The International Review of Multidisciplinary Research
Volume 1, Issue 4, April 2026, pp. 85-96
https://doi.org/10.5281/zenodo.19499820

Research training needs analysis of the University of Baguio support staff

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Article Details:

Received: 2 April 2026
Revised: 3 April 2026
Accepted: 6 April 2026
Published: 11 April 2026
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Recommended Citation:

Gabriel, NC. R., Celi, OR. C., Paca-Darimbang, S. A. (2026). Research training needs analysis of the University of Baguio support staff. The International Review of Multidisciplinary Research. 1 (4), 85-96.
https://doi.org/10.5281/zenodo.19499820

Index Terms:

research training needs assessment, mentorship, educational level, research phase

Abstract. Support staff in higher education institutions play a critical yet frequently overlooked role in advancing academic research. This study examined the research training needs of the University of Baguio's non-teaching personnel to identify competency gaps and inform the development of a targeted, institution-based research training program aligned with accreditation and internationalization demands. Using a concurrent triangulation mixed-method design, 99 support staff respondents drawn from various university offices and schools participated in the study. A structured Likert-scale questionnaire measuring perceived research capability and extent of training needs across five research phases — conceptualization, design, empirical, analytical, and dissemination — was administered via Google Forms and supplemented by open-ended qualitative responses analyzed through thematic analysis. Findings revealed that the majority of respondents hold college degrees (81.8%), with research engagement positively correlated with educational attainment. Overall, support staff rated themselves as generally capable across research phases (M = 2.68 ± 0.61); however, specific areas such as statistical tools (M = 2.45), use of appropriate research instruments (M = 2.40), and research publication (M = 2.48) reflected weaker competencies. Correspondingly, training need was consistently rated high across all phases (overall M = 3.14 ± 0.68), with the dissemination (M = 3.19) and conceptualization phases (M = 3.17) registering the greatest demand. Qualitative themes further highlighted the need for mentorship programs, continuous skills development, and institutional process improvements. These findings underscore the urgency of structured, institution-led research training for non-teaching staff. Universities are encouraged to establish mentorship programs, conduct regular needs assessments, and provide flexible, self-paced training to bridge research competency gaps and foster a stronger institutional research culture.

Introduction

In the fast-paced atmosphere of educational institutions, the spotlight normally shone brightly on educators and learners. The non-academic staff perform mainly administrative as well as technical duties and occupies important offices in the university environment (Ogunode et al., 2023). As universities envision and gear toward globalization, research has always been part of the criteria for the internationalization and accreditation of the programs (Paddit et.al., 2022). Although much emphasis has been focused on equipping academic and professional researchers with significant competencies, support staff employees, who play a vital part in assisting the research process, often go unnoticed.

Non-teaching staff play a vital role in the academic environment because they are on the technical and support side of the educational institution (Antiado et al., 2020). They are considered as the backbone of educational institutions with roles ranging from administration and healthcare to support services (Ogunode et al., 2023). In addition, Mahmud et al. (2019)

stated that training programs in developing countries become unsuccessful in bringing the desired outcomes because the organization failed to identify the training needs of their employees. Therefore, it underscores the importance of conducting thorough needs assessments and designing training programs that are tailored to the specific requirements of the workforce. According to Ogunode et al. (2023), capacity-building programmes help the staff to improve their skills and knowledge. The implementation of a research-related capacity-building program is crucial for institutions as it enhances the productivity of staff and refines their skills, thereby facilitating the attainment of institutional objectives with greater efficiency

At the University of Baguio, the need for university staff to conduct research has been greatly emphasized during accreditation. It is one of the indicators of staff's professional competence and skills. CHED CMO-52-s-2016 declared that a university is not only a generator of knowledge, an educator of young minds, and a transmitter of culture but also a major agent of economic growth, a research laboratory, and a mechanism through which the nation builds its human capital to enable it to participate in the global economy actively. Training needs are identified scientifically to help the training program planners design effective programs that will help achieve realistic and well-defined objectives (Florian and Hegarty, 2004). Haesner et al. (2015) point out that identifying professional needs is essential for any successful training process. Training needs represent the primary element in a successful training program. Training needs assessment is an ongoing practice of gathering data to define what training needs exist so that training programs for researchers can help the institution achieve its objectives (Brown,2002).

The importance of training needs analysis for support personnel in higher education institutions (HEIs) has received more attention in academic literature. As universities work to fulfill the demands of globalization and accreditation, the importance of non-academic workers in enabling research processes is becoming more widely recognized. Research Training Needs Assessment is crucial for identifying gaps and areas for improvement within an organization. Various studies have explored different facets of this topic. For instance, Palmares and Panizal (2023) contributed to the field with their study on the assessment of research training needs, which provided input for a research development plan. This work underscores the impact of research training on overall staff development. Although the focus is on teaching staff, the principles and insights can be extended to non-teaching staff to enhance their professional growth. Another study by Sicat et al. (2020), explores faculty training needs in research. The findings from this research provide valuable insights into the implementation and outcomes of research training programs. By applying these findings, organizations can develop effective training programs for non-teaching staff, ensuring that they are well-equipped to support research initiatives. The Commission on Higher Education (CHED) issued CMO No. 52, Series of 2016, titled "Pathways to Equity, Relevance, and Advancement in Research, Innovation, and Extension in Philippine Higher Education." This memorandum order provides a comprehensive policy framework and guidelines aimed at enhancing research, innovation, and extension activities in higher education institutions. It emphasizes the need for training programs that support both teaching and non-teaching staff in their professional development. This assertion is supported by Paddit et al. (2022), who discuss the role of research in the internationalization and accreditation of academic programs, further reinforcing the need for well-trained support staff in the research process.

Developing research capability among non-academic staff involves a comprehensive approach that integrates knowledge, skills, and attitudes. Pommarang and Phusee-orn (2023) conducted a comprehensive study aimed at developing a model to enhance research competencies - encompassing knowledge, skills, and attitudes—among non-academic staff in higher education institutions in Northeast Thailand." Tailored interventions based on thorough needs analysis can significantly improve research-related capacities, contributing to the empowerment of non-academic staff and the advancement of higher education institutions (Pommarang & Phusee-orn, 2023). Anane (2022) conducted a qualitative inquiry into the participation of non-teaching staff in training and development programs. The study revealed that while such staff members do attend workshops, the frequency is insufficient to ensure continuous competency upgrading. Participants acknowledged the benefits of these programs in enhancing service delivery but highlighted the need for more regular and comprehensive training opportunities. The study recommends training and development programs for non-teaching staff to help them upgrade their knowledge and skills.

Training programs and mentorship are essential approaches that enable non-academic staff to learn from experienced researchers. Studies have shown that Mentorship plays a pivotal role in developing research competencies, particularly through the transfer of creativity from mentors to protégés. Moreover, Creswell and Poth (2016) emphasize the importance of mentorship in qualitative research design. Their work underscores that effective mentorship guides in choosing appropriate research approaches, developing research questions, and navigating ethical considerations. Such mentorship is crucial for non-teaching staff who may lack formal research training, as it builds confidence and competence in conducting research projects. Wang and Shibayama (2022) examined how mentor creativity and mentoring styles influence

protégé creativity. Their study, focusing on formal PhD supervision in life sciences, revealed that mentor creativity positively affects protégé creativity, especially when protégés experience high levels of autonomy and exploration during their training. Notably, this effect becomes significant after mentees advance to faculty positions, leading to sustained academic growth and innovation.

Several studies agree that research collaboration is important to higher education in improving its processes and enhancing the skills of its academic staff. Collaborative research within offices and other institutions plays a vital role in exchanging brilliant ideas that produce quality research. The study of Ravasi et al. (2024) reveals that research collaboration allows researchers to learn and access the skills and resources from more adept researchers. Significantly, this also addresses the skill gaps among novice researchers, promoting their development and improving their contribution to the research community. In addition, Gilmour (2023) highlights potential barriers that academic staff may encounter in research collaborations. Among these barriers is the unfamiliarity of the academic staff with research and funding processes. Gilmour's (2023) study found that "lack of knowledge and communication around research funding and processes" frustrates the academic staff, who welcome a series of training to make them feel engaged and valued as researchers.

This study is anchored on three (3) relevant theories: Self-Determination Theory, Self-efficacy theory, and Human Capital Theory.

Self-Determination Theory by Deci and Richard Ryan (1985)

This theory suggests that people tend to be driven by a need to grow and gain fulfillment, including work organizations and other aspects of life. SDT suggests that fostering workplace conditions where employees feel supported in their autonomy is not only an appropriate end in itself but will lead to more employee satisfaction and thriving, as well as collateral benefits for organizational effectiveness (Deci et al., 2017).

Self-efficacy Theory

As articulated by Bandura and Locke (2015), this theory influences not only the choices individuals make but also their level of effort, persistence, and resilience in the face of challenges. The belief in one's ability to succeed in specific tasks significantly influences motivation, learning, and performance outcomes. When individuals possess high self-efficacy, they are more likely to engage actively in training programs, persist through challenges, and apply newly acquired skills effectively in their work environments. By anchoring the study in Self-efficacy Theory, we can examine how varying levels of self-efficacy among employees impact their training needs and preferences, as well as their overall engagement in the learning process. This framework not only highlights the importance of fostering self-efficacy to enhance training effectiveness but also provides insights into tailoring training programs that build confidence and competence, ultimately leading to improved organizational performance and employee satisfaction.

Human Capital Theory

As proposed by Gary Becker, this provides a foundational perspective for the theoretical and conceptual framework of this study on Training Needs Assessment (TNA). Becker (1993) emphasizes that investments in education and training enhance an individual's skills and knowledge, thereby increasing their productivity and economic value. In the context of TNA, this theory underscores the importance of systematically identifying the skills gaps within an organization and recognizing training as a vital investment in human capital. By assessing employees' current competencies against the skills required for optimal performance, organizations can tailor training programs that not only enhance individual capabilities but also contribute to overall organizational effectiveness. Becker's work highlights that organizations that prioritize the development of their workforce through targeted training initiatives are more likely to achieve competitive advantages and foster a culture of continuous improvement. This alignment of training with organizational goals ultimately leads to a more skilled and adaptable workforce, capable of meeting the challenges of a dynamic business environment (Becker, 1993).

The importance of implementing research training to support the staff of an institution plays a vital role in their professional development. While the support staff serves as the institution's arm in the administrative tasks, it is imperative to consider that providing them with research-related training will allow them to increase their engagement in research. Training will provide opportunities for employees to be able to develop skills and abilities at work and to increase knowledge so that employees can understand and master what must be done and why it should be done, what should be done, and how to do it (Sugiarti, 2022). This study will contribute to the institution's core value, which is committed to nurturing excellent professionals, and is also aligned with the UN Sustainable Development Goal, specifically in promoting a sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

The research aims to identify the research training needs of the University of Baguio's support staff. Specifically, it seeks to answer the following specific problems:

1. To assess the extent of the research capability and training needs of support staff, along with the following research competencies:
    a. Conceptualizing Areas for Research;
    b. Research Report Writing;
    c. Statistical Analysis;
    d. Research Publication;
    e. Literature Search;

To develop a research training development plan for the support staff based on the results of the study.

Methodology

The study used a concurrent triangulation mixed-method approach, integrating both quantitative and qualitative data to comprehensively assess the Research training needs analysis of the University of Baguio support staff. The quantitative component followed a descriptive survey research design, utilizing a structured questionnaire with Likert-scale items to measure The Extent of Research Capability and The Extent of Training Needs. The survey was distributed via email, and respondents voluntarily participated by completing the questionnaire through Google Forms. Data was analyzed using descriptive statistics, specifically mean and standard deviation, to summarize respondents' perceptions and identify trends in their research training needs.

To strengthen the validity of the findings, this study employed data triangulation, where the quantitative results establish general trends, while the qualitative data provide explanations for these patterns. By integrating both methods, the study ensures a more holistic and nuanced understanding of research training needs.

Population and Locale of the Study

All support staff hired in the 1st Semester of SY 2022-2023 onwards from the different schools and offices, and willing to participate in the study, were included as respondents in the study.

Data Gathering Tool/s

The study utilized an adapted questionnaire from Research Training Needs Analysis of the University of Baguio by Paddit et al. (2022) as the primary data-gathering instrument. The survey was disseminated via email, and respondents voluntarily participated by completing the questionnaire through Google Forms.

For the qualitative data, the questionnaire included open-ended questions where respondents provided suggestions and recommendations regarding research training. These responses, which formed part of the questionnaire uploaded via Google Forms, were collected and analyzed using thematic analysis.

Data Gathering Procedure

Data was collected via Google survey form with the permission of the Director of UB-RIECO (University of Baguio -Research Innovation Extension and Community Outreach), UB-VPAA (University of Baguio - Vice President for Academic Affairs, and UB- VPA(University of Baguio-Vice President for Administration) in coordination with UB-HMRC(University of Baguio-Human Resource Management Center) for the list of the employees and their email addresses for the Google Form link to be sent to them. The researchers also sought the assistance of the Office of Management Information Systems (MIS) to send the Google survey form through an email blast to the participants of the study.

Treatment of Data

This study used descriptive statistics to treat the data that answer the specific objectives, to wit:

1. This study employed frequency and percentage distribution to determine the demographic profile of support staff at the University of Baguio, specifically on educational attainment and employment status; and
2. This study employed descriptive statistics, computing the mean and standard deviation of the data to assess the extent of the research capability and training needs of support staff, along with the research competencies.

Furthermore, based on the Likert scale responses, the following statistical limits and verbal interpretation tables were used in interpreting the weighted means. The output of this study will be presented to the academic and administrative councils for policy-making and the creation of employee development programs and research. The output will also be published in the university research journal or international publications.

	Scale value	Verbal interpretation	Description
4	3.26-4.00	Very Capable / Strongly Needed	The respondent is very able to perform / strongly needed the identified research phase
3	2.51-3.25	Capable / Needed	The respondent is able to perform/need the identified research phase
2	1.76-2.50	Slightly Capable / Slightly Needed	The respondent is slightly able to perform / slightly needs the identified research phase
1	1.00-1.75	Not Capable / Not Needed	The respondent is not able to perform/does not need the identified research phase.

Table 1. Distribution of Likert Scale Ratings

The qualitative component of the study followed a thematic analysis approach, focusing on the open-ended responses collected from the questionnaire. These responses were analyzed to extract meaningful themes that reflect participants' deeper insights, concerns, and suggestions regarding research training. Total enumeration was applied to identify and include respondents who provided substantial comments. Content analysis was used to analyze the suggestions of the respondents. This qualitative analysis aims to provide context for the quantitative findings, offering a richer understanding of participants' experiences, motivations, and challenges in engaging with research.

Ethical Considerations

Ethical considerations were complied with by ensuring that the respondents were made aware of the objectives and extent of their participation. Informed consent was also included as part of the preliminary statements, and instructions were also provided before they started answering the questions. In compliance with the Data Privacy Act of 2012 (Republic Act No. 10173), all collected data was handled with the highest level of confidentiality. Personal identifiers were excluded to protect respondents' anonymity, and responses were used solely for research purposes. The Google Form used in data collection also explicitly stated that participants could discontinue at any time if they chose not to proceed.

The findings of this study were communicated to key stakeholders through various means to ensure that the insights gained can be effectively utilized. The dissemination plan includes:

- Academic Conferences: The research will be submitted for presentation at institutional and regional research colloquia, to engage with scholars and practitioners who can provide further insights.
- Institutional Presentation: Results will be shared with University Administrators, IRC, and Research Department Heads to inform training program development based on identified research training needs

Results and Discussion

This section aims to assess the research capability and the extent of the need for training, providing a foundation for the development of tailored training programs. By addressing skill gaps and enhancing research competencies, researchers can improve the quality of their work, foster innovation, and contribute to advancing knowledge in their respective fields.

The Extent of Research Capability

The extent of research capability among non-teaching personnel refers to their ability to conduct, support, and apply research effectively within their professional contexts (See Appendix A for Table 2)

Conceptualization Phase

The Conceptualization Phase is a critical stage in the research process, serving as the foundation upon which the entire study is built. This phase serves as a guide and ballast to research (Ravitch & Riggan, 2016) that involves several key activities, including topic identification, literature review, formulation of research objectives, hypothesis development, and framework development. Each of these components plays a vital role in shaping the direction and focus of the research, ensuring that it addresses relevant questions and contributes to the existing body of knowledge.

Table 2 indicates that the mean score for participants in this phase is (2.68 ± 0.65), reflecting a general sense of capability regarding their skills in managing tasks related to conceptualization. A detailed analysis shows that competencies such as topic identification (2.77 ± 0.71) and conducting literature reviews (2.78 ± 0.71) received relatively high ratings. However, the score for framework development was significantly lower (2.54 ± 0.70). This disparity implies that, although participants demonstrate confidence in identifying research topics and reviewing literature, there is a struggle in establishing a robust theoretical framework that effectively guides their research. This supports the claim of Ngulube (2018), who states that many researchers encounter difficulties in distinguishing between and using a conceptual framework and a theoretical framework as research tools, which can lead to confusion and misapplication in research design. There are research topics that involve complex and ambiguous concepts, which makes it difficult to develop a clear and appropriate conceptual framework. This supports the claim of Shikalepo (2020), which emphasizes the importance of a well-defined conceptual framework, arguing that it serves as a blueprint for the entire research process. A conceptual framework not only clarifies the relationships between variables but also guides the selection of research methods and the interpretation of findings.

Design Phase

The design phase is foundational to the success of any research project. Each component, from research design identification to ethical considerations, plays a vital role in shaping the study's methodology. The results reveal that the overall competency in the design phase is rated as "Capable" (2.58± 0.60), indicating that researchers generally feel capable in this area, although there are specific components where they feel less confident, particularly in the use of appropriate research instruments (2.40± 0.64) and the application of statistical tools (2.45± 0.70) were rated as "Slightly Capable,", this suggests that while support staff possess foundational skills, there is a need for targeted training in specific areas to enhance their overall research capabilities. Researchers often struggle with operationalizing abstract concepts into measurable variables. This requires a deep understanding of the literature and the ability to translate theoretical constructs into empirical measures (Kumar et al., 2023).

Also, many researchers lack the necessary statistical expertise, which results in errors in study design, sample size estimation, and data analysis. This can lead to unreliable results and flaws (Kumar et al., 2023; Ali et al., 2016). The increasing complexity of statistical models and the availability of various computational tools can overwhelm researchers. This complexity requires careful selection and application of appropriate models to ensure valid inferences (Ahmed, 2020).

Empirical Phase

In the context of research, the empirical phase serves as an essential stage, allowing researchers to systematically collect and analyze data, which is essential for deriving conclusions and making informed decisions. Table 4 presents an evaluation of various data gathering procedures used and a detailed overview of the Empirical Phase of research training needs analysis, highlighting specific components, their perceived capabilities, and areas where researchers feel confident.

Each of the components received a mean score ranging from 2.80 to 3.00, indicating that researchers feel competent in their ability to effectively gather data through various methods. The findings suggest that researchers are well-prepared in various data collection methods, particularly in the administration of questionnaires (3.00 ± 0.76), which is essential for gathering quantitative data. This analysis is crucial for informing future training programs aimed at enhancing the research capabilities of university support staff, ensuring that they can effectively contribute to the research process. Overall, these studies support the notion that the empirical phase is crucial for effective research, as it allows for a multifaceted approach to data collection. The integration of various methodologies—questionnaires, interviews, focus groups, and observations—can lead to a more comprehensive understanding of research questions, ultimately enhancing the robustness of the findings (Brown & Green, 2023).

Analytical Phase

The research capability of non-teaching staff, particularly in data analysis, interpretation, conclusion writing, and recommendations, is generally perceived as capable but with room for improvement. The sub-mean score of 2.70 indicates a moderate level of capability across these areas, suggesting that while educators possess foundational skills, they face challenges that hinder their full potential.

The Extent of Need for Training

It is crucial for anyone involved in research activities to understand the type of training needed. The scope of training requirements allows a person to determine which areas require additional attention to increase skills and knowledge. Whether it's identifying the best technique to acquire data, conduct interviews, or build research frameworks, knowing these requirements ensures that researchers are well-prepared and capable of providing high-quality research work.

Table 3 *(See Appendix B)* provides a detailed analysis of the training requirements across various activities from Conceptualization to the Dissemination Phase of research. This table presents the mean scores and standard deviations for each activity, which collectively highlight the areas where training is most needed. By evaluating these statistical measures, the table offers a clear indication of the consistency and variability in respondents' perceptions, helping to identify specific areas that require more focus and resources to enhance research skills and capabilities. The insights from this table are essential for designing targeted training programs that address the identified gaps effectively.

Table 3 *(See Appendix B)* illustrates the extent of training needs across various phases of research, with sub-mean scores ranging from 3.03 to 3.19, all indicating a clear need for training. The overall sub-mean score of 3.14 ± 0.68 indicates a consistent need for training across all phases. Recent studies support these findings. "Managing Professional Development Activities for Non-teaching Staff: For Professional Growth" emphasizes that non-teaching staff play a crucial role in academic environments and need proper training to support faculty and institutional goals effectively.

Conceptualization Phase

The statistical interpretation of the training needs in the conceptualization phase highlights a consistent recognition of a moderate to high need for training across all evaluated activities. The mean scores, ranging from 3.11 to 3.23, reflect that respondents generally perceive all listed activities as areas requiring further training. Framework development and hypothesis development have the highest mean scores, 3.23 ±.81 and 3.21 ±.79, respectively, pointing to a greater consensus on the need for training in these areas. Overall, the sub-mean of 3.17 ±.75 consolidates the findings, underlining a consistent overall need for training with relatively little deviation from the average.

The difficulty of combining current ideas and models into a logical framework that successfully directs the research process is one of the main causes of researchers' struggle in the conceptualization phase. Many researchers find it daunting to navigate the vast array of theoretical perspectives available, leading to confusion over which theories are most applicable to their specific research questions (Kelly, 2010). Furthermore, a lack of clarity on the expression and use of theoretical frameworks can lead to a shallow approach to theory, in which researchers just make reference to available frameworks without incorporating them into their work in an essential manner (Collins and Stockton, 2018). As highlighted by Lysaght (2011), the theoretical framework is the backbone of a research study as it sheds light on the research problem and methodology of the study. He further added that without proper training in identifying concepts as well as choosing the right theories and how their research fits within existing theories, researchers may struggle to create a strong framework for their research study. Bansal and Tripathi (2017) also discuss the importance of TNA in creating precise training interventions, crucial during the conceptualization phase to ensure researchers are well-equipped to formulate objectives, develop hypotheses, and create robust frameworks

Design Phase

The analysis of the extent of training needs in the design phase reveals that all categories are rated as "needed," with a sub-mean of 3.16 ± 0.74, indicating a significant demand for training across various aspects of research design. The sub-mean score of 3.16 reinforces the notion that there is a pervasive gap in the competencies required for effective research practices among non-teaching personnel, which is echoed by Anane's recommendation for regular training programs to enhance knowledge and skills in this demographic (Anane, 2022). The highest scores are observed in research design identification (3.23 ± 0.81) and statistical tools (3.23 ± 0.71), which reflect the necessity for researchers to be proficient in these methods to draw valid conclusions from their studies, as respondents mentioned "Different types of research designs and how to articulate it in a research process." This result is supported by the study of Albakina (2024), who contends that researchers

face challenges in navigating the complexities of different research designs that lead to confusion and misalignment between their theoretical framework and methodological approach. A study highlighted that a significant portion of researchers expressed concerns about their ability to perform proper statistical analyses, which is crucial for drawing meaningful conclusions from their data (Chirukandath et al., 2024). Moreover, the lack of knowledge of statistical techniques and data analysis could compromise the validity of the research findings. This suggests that while support staff possess foundational skills, there is a need for targeted training in specific areas to enhance their overall research capabilities.

Empirical Phase

The 3rd phase of the research process is the empirical phase, which focuses on data collection and the subsequent preparation of the data for analysis. Each item in the Empirical Phase received scores that reflect varying degrees of necessity, with the highest score observed in the observation method (3.12 ± 0.75) and the lowest in the administration of the questionnaire (2.91 ± 0.82). This suggests that all methods are recognized as important. The need for training in these data-gathering methods is corroborated by recent literature.

A study by Creswell and Poth (2020) emphasizes the importance of employing diverse data collection methods to enrich research findings and ensure comprehensive data analysis. Also, O'Leary (2021) highlights that effective data gathering techniques, including interviews and focus group discussions, are essential for capturing nuanced perspectives and fostering deeper understanding. While these studies shed light on the importance of the utilization of different methods, researchers face challenges that are sometimes overlooked. Studies revealed that researchers face challenges when it comes to data collection. Hernandez et al. (2023), as cited by Cabrera (2023), stated that researchers find it difficult to navigate different logistical concerns, such as choosing their participants, access to necessary resources, and adherence to ethical guidelines. For example, researchers have a hard time acquiring informed consent from the participants because it needs clear communication and understanding of ethical considerations, which may not be fully implemented by novice researchers.

The sub-mean score of (3.03 ± 0.71) in the empirical phase indicates a consensus among respondents that training is "needed" in this area. According to Paddit et al. (2022), identifying specific training needs in higher educational institutions, including empirical research methods, enhances research capabilities. This aligns with Garavan et al. (2020), who emphasize the importance of training needs analysis (TNA) in designing effective training programs, addressing distinct skill gaps, and boosting research efficacy. These insights collectively reinforce the importance of addressing training needs in the empirical phase to elevate research quality, outcomes, and addressing these gaps could lead to improved research practices and outcomes.

Analytical Phase

The 4th phase involves several key activities, including data analysis, interpretation of the data, and formulation of conclusions and recommendations.

Table 3 *(See Appendix B)* reveals that respondents consistently identified all aspects of the Analytical Phase as "Needed," with a sub-mean rating of 3.14 ± 0.74, highlighting the importance of enhancing skills in this area. Data Analysis received the highest mean score (3.22 ± 0.78), suggesting a stronger recognition of its importance, but also variability in responses. Interpretation of the data (3.17 ± 0.78), writing the conclusion (3.09 ± 0.77), and writing the recommendations (3.09 ± 0.77) were also identified as essential skills, each with a standard deviation of 0.77, showing similar levels of agreement.

Proper training in these tasks is crucial because it helps researchers accurately handle data, interpret it correctly, and communicate their findings effectively. By having the right training, researchers can improve the quality of their work and provide valuable insights that can help in making informed decisions.

Dissemination Phase

The dissemination phase of research is the critical stage where the findings and insights from the research process are shared with the broader academic community and the public. This phase involves two key activities: research presentation and research publication. Both research presentation 3.14 ± 0.76 and publication (3.24 ± 0.76) are deemed necessary, with a sub-mean of 3.19 ± 0.72, further confirming the importance of the Dissemination Phase. Marín-González, (2017) pointed out that dissemination was an essential component of the project to achieve the purpose of fostering policy change based on research findings. Further, Marín-González (2017) mentioned in their study that dissemination and communication of research should be considered as an integral part of any research project. Both help in increasing the visibility of research outputs, public engagement in science and innovation, and confidence of society in research.

The findings of this study underscore the importance of enhancing the research capabilities of university support staff, who predominantly hold college degrees but exhibit limited engagement in research activities. Despite feeling generally capable in various research phases, specific areas such as framework development and the use of appropriate research instruments highlight significant skill gaps that need to be addressed. Therefore, targeted training and professional development initiatives are essential to empower support staff, enabling them to contribute more effectively to academic research and fostering a stronger research culture within the institution.

Table 4 *(See Appendix C)* presents the cross-referencing of Tables 5 and 6. While the data shows that researchers are capable of crafting research from conceptualization to dissemination, there are still major gaps that need to be addressed in order to produce effective and efficient researchers in the University. Despite feeling generally capable in various research phases, specific areas such as framework development and the use of appropriate research instruments highlight significant skill gaps that need to be addressed. Activities like identification of research design and selection of appropriate tools are necessary to execute effective research. Conceptualization requires bolstered skills in framework development (3.23) and hypothesis formulation (3.21). Design exhibits weaknesses in statistical tools (2.45) and research instrument utilization (2.40), despite high training demand (3.23 & 3.20, respectively). While researchers feel competent in empirical data collection (2.88 ± 0.70), improvement is sought in focus group discussions (3.07). Analytical skills need strengthening in data analysis (3.22) and interpretation (3.17).

On the other hand, one highlight of this result is that the dissemination phase garnered a relatively high result among other phases. With a mean score of 3.19, this indicates that researchers need guidance concerning effective dissemination. The findings of research need to be widely and properly disseminated to realize the benefits that it can offer (Assey and Msoka, 2019). Therefore, targeted training and professional development initiatives are needed to empower support staff, enabling them to contribute more effectively to academic research and fostering a stronger research culture within the institution.

Recommendation(s) to help become a researcher or a better researcher

The responses of the respondents were categorized into 3 themes:

Support and Mentorship in Research

A major theme that emerges from the responses is the need for mentorship, guidance, and collaboration in the research process. Many participants stress the importance of having a mentor or joining a mentor-mentee program, as well as receiving immediate feedback from supervisors or experienced researchers ("Mentor/Mentee approach"; "Mentor-mentee program with professionals in the workplace"; "immediate feedback from the reviewers"). This aligns with research showing that effective mentorship fosters trust, skill development, and academic persistence, which are essential for research success and career satisfaction (NCBI, 2021; Pfund, 2016; Abedin et al., 2016).

Respondents also value working in research teams and having practical, hands-on support, such as workshops and demonstrations, to help them develop their research skills and confidence ("be a research member in a team of researchers with topic I can relate to"; "More workshop on research"; "Practical examples or demonstration and/or assist in research or will assist the researcher, like shadowing").

In addition to mentorship, the responses highlight the need for accessible resources, skill development, and institutional support. Suggestions include providing updated materials, training on new research tools like AI, and improving research processes to make them more straightforward and less time-consuming ("Materials/Resources availability"; "the use of AI in research"; "Process improvement within the institution. The process in conducting research is quite complicated and confusing"). There is also a call for strategies to maintain motivation and interest in research, as well as support in publishing and following proper research formats ("Maintaining interest in conducting research"; "how to publish in indexed journals and monetary support for publication"; "always following certain format such as APA 7"). Literature confirms that mentoring combined with adequate resources and process support enhances research self-efficacy, identity, and long-term commitment to research careers (Pfund, 2016; Abedin et al., 2016). Therefore, fostering a collaborative, resource-rich environment with strong mentorship programs is essential to promote effective and sustained research engagement.

Skills Development and Resources

The responses emphasize the importance of skill development in research, particularly in identifying and articulating research topics, interpreting studies, and understanding various research designs. Participants express the need for "constant updates in the field of research" and learning "different types of research designs and how to articulate it," highlighting a desire to deepen their methodological knowledge and analytical skills. This focus aligns with content analysis

principles, where researchers systematically code and categorize textual data to uncover meaningful patterns and themes, thereby enhancing critical thinking and research competence (Columbia Public Health, 2023; PMC, 2020). Developing these foundational skills is essential for conducting rigorous research and effectively interpreting scientific literature.

In addition to methodological skills, respondents also stress the importance of learning how to publish in indexed journals and following proper research formats, alongside gaining access to resources and training. Comments such as "how to publish in indexed journals and monetary support for publication" and "materials/resources availability" indicate a need for practical guidance on dissemination and support infrastructure. Moreover, there is interest in emerging tools like AI to aid research activities, reflecting a trend toward integrating technology in research skillsets. Providing workshops, updated materials, and institutional support can facilitate researchers' ability to keep pace with evolving standards and tools, thus improving research quality and output (Columbia Public Health, 2023; PMC, 2020; ScienceDirect, 2024). Overall, these insights underscore the necessity of continuous skill development and resource accessibility to empower researchers effectively.

Institutional and Process Improvement

A significant theme identified is the need for institutional and process improvement to enhance research productivity and efficiency. Several respondents express concerns about the complexity and confusion surrounding current research procedures, as reflected in statements like "process improvement within the institution, the process in conducting research is quite complicated and confusing" and calls to "facilitate to boost morale of researchers" and "sustain activities of the RIECO". These responses indicate a clear demand for simplifying and streamlining research workflows, improving organizational support, and fostering a positive research culture to motivate researchers. Research on process improvement in institutional settings supports this, showing that clarifying and optimizing processes can significantly reduce barriers, enhance quality, and increase the timely completion of research (Tufts CTSI, 2025; Daudelin, 2025).

Process improvement methodologies such as Plan-Do-Study-Act (PDSA) cycles, process mapping, and cause and effect analysis have been successfully applied to research environments to identify inefficiencies and implement changes (Daudelin,2025).

Proposed Self-paced Online Asynchronous Research Training Development for Support Staff

In today's knowledge-driven workplace, research abilities are no longer limited to the faculty of the institution. Support staff also play an important role in research work, as they can also conduct research that is relevant to the community. However, many support staff lack research skills that impede them in producing a well-written research paper. Furthermore, whenever face-to-face research-related seminars are held at the institution, most of the support staff are unable to attend due to their workloads and administrative responsibilities. This lack of participation limits their opportunities to improve their research skills, which leads to a widening of the gap in their ability to contribute effectively to research work. Encouraging their involvement through alternative platforms such as self-paced research training or seminars with flexible schedules could help them acquire knowledge, further enticing them to engage in research.

This self-paced online training program is designed to equip support staff with essential research skills to enhance their professional competencies. It covers fundamental research concepts, literature review, data management, and research ethics, ensuring that participants can contribute effectively to research initiatives within their organization. To facilitate this proposed development plan, the RIECO shall spearhead the creation of the modules in coordination with the Human Resource Management Center (HRMC), Management Information System (MIS), and the School of Information and Technology for the development of the website where modules will be uploaded. Enrollees in this training program will receive their certificate after completing the modules. Modifications may still be done following the preference of the RIECO office. Objectives are as follows:

1. Develop foundational knowledge of research principles and methodologies.
2. Enhance the ability to conduct literature reviews and manage references effectively.
3. Strengthen data management and analysis skills using available tools.
4. Familiarize participants with research ethics, plagiarism prevention, and proper citation.

Conclusion and Recommendations

The findings of this study provide important insights into the educational background and research capabilities of university support staff, indicating a well-educated group. – those who hold undergraduate and graduate degrees and have received training and exhibit foundational to intermediate levels of research skills. Furthermore, while support staff

generally feel capable in their research skills, specific areas such as the use of appropriate research instruments and statistical tools require improvement, highlighting a clear need for targeted training across all phases of the research process. Addressing these gaps through structured professional development programs will empower support personnel to contribute more effectively to academic research initiatives and strengthen the overall research environment within universities.

Recommendations

Based on the conclusions derived from the study, the following recommendations were given:

1. Office heads shall actively support and encourage the involvement of non-teaching staff in research by providing guidance, initiating adjustments of workloads when necessary, and fostering a research-conducive work environment.
2. Regularly assess the needs and interests of support staff regarding research.
3. Inclusion of non-teaching staff in the Mentor-Mentee program of the University, spearheaded by the RIECO office.
4. Future researchers may explore the long-term impact of training and support systems on the research output and professional development of non-teaching staff.

Acknowledgement

The authors would like to thank the colleagues and institutions who provided guidance, feedback, and support throughout the conduct of this research and the preparation of this manuscript. Any remaining errors or omissions are the sole responsibility of the authors.

Funding

This study was funded by the University of Baguio, and the article processing charges (APC) will be covered by the University of Baguio.

Competing Interests Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study; all data used were obtained from previously published sources as cited in the reference list.

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Appendices

No appendices are attached to this study.