the Basic Education Research Fund) that intends to foster a culture of research, qualified teacher-proponents must use the research grant for studies focused on enhancing governance, enhancing access to education, and enhancing education quality.

Further, the respondents are highly aware of the Special Education Fund (SEF) as supported by the mean of 4.02. However, they are moderately aware of the Local Funds (3.40) and Basic Education Research Fund (3.23). Overall, the respondents are highly aware of the internal funding support for research as indicated by the weighted mean of 3.55. The data imply that the respondents take into consideration the possibilities of getting such aid from the funds intended for research.

Coinciding with the results of the study, the findings of the study of Calma (2019) showed that research activity may be impacted by the present levels of institutional and governmental funding for research and training. The appeal of research, the sort of research conducted, and the support for the dissemination of research were the three areas in which these effects were seen. This study also raised the critical problem that staff involvement in research is as much a function of funding as it is of increasing staff enthusiasm and research competence.

Along External

Table 8. Profile of the Teacher-Researchers Along Funding Support-Related on External

ITEM *Are you aware of the following*	YES		NO		Level of Awareness					Weighted Mean	Descriptive Equivalent
					Frequency						
	Freq	%	Freq	%	1	2	3	4	5		
CHEd-funded research programs	29	61.7	18	38.3	6	6	12	19	4	3.19	Moderately Aware
Niche Centers in the Regions (NICER) for R&D Program	11	23.4	36	78.6	9	9	20	7	2	2.66	Moderately Aware
Department of Science and Technology- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD)	15	31.9	32	68.1	10	9	15	10	3	2.76	Moderately Aware
Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program	23	48.9	24	51.1	9	9	8	17	4	2.96	Moderately Aware
Advanced Science and Technology Institute (ASTI)	25	53.2	22	46.8	12	6	7	19	3	2.89	Moderately Aware
								Average Weighted Mean		**2.89**	**Moderately Aware**

Legend:1-1.8=Least Aware; 1.81-2.6=Slightly Aware; 2.61-3.4=Moderately Aware; 3.41-4.2= Highly Aware ; 4.21-5= Very Highly Aware

It could be gleaned from the table that most of the respondents know about CHEd-funded research programs as indicated by twenty-nine (29) or 61.7% and Advanced Science and Technology Institute (25 or 53.2%). Seemingly, most of them do not know about Niche Centers in the Regions (NICER) for R&D Programs as indicated by 36 or 78.6% and the Department of Science and Technology- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) with a frequency of 32 or 68.1%. This implies that the exposure to external funding is not so wide and that maybe this is not so much known by the teachers. This can also be attributed to the fact that the research trusts and agendas of these agencies are highly technical and extremely specialized.

Further, the respondents are moderately aware of the external funds that are provided by government agencies as indicated by the overall mean of 2.89. Specifically, they have moderate awareness of CHEd-funded research programs (3.19), Niche Centers in the Regions (NICER) for the R&D Program (2.66), Department of Science and Technology- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (2.76), Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program (2.96) and Advanced Science and Technology Institute (2.89).

The data imply that the Department of Education should strengthen the ties between and among these agencies for their thrusts to be fully known by teachers. Likewise, teachers should develop proposals that are aligned with the agenda of these agencies for the high chance of provision of funds.

The government's Research and Development Institutes (RDIs), non-profit S&T networks, and organizations can get funding from the Department of Science and Technology (DOST) and the DOST-Philippine Council for Industry, Energy, and Emerging Technologies Research and Development. (pcieerd.dost.gov.ph, 2021)

The results of the study of Heyard, et.al (2021) showed that in each of the three years that follow the funding, the funding program makes it possible for more research, equivalent to around one additional paper, to be published and disseminated. The fact that financed researchers have higher citation metrics and alternative measures suggested that influence extends beyond quantity and that funding encourages distribution and quality.

EXTENT OF PRACTICE OF THE RESEARCH CULTURE AMONG TEACHER-RESEARCHERS IN THE PUBLIC SECONDARY SCHOOLS

1. **Knowledge**

Table 8. *Extent of Practice of the Research Culture among Teacher-Researchers in Terms of Knowledge*

No.	Indicators *As a teacher-researcher,* **I SHOULD…**	Extent of Practice					Weig hted Mean	Descriptive Equivalent	Rank
		Frequency							
		1	2	3	4	5			
1	Formulate various research problems and finally coming up with one as a result of fine investigation	0	2	5	34	6	3.94	Highly Practiced	1
2	Think toughness and difficulty in conducting a research study	1	0	2	18	26	4.45	Highly Practiced	2
3	Check the background of the authors and the publication where to have literatures.	0	4	3	18	22	4.23	Highly Practiced	8
4	Illustrate the potential benefits and limitations of research	0	3	3	21	20	4.23	Highly Practiced	8
5	Understand the process of research	0	3	7	14	23	4.21	Highly Practiced	10
6	Make a rough outline of the paper while researching.	0	3	5	16	23	4.26	Highly Practiced	5
7	Distinguish the difference between qualitative and quantitative methods of research	0	0	6	17	24	4.38	Highly Practiced	3
8	Identify the gap in establishing the research problem	0	1	5	19	22	4.32	Highly Practiced	4
9	Consider small details that have an impactful outcome and result in wastage of time, money and effort.	0	1	7	17	22	4.28	Highly Practiced	6
10	Determine the related theory to the present study	0	1	5	23	18	4.23	Highly Practiced	8
	Average Weighted Mean						**4.25**	**Highly Practiced**	

Legend: 1-1.5=Least Practiced; 1.51-2.5=Slightly Practiced; 2.51-3.5=Moderately Practiced; 3.51-4.5= Highly Practiced; 4.51-5= Very Highly Practiced

The table shows that formulating various research problems and finally coming up with one as a result of the fine investigation is highly practiced by the respondents as supported by the mean of 3.94. This implies that the enthusiasm of the teachers to create one credible research problem out of the various proposals is taken into account.

Without guidance, teacher-researchers are unable to produce masterful text. Giving writers the winning concepts is insufficient guidance. They require content planning and annotated study outlines with strengths tied to evaluation criteria (Pafe, 2020)

In like manner, the teacher-researchers highly practiced in thinking toughness and difficulty in conducting a research study (4.45). This is because it is embedded in the minds of the teachers that research is not easy to deal with and needs a lot of mental resources to create one.

Dasgupta (2019) mentioned in his article that there is no denying that research is difficult. There are various causes for this. It must be non-trivial and necessitate thorough investigation. It must be sufficiently open and possess a strong motivation.

The teacher-researchers have assessed the indicator, understand the process of research (4.21) as highly practiced, and are being evaluated as ranked 10. This is attributed to the fact that since research is not only one-directional, but it also has a lot of ways, means, and methods to consider which sometimes can create annoyance and discouragement among teachers.

Before starting to write, it is crucial to comprehend the lucidity of the research process because writing requires order and a logical flow of thoughts. To put it simply, one must consider the literature in its wider context—see the forest before attempting to discern the trees. (University of Nebraska-Lincoln, 2022)

In terms of Skills

Table 9. Extent of Practice of the Research Culture among Teacher-Researchers in Terms of Skills

No.	Indicators *As a teacher-researcher,* **I SHOULD…**	Extent of Practice					Weighted Mean	Descriptive Equivalent	Rank
		Frequency							
		1	2	3	4	5			
1	Possess expertise on statistics	2	2	15	22	6	3.94	Highly Practiced	9
2	Employ flexibility in data collection	0	4	3	18	22	4.23	Highly Practiced	6
3	Analyze information from different sources	0	3	3	21	20	4.23	Highly Practiced	6
4	Learn to use advanced search techniques	0	3	7	14	23	4.21	Highly Practiced	8
5	Update regularly with the latest technology and applications	0	3	5	16	23	4.26	Highly Practiced	4
6	Seize management skills in collecting necessary information from the research plan, resources and funding to continue research	0	0	6	17	24	4.38	Highly Practiced	1
7	Have a high analytical skill to produce strong research results.	0	1	5	19	22	4.32	Highly Practiced	2
8	Have the capability to see research items related to present study	0	1	7	17	22	4.28	Highly Practiced	3
9	Employ self-assessment skills to know the strengths in research.	0	1	5	23	18	4.23	Highly Practiced	6
	Average Weighted Mean						**4.23**	**Highly Practiced**	

Legend:1-1.5=Least Practiced; 1.51-2.5=Slightly Practiced; 2.51-3.5=Moderately Practiced ; 3.51-4.5= Highly Practiced ; 4.51-5= Very Highly Practiced

It could be gleaned from the table that the respondents highly practiced seizing management skills in collecting necessary information from the research plan, resources, and funding to continue research as supported by the mean of 4.38. This implies that the respondents perform a systematic way of doing a research study. From the beginning of a research until it is published, it is critical to streamline the work, plan, and maintain extreme organization. (Hunt, 2019).

On the same line of thought, the respondents have assessed that having a high analytical skill to produce strong research results is highly practiced as indicated by the mean of 4.32. This implies that the respondents do a vigorous investigation and have logical skills in completing their manuscript.

Moreover, the indicator possesses expertise in statistics and is highly practiced as indicated by the mean of 3.94 yet ranks number 9. This indicates that at least the researchers have their knowledge of statistics, but this thing is given to the authority once data is to be treated.

Begum, et, al. (2018) study revealed that the value of statistics is in the organization and simplification of data, which enables some objective estimates demonstrating that an analysis is in control or that a change has taken place. The fact that the outcomes of these statistical techniques are saved and accessible is also crucial. The secret is to accurately evaluate the consequences of the vast amount of data that organizations and enterprises have access to.

Overall, the teacher-researchers highly practiced the research culture in terms of skills as supported by the mean of 4.23. This means that the required skills needed in research activities are intently observed and executed by the respondents.

Cutler, et al (2022) of Monash University revealed that there is a general expectation that teachers will incorporate research into their practice in practically any professional accreditation document or school improvement framework. Moreover, logistical needs and practical conditions that support teachers' development as engaged and capable practitioner researchers should be made available (Al-Ghattami, 2018)

In terms of Attitudes

Table 10. *Extent of Practice of the Research Culture among Teacher-Researchers in Terms of Attitudes*

No.	Indicators *As a teacher-researcher,* **I SHOULD…**	Extent of Practice					Weighted Mean	Descriptive Equivalent	Rank
		Frequency							
		1	2	3	4	5			
1	Show credibility by following the correct process of research	2	2	15	22	6	3.60	Highly Practiced	9
2	Uphold freedom and independence as key norms in research	0	2	7	23	15	4.09	Highly Practiced	6.5
3	Display the value of communalism (common ownership of scientific knowledge)	0	2	10	16	19	4.11	Highly Practiced	4
4	Exhibit objectivity, honesty, openness and accountability	0	0	7	28	12	4.11	Highly Practiced	4
5	Follow the ethical standards and norms in research	0	0	11	25	11	4.00	Highly Practiced	8
6	Promote the values that are essential to collaborative work, such as trust, mutual respect, and fairness	0	0	11	21	15	4.09	Highly Practiced	6.5
7	Build peer and buddy support for research	0	2	13	10	22	4.11	Highly Practiced	4
8	Abide the rules of professional associations' specific codes, rules, and policies	0	2	8	17	20	4.17	Highly Practiced	1.5
9	Refrain from being subjective along the findings of research	0	2	8	17	20	4.17	Highly Practiced	1.5
	Average Weighted Mean						**4.05**	**Highly Practiced**	

Legend:1-1.5=Least Practiced; 1.51-2.5=Slightly Practiced; 2.51-3.5=Moderately Practiced ; 3.51-4.5= Highly Practiced ; 4.51-5= Very Highly Practiced

The table shows that the teacher-researchers highly practiced abiding by the rules of professional associations' specific codes, rules, and policies as supported by the mean of 4.17. This means that they follow the professional ethics of research.

The article made by Gates (2022) entitled, "*What Is Ethics in Research, And Why Is It Important*?" highlighted that Guidelines for conducting research responsibly are part of research ethics. The goal is to prevent the falsification or modification of study findings and to guide and supervise in upholding the highest moral standards.

Also, the respondents highly practiced refraining from being subjective along the findings of research (4.17) This implies that the respondents employ the value of truthfulness and objectivity. Madhu (2021) cited that methods that are impartial, objective, and closest to the scientific truth are used by researchers who seek objectivity in their work and field. Similar to its theoretical predecessors, objective research asserts that it demonstrates reality that is "true" and "right," existing irrespective of the subjects being investigated.

Overall, the respondents highly practiced the research culture among teacher-researchers in terms of attitudes as supported by the average weighted mean of 4.05. This implies that the prevailing norms and ethical procedures and processes of research are stood for by all teacher-researchers in the Division.

Affirming the results of the study, Leuverink's (2021) study focused on how secondary school teachers who are performing teacher research might build a research attitude. This study further looked into the professional growth of teachers who are engaged in teacher research, concentrating on the improvement of their research attitude. They concluded that the teacher-researchers attitudes about research grew over the academic year, although there was no discernible difference from the start of the academic year. By the end of the academic year, the teacher-researchers attitude toward research was noticeably better than that of the control group.

Ahmad, et.al (2021) mentioned that future educators appreciate doing research. A different approach to teaching research methods might be used, which would boost motivation and diminish the negative attitude toward research.

Summary Table on the Extent of Practice of the Research Culture Among Teacher Researchers

Table 11. Summary Table on the Extent of Practice of the Research Culture Among Teacher-Researchers (n=47)

No.	Indicators	Weighted Mean	Descriptive Equivalent

1	Knowledge	4.25	Highly Practiced
2	Skills	4.23	Highly Practiced
3	Attitudes	4.05	Highly Practiced
	4.18		**Highly Practiced**

The table shows that the extent of the practice of the research culture among teacher-researchers is high as evidenced by the means of 4.25, 4.23, and 4.05 for the areas of knowledge, skills, and attitudes.

Overall, the teacher-researchers highly practiced the research culture along with knowledge, skills, and attitudes as supported by the average weighted mean of 4.18. This means that the passion and enthusiasm of the teacher-researchers are thorough as manifested in their high knowledge, skills, and attitudes level toward research.

Goodrich (2021) mentioned in his article that most jobs and professions require some amount of study and research skills. Strong research skills are useful when conducting research. Research skills allow one to concentrate on a certain objective, obtain pertinent data, and explain the results to others. Everyone learns how to conduct research from a young age, and for good reason.

Coinciding with the results of the study, the objective of Khan's (2018) analytical descriptive study was to look into the attitudes of university professors about their research activity. The study's participants were faculty members from Khyber Pakhtunkhwa's public sector general universities. Teachers at the university exhibited favorable attitudes regarding research. Rewards were crucial in raising interest in academic pursuits. Even though a sizable portion of the sample felt that research was stressful, research anxiety did not interfere with the faculty's intellectual activity.

CHALLENGES ENCOUNTERED BY THE TEACHERS IN CONDUCTING THE RESEARCH STUDIES
This part focuses on the challenges encountered by the teacher-researchers in conducting the research studies. These are categorized into various themes which are created from the interview conducted with the respondents.

Theme 1: Difficulty in Floating of Questionnaires and in Gathering of Data
To be able to respond to stated research questions, test hypotheses, and assess results, one must first collect and measure information on targeted variables in a formalized systematic manner. The objective of any data gathering is to gather high-quality evidence, which can then be used in rich data analysis to create answers to questions that have been addressed. (Etherington, 2020)

Lee (2021) mentioned in his article that when gathering data, a lot of things could go wrong and eventually jeopardize the reliability of the conclusions. It is difficult to get responders to participate in studies. In general, all involvement in research is optional. Make sure to maintain anonymity whenever one can; doing so will nearly always improve participation. Limit the duration of qualitative research to 45–60 minutes and survey research to 20–30 minutes. At times, giving out rewards and tokens is taken.

Susan, a Science Teacher, said "*The struggle there is not the data to be gathered but ang ipapakimkim sa mga respondents para mag-set ng appointment at magbigay ng questionnaire.*" This may be considered a challenge to deal with because of the gifts or tokens to be given to the respondents to expedite such transactions.

Also, Ramon heartily mentioned that *"...ang pagpunta sa mga schools ang mahirap especially kapag malay*o". On this end, the distance is given such emphasis. Baby, also a science teacher, revealed that "… *mahirap sapagkat need mo pa na mag-collect at kapag natapos na ilagay pa sa spreadsheet na kumakain ng madaming oras at pagkatapos ibigay sa statistican*" . Doing the spreadsheet is also needed after the retrieval for statistical treatment and analysis.

Given the time to collect through a questionnaire, others claimed that the respondents are not sometimes accommodating and requires the researchers to come back for retrieval noting this response, "…*madam, bumalik na lang po kayo kasi need ko pa po basahin at may klase pa po ako.*" and others would say, "…sa *susunod na lang po na araw kayo bumalik po at may naka-schedule na meeting po."*

These responses would cause such delay in the analysis of data and that is considered a struggle among researchers. This case impedes the continuous flow of the retrieval and analysis.

Kalmar (2020) mentioned in his article that people do not respond, some deceive, and some misremember, making data collection challenging. Due to their erratic nature, uncommon diseases are difficult to collect data on. Keeping financing is difficult, people (and some other animals) leave the study early, and gathering data on astronomical bodies requires telescope time, all of which makes longitudinal data collection challenging.

Similarly, the article by Getsch (2022) stressed that sometimes finding study participants necessitates going through institutions, which could offer difficulties, especially if the research is contentious or sensitive.

Theme 2: Time Allotment
Most teachers find that conducting educational research is one of the most difficult things they must complete, especially since it is additional labor. Bullo's, et. al (2021) study revealed that majority of respondents reported difficulties performing research, including a lack of time, anxiety while writing and executing the study, and a sense that it was an added load. Corina, one of the teacher-researchers mentioned that time is her number one problem because of so much workload given to them she directly said" *We have a lot to perform, madami talaga pero Kailangan ding makatapos ng isang research because at the end of the day, I will benefit from it. Ang pag-manage ng time ang aking*

struggle" . The same plea is also noted from Lady Lee as she unveiled, " *Hindi naman masyadong mahirap kasi po may experience na po ako sa paggawa ng study, subalit ang time lang po talaga ang nagiging problema ko po kasi mahirap ang pag-allot ng oras. May pamilya pa rin po kasi ako*".

One thing that is also given such emphasis is the time to do such research. De Jong, et.al (2019) article emphasized that the timeliness of research is important. To create timeliness of research, interaction between researchers and policymakers must be considered. This is also the case of Grace, who strongly said "I *am very happy because the research that we have proposed has been approved, but it is not easy to devote ourselves to the completion of the research because of some more important matters to attend to."*

Time has an impact on every single item. Whether it's a tulip, a person, or a star, everything ages with time and finally decays. Though the rate of that deterioration can vary, material things eventually degrade and die. In addition, time is the most valuable resource because it cannot be recovered. Money is frequently viewed as a person's most precious resource, and while it is necessary since it enables people to purchase the goods they need and want, money can also be earned. Yet time is a finite resource, and once it's gone, it's gone. (Soken-Huberty, 2020)

Herly, a teacher who has already 7 years in the service, also stated that "*Masaya ang may study because not everyone is given to chance to have it but ang paggawa ay mahirap because of the time to research.*" Indeed, time is a resource that needs to be given such attention because also of the time frame that is being considered in the completion of the study. A year is only given to complete such. Article VI, E of the DO 16, s. 2017 states that the researcher must refund the entire amount of the research funding they were given during the implementation process if they do not finish the proposal.

Theme 3: Too Many Revisions/ No Formal Training
Throughout the interview, Ms. Gomez, a 40-year-old Mathematics teacher, mentioned that "*Though I am already quite some time in the service, it is my first time to conduct a study and luckily we did finish the manuscript, however, I have experienced a series of revisions…*". Also, Jannah, said that "*…muntikan na ako mag give-up kasi po pabalik-balik ang paper po namin, buti na lang, we survived.*"
Correspondingly, Henry also said, "*mahirap kasi po, madami silang mga suggestions na kailangan na i-integrate.*" This means a lot of paper revisions on the part of the researchers. However, despite of all these challenges, they were able to surpass and made to complete their studies. As what Jenny said, "*buti nga po, natapos namin kasi po mahirap ang magpalit at magprint ng paulit-ulit."*

Similarly, Kennedy also mentioned that "*Dapat nagpapaseminar sila for this*" and Karen, a Master Teacher, also said that "*sana maipaliwanag pa nila ng mabuti ang mga provisions ng research guidelines ng DO number 17".* Proper guidance and the right information dissemination are needed so that not only a few can be participants of the research in the Division. Surprisingly, Martha mentioned that " *mahirap makakuha ng slot para makuha ang proposal kasi po sila-sila lang naman ang nag-eevaluate, sana walang bias*" . This denotes fairness in the selection and judgment of who is to be given the chance to go on with the proposed research studies.

Odunze's (2019) paper stressed that one of the biggest problems facing teachers is a lack of scientific training. They lack the necessary skills or education for doing scientific research. Even though many people would have attended a course in research methodology, they frequently struggle to apply their theoretical knowledge of research in the real world. They find research tough when they are not well-versed in all methodological areas because the research methodology used differs from study to study.

The study by Bueno, et al (2019) titled, "*Research Skills and Attitudes of Master Teachers in a Division towards Capability Training*." focused on the Master Teachers' (MTs) skills and attitudes toward research as the basis for research capability building program for MTs in the Schools Division of Zambales. The study found that although respondents apply research findings to real-world contexts only marginally, they significantly appreciate training in educational research. They place a high importance on researching to improve as educators.

Theme 4: Different Guidelines Set by the Division Office.
 "*We have only one guideline, however, it is the interpretation that differs.*" claimed by Jayson, a teacher-researcher in the Division who happened to luckily finish one research study. Gemma, also cited that "*ang maganda sana, kung okey din na ang communication lines ay isa lamang at ang kanilang state of mind at hindi sila nagakakatalo-talo kasi po sa mga coordinators iba ang sinasabi sa gusto din nga nasa taas.*"

Likely, Donald has also mentioned in the interview that "*the Division must select credible personnel because as I can see, some evaluators are also those who also submit proposals"* while Hanna has also uncovered her mind saying that "*the DO no, 17 must be properly discussed per school before the submission of the proposal.*" These would mean inconsistency and variation in the implementation of the research guidelines.

Guidelines are considered informative, rather than prescriptive. They offer assistance to researchers in helping them to determine how to apply the baseline standards set by ordinances and regulations, as well as by wider legal and contractual requirements and ethical norms, to the concrete situations that face them in the everyday practice of research (ac. uk, 2018)

The DO 16, S. 2017 itself hereby establishes the Research Management Guidelines (RMG) to guide in managing research initiatives at the national, regional, school division, and school levels. The policy also improves support mechanisms for research such as funding, partnerships, and capacity building.

SIGNIFICANT MEAN DIFFERENCE IN THE EXTENT OF PRACTICE OF THE RESEARCH CULTURE OF THE RESPONDENTS ACROSS THE PROFILE VARIABLES

Table 12. Difference in the Extent of practice of the research culture of the respondents across the profile variables

Extent of practice of the research culture	Profile Variable	Mean Rank	Kruskal Wallis	Sig.

	Academic Position			
Knowledge	Teacher I, II, III	22.99	2.393ns	0.302ns
	Master Teacher I, II	29.07		
	Principal I	13.50		
Skills	Teacher I, II, III	22.07	3.089ns	.213ns
	Master Teacher I, II	31.64		
	Principal I	21.50		
Attitudes	Teacher I, II, III	22.05b	**6.067***	.048
	Master Teacher I, II	34.00a		
	Principal I	13.50c		
	Years in Teaching			
Knowledge	10 and below	24.40	0.780ns	0.677
	11 to 20	26.25		
	above 20	20.67		
Skills	10 and below	24.65b	**10.668****	0.005
	11 to 20	34.19a		
	above 20	12.78c		
Attitudes	10 and below	24.05	3.492ns	0.175
	11 to 20	30.38		
	above 20	18.17		
	Highest Educational Attainment			
Knowledge	with MA units	26.34	2.228ns	0.526
	Master's Degree	23.85		
	with PhD/EdD/Da units	19.21		
	PhD/EdD/DA Degree	26.39		
Skills	with MA units	28.94	3.844ns	0.279
	Master's Degree	21.90		
	with PhD/EdD/Da units	23.29		
	PhD/EdD/DA Degree	18.50		
Attitudes	with MA units	26.75	3.906ns	0.272
	Master's Degree	27.40		
	with PhD/EdD/Da units	17.75		
	PhD/EdD/DA Degree	23.67		
	Number of Trainings Attended			
Knowledge	None	14.07	5.259ns	0.154
	1 to 4	27.35		
	5 to 9	22.56		
	10 and above	24.29		
Skills	None	28.93a	**8.617***	0.035

	1 to 4	27.92a		
	5 to 9	14.83b		
	10 and above	17.43b		
Attitudes	None	15.36	5.045ns	0.165
	1 to 4	27.56		
	5 to 9	20.94		
	10 and above	24.36		
Number of Research Conducted				
knowledge	1 only	21.48	1.278ns	0.528
	2 to 3	21.69		
	4 to 5	27.50		
Skills	1 only	21.50	2.323ns	0.313
	2 to 3	26.65		
	4 to 5	18.21		
Attitudes	1 only	21.83	0.4ns	0.819
	2 to 3	22.27		
	4 to 5	25.21		

*Significant at 5% level of significance, **significant at 1% level of significance, ns = not significant Mean ranks with the same letter are not significantly different.

The significant difference in the extent of practice of the research culture of the respondents and their profile variables were determined using the **Kruskal-Wallis test**, a non-parametric test for three or more groups of independent samples. As to attitudes and academic position, the computed Kruskal Wallis value is 6.067 with a corresponding significance value of .048 which is lower than the set .05 level of significance. Thus, the null hypothesis is rejected. This means that as to *academic position*, there is a significant difference in the attitudes/values. The Master Teachers have a higher level of attitude compared to the Teachers and Principals.

Affirming the results of the study, the study of Bueno, et al (2019) titled, "Research Skills and Attitudes of Master Teachers in a Division towards Capability Training." focused on the Master Teachers' (MTs) skills and attitudes towards research as the basis for research capability building program for MTs in the Schools Division of Zambales. The study found that although respondents apply research findings to real-world contexts only marginally, they significantly appreciate training in educational research. They place a high importance on researching to improve as educators.

On the profile variable, *number of years in teaching* along skills, the computed Kruskal Wallis value is 10.668, with a corresponding significance value of .005 which is lower than the set .05 level of significance. This means that there is a significant difference in the skills of the respondents based on their number of years in teaching. The teachers who are 11 to 20 years in teaching have higher levels of skills as shown by the values of their mean ranks.

Rivers, et.al (2018) cited in their paper that several jobs benefit from the abilities that more experienced teachers bring that younger one can't match. Although their level of technical expertise is not as high as that of the 20-year-olds, they nonetheless bring a variety of valuable abilities to the table. The output of more experienced employees was **steadier** than that of younger employees. In 12 separate tasks over 100 days, the study contrasted 101 young adults (20–31) with 103 older persons (65–80). They included assessments of working memory, episodic memory, perceptual quickness, and cognitive ability. The more experienced workers were anticipated to perform more inconsistently over time, whereas the younger workers were anticipated to perform more consistently.

Regarding the profile variable *number of trainings attended* along skills, the computed Kruskal Wallis value is 8.617, with a corresponding significance value of .035 which is lower than the set .05 level of significance. This means that there is a significant difference in the skills of the respondents based on the number of trainings attended. The teachers with no or little training have a higher level of skills as shown by the values of their mean ranks.

Perines' (2020) study investigated teacher' opinions on the research training they receive and identified their recommendations for enhancing it. The results demonstrated that the teachers hold a very pessimistic view of the education they receive, particularly in light of the discontinuity of research-related courses and their little involvement in research endeavors. The teachers proposed offering one course every year that is relevant to research and giving educational research that has created more exposure. The study concluded that encouraging engagement in educational research is crucial, and teacher educators need to take a comprehensive approach to the issue.

As to the other profile variables, there is no significant difference in the *extent of the practice of the research culture of the respondents* as shown by the Kruskal Wallis values with corresponding significance values that are higher than the set .05 level of significance.

SIGNIFICANT RELATIONSHIP BETWEEN THE EXTENT OF PRACTICE OF THE RESEARCH CULTURE AND THE SELECTED PROFILE VARIABLES

Table 13. Significant Relationship Between the Extent of Practice of the Research Culture and the Selected Profile Variables

Profile Variables	Extent of Practice of the Research Culture				
	Spearman-rho	Knowledge	Skills	Attitude	Overall Extent of Practice
Academic Position	r-value	-.121	-.066	-.072	-.111
	p-value	.424	.665	.636	.464
Years of Service in Teaching	r-value	-.068	-.269	-.128	-.193
	p-value	.653	.070	.398	.198
Highest Educational Attainment	r-value	-.052	.068	0.151	-.180
	p-value	.732	-.237	-.162	.232
Number of Research Trainings Attended	r-value	.119	**-.395**[**]	.038	-.129
	p-value	.430	**.007**	.801	.392
Number of Research Conducted	r-value	.242	.211	.197	.244
	p-value	.105	.159	.190	.102

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between the profile of researchers along their extent of practice of the research culture was determined using correlation analysis with the **Spearman-rho correlation coefficient**. Results showed that there is a significant negative moderate (bold font) correlation between the profile variable number of research training attended and skills. This is shown by the computed r-value of -.395 and the corresponding p-value (.007) which is lower than the set .05 level of significance.

This means that the higher the number of research training courses attended, the lower the extent of practice along with skills. As to the other profile variables, there is no significant relationship between the extent of research practice along knowledge, skills, and attitudes. This is not the same as the idea that the higher the participation, the more skillful they may be. However, the teachers' participation in training would mean, they would practice the skills thoroughly. Sometimes, because of a lot of concepts gained from training, they would stick to the usual manner they research unless they have an interest in doing so.

Hughes (2019) stressed that information can be conflicting and difficult to separate into helpful and irrelevant information; not all information reflects meaningful knowledge. Also, having too much information might strain the brain and make the knowledge useless. This is because the brain's capacity to store new knowledge is restricted.

DETERMINANTS OF RESEARCH CULTURE IN THE PUBLIC SECONDARY SCHOOLS

Table 14. Determinants of Research Culture in the Public Secondary Schools

Items	Frequency	Percentage	Rank
Researcher's Values and Beliefs	**44**	**93.6**	**1**
Laws and Rules	38	80.9	3
Incentives (Giving of service credits and monetary stipend)	**20**	**42.6**	**11.5**
Treatment of the Staff and other Members	22	46.8	10
Provision of Amenities and Facilities	**20**	**42.6**	**11.5**
Utilizing Technical and Innovative Methods	40	85.1	2
Training and Development Programs. Organization of Seminars, Workshops and other Activities	36	76.6	4.5
Formation of an Amiable Environment within the Research Workplace	32	68.1	7
Economic Conditions (Status of the finances of the school to support research endeavors and services)	31	66.0	8

Legal Ramifications	29	61.7	9
Technology and Resources (Provision of laptops or iPad, and research applications and tools)	36	76.6	4.5
Organizational Policies and Structure (amiable and permissive environment)	34	72.3	6

The table shows that the number one determinant of research culture is the researcher's values and beliefs as indicated by the frequency of 44 or 93.6%. This means that the core values and underlying beliefs matter to the researchers. Their convictions and viewpoints that would depend on their interest are being valued the most in making research studies. Their culture of research is highly associated with their worth and their own justified yet acceptable virtue.

Together with other aspects and the broader research environment of the school organization, the researchers' values and views are seen as being crucial in shaping the research culture. Usually, when researchers develop optimistic attitudes and are committed to carrying out all responsibilities and activities, they share their beliefs and optimistic viewpoints with the other researchers. Efficiency, honesty, consistency, open-mindedness, devotion, loyalty, dependability, dedication, righteousness, and truthfulness are among the most crucial values. These qualities are seen as essential to fostering both a creative and productive research culture as well as the general efficient operation of the research organization. Contrarily, beliefs are the individual researchers' perspectives on particular elements. They are the mental state or behavior of having faith or confidence in someone or something (Belief, 2020). The development and improvement of the research culture are thought to be largely dependent on the presence of values and beliefs.

The utilization of the technical and innovative methods has also been assessed as a determinant in research as revealed by the frequency of 40 or 85.1%. It is at this present time that all of the members of the research school organizations recognize the use of technical and innovative approaches as an essential component in the implementation of research endeavors. Teachers can gain from using these techniques when they are disseminating knowledge about research topics and concepts. The individuals will be able to accomplish the intended aims and objectives when they are appropriately putting into practice other modern, scientific, and inventive approaches, including technology. They will also be able to demonstrate imagination and ingenuity in their research-related duties and activities. Individuals can gain from feeling uneasy before putting these techniques into practice. Also, these techniques will make a substantial contribution to enhancing the research culture. Consequently, it is clear why using technical and creative approaches to carry out tasks is considered to be one of the key internal factors influencing research culture.

As well, the laws and rules are deemed as determinants as revealed by the frequency of 38 or 80.9%. This denotes that laws and regulations are seen as having a substantial impact on preserving discipline, law and order, resources, and the successful implementation of numerous research assignments and activities in educational institutions of all levels and across a variety of organizations. The tasks associated with doing research will be carried out in a well-organized manner when done in compliance with the laws and regulations. The power and duty to create laws and regulations rests with the research managers and authorities. All of the members must be made aware of them for them to

follow them and perform successfully during their tasks and activities. For instance, when people utilize technology, they need to make sure that they use it effectively. The creation of laws and regulations is seen as being crucial in creating structured research working environment and culture. As a result, it is clear that laws and regulations determine research culture and play an important role in creating a conducive climate for doing research.

Other determinants are the following which are arranged in descending frequencies and means. Technology and Resources (Provision of laptops or iPads, and research applications and tools) (36 or 76.6%), Organizational Policies and Structure (amiable and permissive environment) (34 or 72.3%), Formation of an Amiable Environment within the Research Workplace (32 or 68.1%), Economic Conditions (Status of the finances of the school to support research endeavors and services) (31 or 66%) and Legal Ramifications (29 or 61.7%).

Moreover, the treatment of the staff and other members (22 or 46.8%) has been noted as rank number 10. It is widely acknowledged that teachers cannot perform their research job obligations alone. They must communicate with others, whether orally or in writing, and get assistance and support to find answers to various research issues and obstacles. Effective communication is required among all team members, whether it be between coworkers or between bosses and subordinates. They must be kind and respectful to one another. Also, there must be no sort of discrimination among any of the research organization's members and all members must be given equal rights and opportunities. Thus, it is understood that when the staff and other members are treated appropriately, they will be able to grow in understanding of one another and cooperate and integrate at work. They will be able to effectively contribute to the production of desired output and this will also result in an improvement of the research culture. Therefore, one of the key internal factors influencing research culture is how staff and other members are treated.

Further, incentives can be also a determinant for effective research culture (20 or 42.6%). Incentives are thought to be effective and valuable in raising employee morale and maintaining one's living circumstances satisfactorily. In such circumstances, individuals are resistant that they would execute their job responsibilities to the best of their abilities. But, when individuals receive rewards for their hard work, they tend to feel content with their jobs and effectively help maintain dedication. Financial rewards, safety rewards, health and - promotion, mental health resources, provision of leisure and recreational activities, additional opportunities to advance their skill sets and improve their career prospects, and other types of incentives are provided to the researchers. Incentives are seen to be important factors that improve the culture of research. As a result, one might accept that incentives are the internal determinants of research culture and are valuable for boosting career chances and developing one's research capacity.

Lastly, the provision of amenities and facilities has been assessed as a determinant though ranked as one of the least having a frequency of 20 or 42.6%. The provision of amenities and facilities is viewed as crucial in leading to the establishment of a

comfortable research working environment. The components that would satisfactorily contribute to the construction of a favorable environment must be the focus of attention if one is to carry out one's job tasks and responsibilities appropriately and attain the intended research vision, goals, and objectives. Clean drinking water, bathrooms, etc. are included in amenities and facilities. The members will feel more at ease and be better able to focus on their research job responsibilities when these facilities are present in the research working environment.

Conclusions

1. Most of the respondents are Teacher-III, have 6-10 years in service, with MA units, had several international, national, regional, and local training courses attended, and completed one research study. Moreover, the teacher-researchers have adequate research physical properties and highly proficient human resources, highly familiar with the research agenda and policies as well as on the internal and external research funding supports.

2. The respondents have a high level of knowledge, skills, and attitudes on research culture.

3. The difficulty in floating questionnaires to gather the data is time allotment. too many revisions/ no formal training and the inconsistent guidelines set by the Division Office served as the challenges faced by the teacher-researchers.

4. Kruskal Wallis test proved that academic position has a difference on the attitudes/values of teacher-researchers. The same with the skills of the respondents based on their number of years in teaching and the number of training attended.

5. The research training attended is correlated with the extent of practice along with skills.

6. The values and beliefs, laws and rules, and the technical and innovative methods are considered the highest determinants of research culture among teachers- and researchers.

7. The proposed enhancement program is deemed relevant to the improvement of the research culture in the public secondary schools in the Division of Pangasinan II.

Recommendations

1. The professional status of the respondents is quite satisfying yet needs to be progressed. Their educational attainment should be considered and their academic rank as well. A slight piece of advice on more active participation in research training to elicit more confidence in completing research studies. Their physical resources, human resources, and other matters like research funding should be thought well of to further their research capabilities that will lead to the enhancement of their educational careers.

2. Though the respondents have a high level of practice in skills, attitudes, and knowledge, there is still room for a higher level. Devote themselves to doing worthwhile research and be contributors to the progress of the community through their completed research studies. Have a tie-up with agencies, and other NGOs who sponsor research funding.

3. Challenges in research are inevitable, However, if there is a will, devotion, resilience, and commitment, a research study, with no doubt, will be completed.

4. The academic rank of teacher-researchers has a difference in their attitudes/values. Therefore, to be more passionate about research, one is advised to pursue higher education. Establish linkages, affiliate with credible research organizations, and pursue graduate studies.

5. The skills are associated with attendance at research training. It is somehow very crucial to participate in training and join workshops and seminars to be able to develop more of the skills needed in research. The determinants of research culture are significant to note especially the values and beliefs because these served as the core of the respondents which affect their drive to compete in research studies.

6. The laws and rules are also considered because these entail guidance and support for more concise and relevant research methods and processes. Therefore, establish a strong background along these to be able to create a productive school research culture in the Division of Pangasinan II.

7. The proposed enhancement program may be considered by the DepEd Division of Pangasinan II to improve its current research culture.

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