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ABOUT THE JOURNAL

The PAFTE Journal of Education is an international, peer-reviewed, and professional journal published twice a year by the Philippine Association for Teachers and Educators (PAFTE), Inc.. Its official language is English and thus only publishes manuscripts written in English.

AIMS AND SCOPE

PAFTE Journal of Education publishes scholarly articles on teachers, teaching, and teacher education in both local and international perspectives and contexts. It is a venue for teacher-researchers to share their empirical studies at various levels of the education system from early childhood to teacher preparation and teachers' continuing professional development programs in university, including non-formal education. Articles submitted to the PAFTE Journal of Education must shed light on critical and relevant issues and problems surrounding the theory, practice, and profession of teaching in the Philippines and beyond.

PAFTE Journal of Education welcomes submissions on the following broad themes of teacher and teaching research:

- beliefs, thoughts, cognitions, emotions, and well-being
- narratives, biographies, and life histories
- understanding and mastery of subject matter
- professionalism, professional identities, and professional development
- values, motivations, commitment and resilience as influenced by contextual factors in structural, cultural and social environments
- learning in the subject matter
- effective teaching strategies across a broad range of teaching contexts and levels
- teaching and learning assessment
- mentoring and supervision in schools

EDITORIAL POLICY

The journal accepts for publication research manuscripts that are within the journal's scope or with implications for teaching and learning, done within the bounds of ethical practice, and passed the review of the editorial board and peer reviewers. Authors must follow the prescribed format and style in the preparation of the manuscript. If the manuscript does not conform to the journal's format and style, it will be returned to the author for revision or rejected outright. Authors are responsible for the content of their work and, therefore, must defend their work if challenged. The journal reserves the right to make language and technical corrections in the manuscript accepted for publication. With copyright, the journal prohibits the publication of the same manuscript in other journals or publication venues.

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To keep the review process as objective as possible, the journal observes a double-blind peer review system. The reviewers are not aware of the identity of the authors, and the authors do not know the identity of the reviewers. Submitted manuscripts will undergo two evaluation phases. The first phase has the manuscripts evaluated by the Editorial Board. Manuscripts that pass the first phase of evaluation will then be subjected to peer review, the results of which become the basis for acceptance or rejection of the manuscript. Authors are given the opportunity to submit their response to the peer reviewers if necessary. The editorial board reviews the final drafts and makes the final decision to accept or decline a manuscript for publication.

AUTHOR'S RESPONSIBILITIES

1. Authors guarantee that their manuscript is their original work, no part of it is plagiarized, and has no prior publication in any journal. They warrant that proper attribution through citations of borrowed ideas or information is done. If plagiarism is discovered, the manuscript will be rejected or retracted if it has been published already.
2. Authors take full responsibility of the accuracy of the references and the text being cited.
3. Authors are required to write their names according to their contribution to the research work and to name under the “ACKNOWLEDGMENTS” section individuals or organizations that contributed to the research work.
4. For a manuscript to be included in the publication, authors must revise the manuscript in the light of the reviewers’ comments and submit the revised version within the prescribed period. Late submission of the revised version means inclusion of the manuscript in the succeeding issue. Authors must submit the manuscript in soft copy and in conformity to the journal’s format and style.
5. Authors sign copyright transfer form once their manuscript is accepted for publication.

GUIDELINES FOR MANUSCRIPT PREPARATION AND SUBMISSION

1. The following settings must be observed: 1 inch for top and bottom margins, 1.5 inches for left and right margins, double spacing for text, bottom right corner for page number (x of y – 2 of 17), Times New Roman as font style, and font size of 12.
2. The textual element is in English.
3. The structure of the manuscript covers the following parts:
 - a. Title with authors' names, email address, and affiliation with address
 - b. Abstract with Keywords (4-6 in order of importance)
 - c. Introduction (integration of context, gap, theoretical underpinnings, related literature and studies, significance, research questions)
 - d. Methods
 - e. Results and Discussion
 - f. Conclusion
 - g. Acknowledgment
 - h. References
 - i. Appendices (if necessary)
4. Text and tables are in Microsoft Word.
5. Tables and figures, if necessary, are embedded in the text.
6. Tables/figures, citations, and references follow the APA 7th Edition Guidelines.
7. Submission of the manuscript is in soft copy.

TABLE OF CONTENTS

- [i] Title Page
- [ii] Copyright Page
- [iii] Editorial Page
- [iv] About the Journal / Aims and Scope
- [v] Editorial Policy
- [vi] Author's Responsibilities
- [vii] Guidelines for Manuscript Preparation and Submission
- [viii] Table of Contents

- [1] Exploring the Contributions of Professional Organization
Membership to the Career Advancement of Full Professors in
Philippine State Universities and Colleges
Ethel L. Abao
Helen B. Boholano
Filomena T. Dayagbil
Angeline M. Pogoy
Catalina M. Canasa
Michelle Mae J. Olvido
Cebu Normal University
Cebu City, Philippines

- [33] From Innovation to Integrity: A Framework for AI-Enhanced
Authentic Project-Based Assessment in Higher Education
Clark Dominic Alipasa
De La Salle University-Dasmariñas
Dasmariñas City, Cavite, Philippines

- [59] Investments in the Development of Research Culture
Michelle Mae J. Olvido
Cebu Normal University
Cebu City, Philippines

- [88] Examining the Relationship Between General Weighted Average
and Performance of Teacher Education Students in the LEPT:
A Predictive Correlational Study
Alma M. Natividad
Holy Angel University
Pampanga, Philippines

EXPLORING THE CONTRIBUTIONS OF PROFESSIONAL ORGANIZATION MEMBERSHIP TO THE CAREER ADVANCEMENT OF FULL PROFESSORS IN PHILIPPINE STATE UNIVERSITIES AND COLLEGES

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ABSTRACT

This study explores the impact of membership in professional organizations on the professional advancement of teachers and educators. Following a qualitative descriptive research design, semi-structured interview data were collected from 25 full professors from selected Philippine state universities and colleges. Analyzed using Braun and Clarke's (2006) thematic analysis, the findings indicate that membership in professional organizations facilitates career growth by fostering competency development and advancing careers. It also helps members build networks for collaboration and mentorship, navigate challenges arising from multifaceted roles and institutional and policy changes, promote change through leadership development and reform advocacy, improve practice in technology adoption and research-based strategies, and foster sustainability by designing inclusive environments where members are actively engaged. Active membership in professional organizations offers substantial opportunities for personal growth and professional development and is highly encouraged for teachers and educators.

Keywords: professional organizations, membership, professional development, career advancement

INTRODUCTION

Professional organizations are communities of practitioners who share common expertise, values, and interests and serve as essential platforms for career advancement, knowledge exchange, and professional collaboration (Suwenti et al., 2026; McPherson & Asghar, 2023). These organizations play a crucial role in strengthening competencies by providing training programs, workshops, seminars, and conferences that keep members informed of emerging trends and developments in their respective fields (Preusse-Burr et al., 2024; Karaiskos et al., 2024). Continuous learning and growth are fundamental principles of personal and professional effectiveness that can be significantly enhanced through active engagement in professional communities (Khun-Inkeeree et al., 2023; Ismail et al., 2020; Kloser et al., 2021; Gunning et al., 2020).

The importance of professional organizations has become even more evident amid the contemporary challenges facing Philippine higher education. Filipino educators today face increasing pressures stemming from the K–12 transition, stringent international quality-assurance requirements, rapid technological advancement, and the growing integration of artificial intelligence (AI) into teaching, assessment, and research. These developments require educators not only to adapt but also to continuously upgrade their competencies, expand their professional networks, and strengthen their capacity for innovation. In this evolving academic environment, professional organizations function as strategic support systems (Pandian et al., 2022) that help educators remain responsive, competitive, and resilient.

In the Philippine higher education context, many educators are active members of professional organizations such as the Philippine Association for Teachers and Educators (PAFTE), the Philippine Association for Graduate Education (PAGE), and the State Universities and Colleges Teachers and Educators' Association (SUCTEA). These organizations are recognized for promoting educational reform, advancing academic excellence, strengthening research engagement, and upholding the dignity of the teaching profession. Through conferences, training programs, and

collaborative initiatives, they provide avenues for networking, leadership development, and scholarly productivity.

Professional advancement, as conceptualized in this study, refers to educators' progression through career mobility, leadership opportunities, expanded professional responsibilities, scholarly productivity, increased compensation, and enhanced expertise. It encompasses both vertical advancement (promotion to higher academic ranks and leadership positions) and horizontal advancement (skills development, research engagement, and professional recognition).

Given the critical role of educators in driving innovation in science, technology, and communication, this study examines how 25 full professors in Philippine state colleges and universities describe the contribution of professional organization membership to their career advancement. By focusing on accomplished educators, the study aims to examine how membership in organizations has contributed to their professional trajectories and high-level achievements. At the same time, the findings can serve as a benchmark for professional organizations in assessing the effectiveness of their programs, conferences, and developmental initiatives. Ultimately, this study is both timely and relevant, as it addresses the evolving demands placed on Filipino educators. Its findings may reveal the perceived professional benefits of membership in professional organizations for educators and identify areas for improvement within *these organizations*. More importantly, the study offers valuable insights into how professional organizations can design more responsive and strategic interventions to support educators' continued advancement in a rapidly changing academic environment.

Review of Related Literature

Professional organizations have long been recognized as essential structures for advancing professionals' careers and competencies, particularly in higher education. In contemporary academic contexts, these organizations function not only as venues for networking and professional development

but also as strategic ecosystems that support continuous learning, research collaboration, and leadership formation. Recent literature emphasizes that in an era marked by rapid digital transformation, the integration of artificial intelligence, and increasing demands for research productivity, professional organizations have become even more critical to sustaining educators' adaptability and long-term career growth (OECD, 2023; UNESCO, 2022).

The theoretical foundation of this study is anchored in Bourdieu's (1986) social capital theory, which remains highly relevant in understanding how professional relationships generate access to resources and opportunities. Social capital, in contemporary scholarship, is increasingly viewed as a dynamic asset that enables individuals to navigate institutional structures, access mentorship, and gain visibility in professional communities (Putnam, 2020; Lin, 2017). Within professional organizations, social capital is cultivated through sustained interaction, collaborative engagement, and participation in shared academic and professional activities.

In higher education, social capital has been associated with multiple dimensions of professional advancement. Networks developed through professional organizations facilitate career mobility by providing access to promotion pathways and leadership nominations. Mentorship relationships strengthen leadership capacity, while collaborative engagements enhance scholarly productivity through joint research and publication opportunities. Furthermore, exposure to training and academic discourse strengthens professional expertise, aligning educators with evolving pedagogical and technological demands, including AI-assisted instruction and data-driven assessment practices (Selwyn, 2022).

Recent literature strongly supports the role of professional organizations in career networking and mobility. Kram (1985) and Higgins and Kram (2001) emphasize that professional relationships serve as critical mechanisms for career development, particularly through mentorship and sponsorship. In contemporary higher education systems, such networks have become increasingly important as promotion processes now emphasize research output, international engagement, and leadership visibility (Altbach et al., 2021). These networks function as social capital resources that directly

influence advancement opportunities.

In addition, professional organizations play a crucial role in continuous professional development, particularly in response to evolving educational demands. Recent studies indicate that faculty development is increasingly shaped by participation in conferences, workshops, and cross-institutional training programs that address emerging challenges such as AI integration in education, digital pedagogy, and quality assurance systems (Laurillard, 2021; Bates, 2022). These learning opportunities contribute significantly to educators' horizontal advancement by enhancing pedagogical competence and technological adaptability.

Another important contribution of professional organizations is their role in enhancing scholarly productivity and research engagement. Contemporary higher education systems place a strong emphasis on publication, research dissemination, and innovation. Studies show that faculty members who actively participate in professional associations are more likely to engage in collaborative research, publish in indexed journals, and present in academic conferences (Horta & Santos, 2020). This reinforces the idea that professional organizations serve as communities for collaboration and knowledge exchange that strengthen academic productivity and institutional reputation.

Furthermore, affiliation with reputable professional organizations contributes to professional credibility and symbolic capital. In today's competitive academic environment, institutional recognition is increasingly influenced by external validation through professional memberships, awards, and scholarly contributions. Bedeian and Wren (2001) argue that such affiliations signal legitimacy and competence, while recent studies suggest that professional visibility within academic networks significantly influences promotion decisions and leadership appointments (Teichler, 2021).

Professional organizations also function as knowledge-sharing and innovation networks. Nonaka and Takeuchi's (1995) knowledge-creation theory remains relevant for explaining how tacit knowledge is exchanged and transformed into institutional learning. In contemporary contexts,

these organizations have evolved into hybrid physical-digital spaces where educators share research outputs, pedagogical innovations, and technological practices. This dynamic exchange fosters continuous improvement and supports innovation in teaching and learning practices.

Despite the well-documented benefits of professional organizations, recent literature reveals an emerging imbalance in *the* understanding of their long-term impact, particularly in developing-country contexts. While global studies extensively document the role of professional associations in career development, there remains limited empirical evidence on how these mechanisms operate within specific institutional and cultural environments, such as Philippine State Universities and Colleges. Furthermore, existing studies often focus on general membership benefits or early-career educators, with insufficient attention given to senior academics who have reached Full Professor rank and whose career trajectories reflect long-term engagement with professional organizations.

More importantly, there is a notable gap in understanding how social capital generated through sustained organizational membership translates into concrete professional advancement outcomes such as leadership attainment, research productivity at higher academic levels, and institutional influence within Philippine higher education institutions. This gap is significant given the increasing pressures on Filipino educators stemming from K–12 reforms, ASEAN integration in higher education, ISO-driven quality standards, and rapid technological disruption.

Therefore, this study seeks to address these gaps by examining how membership in professional organizations contributes to the professional advancement of Full Professors at selected State Universities and Colleges in the Philippines. By situating the analysis within the Philippine higher education context, the study provides a more localized, empirically grounded understanding of how social capital operates within professional organizations and shapes long-term academic career trajectories.

Research Design

This study employed a qualitative descriptive research design to generate an in-depth and context-sensitive understanding of how membership in professional organizations may facilitate professional advancement among full professors in Philippine state colleges and universities. This design is appropriate because it prioritizes direct descriptions of participants' experiences, perceptions, and professional trajectories without imposing overly abstract theoretical interpretations. It is particularly suited for studies that aim to capture real-world processes and meanings as expressed by participants in naturalistic settings. In this study, the design facilitated a rich exploration of how membership in professional organizations contributes to career progression, leadership development, and scholarly engagement among higher education faculty.

Setting and Participants

The study was conducted among selected state universities and colleges (SUCs) in the Philippines, which serve as key institutions for teacher education and faculty development. These institutions were selected for their active participation in national and regional professional organizations and for their role in shaping the academic workforce.

A total of 25 Full Professors participated in the study. Participants were selected through purposive sampling, ensuring that only individuals capable of providing rich, relevant, and experience-based insights were included. The inclusion criteria were as follows: licensed professional teachers, currently holding the rank of Full Professor, with at least three years of continuous teaching experience in higher education, and active membership in at least one recognized professional organization such as the Philippine Association for Teachers and Educators (PAFTE), the Philippine Association for Graduate Education (PAGE), or the State Universities and Colleges Teachers and Educators' Association (SUCTEA).

The selection of Full Professors was deliberate and theoretically justified. Their rank represents the highest level of academic advancement, indicating extensive experience in teaching, research, leadership, and institutional service. As such, they are well-positioned to provide reflective and longitudinal insights into how sustained engagement in professional organizations contributes to professional advancement over time.

Data Collection

Data were collected using a semi-structured interview guide designed specifically for this study. Semi-structured interviews were selected because they allow for consistency across participants and flexibility to probe for deeper insights during the interview process. This method is particularly appropriate for exploring complex phenomena such as professional advancement, which involves multiple dimensions including career mobility, leadership experiences, research productivity, and professional identity formation.

The interview guide was developed based on the study objectives and key constructs of professional advancement identified in the literature, namely: career mobility, leadership opportunities, expanded professional responsibilities, scholarly productivity, compensation development, and expertise enhancement. To ensure content validity, the interview questions were reviewed and validated by experts in qualitative research and higher education to ensure clarity, relevance, and alignment with the research objectives.

The data-gathering process began with identifying eligible participants through coordination with SUC administrators and professional organization networks. Potential participants were formally invited and screened based on the inclusion criteria. Upon confirmation of eligibility, informed consent was obtained prior to data collection.

Interviews were conducted face-to-face or online, depending on participants' availability and geographic constraints. Each interview lasted approximately 30 to 40 minutes and was audio-recorded with participants'

permission to ensure accuracy of data capture. The use of both modalities was justified to increase flexibility in participation while maintaining consistency in interview administration.

Throughout the data collection process, the researchers maintained a standardized interview protocol to ensure uniformity while allowing for follow-up questions and clarifications when necessary. This approach ensured depth of response while maintaining methodological rigor.

Data Analysis

Data were analyzed using Braun and Clarke's (2006) thematic analysis, a widely recognized method for identifying, analyzing, and interpreting patterns within qualitative data. This approach was selected for its flexibility and systematic structure, which align well with descriptive qualitative research.

The analysis followed Braun and Clarke's (2006) six-phase process: (1) familiarizing themselves with the data through repeated reading of the transcripts; (2) generating initial codes from meaningful data segments; (3) constructing potential themes by grouping related codes; (4) reviewing the themes for coherence and consistency; (5) defining and naming the themes based on their conceptual meanings; and (6) producing the final report by integrating the thematic findings with the research question and relevant literature. This systematic process enabled the researchers to identify recurring patterns concerning participants' perceptions of how membership in professional organizations contributed to their professional advancement.

Trustworthiness of the Study

To ensure the rigor of the findings, the study applied established criteria for trustworthiness. Credibility was ensured through member checking, in which participants were given the opportunity to verify the accuracy of the interpreted summaries. Dependability was strengthened through detailed documentation of the research process, including

coding procedures and theme development. Confirmability was ensured by grounding findings in participants' verbatim responses, minimizing researcher bias and ensuring that interpretations were data-driven. Transferability was supported through thick descriptions of the participants' contexts and experiences.

Ethical Considerations

Ethical approval was obtained from the Cebu Normal University Research Ethics Committee Review Board, which granted a Certificate of Exemption due to the study's minimal-risk nature. This confirms institutional compliance with established ethical standards for human research.

Prior to participation, all respondents were provided with complete information about the study's purpose, procedures, and potential benefits. Written informed consent was obtained, and participation was entirely voluntary. Participants were informed of their right to withdraw at any time without penalty.

Confidentiality was strictly observed by anonymizing all identifying information, and data were securely stored and accessed only by the researchers. All findings were reported with integrity, ensuring that interpretations accurately reflected participants' responses without fabrication or misrepresentation.

RESULTS AND DISCUSSION

This section discusses the themes and sub-themes derived from participant interviews. The interviews revealed that membership in professional organizations facilitates career growth, builds networks, navigates challenges, promotes change, improves practice, and fosters sustainability.

Theme 1. Facilitate Career Growth

Professional organizations play a significant role in facilitating career growth by strengthening members' competencies and creating pathways for promotion and professional recognition. Active involvement in these organizations provides valuable opportunities for continuous learning, skills enhancement, research collaboration, and leadership development, making the teaching profession more dynamic and fulfilling. However, participation is not without challenges, particularly time constraints, financial costs, and the need to balance organizational commitments with institutional responsibilities. Despite these limitations, professional organizations remain vital platforms for addressing emerging demands in education, including technological integration, AI-driven innovations in teaching and learning, and evolving professional standards, thereby equipping educators to adapt and thrive in a rapidly changing academic landscape.

Professional organizations provided me with updates on issues and trends in the education profession, which enabled me to learn approaches and strategies for addressing learners of this generation. (P5)

Being members in professional organizations enables me to realize that I belong to a family- a family where I can strongly connect for professional opportunities for my career growth (P2)

They inspire me to further advance my career by witnessing updates in education and seeing how I can contribute to making education a catalyst for change. (P15)

Professional growth and advancement are central to joining any professional organization. Becoming a member reflects a commitment to advancing one's skills, knowledge, and passion within a chosen field (Darling-Hammond, 2000). In today's era of rapid technological advancements and globalized education, the expectations placed on professionals—especially in fields like *teaching*—are substantial. Professionals must continually develop their expertise to meet the demands of an ever-changing global landscape (Fullan, 2007).

Subtheme 1.1: Competency Development

I applied for membership to stay updated on current trends and issues in teaching at the undergraduate and graduate levels, and to develop my skills and competencies for career development. (P1)

These organizations help me enhance my pedagogical skills in the classroom especially in keeping updated with the trends in teaching (P5)

I am very interested in attending seminars or research presentations sponsored by these organizations because I know these are ways to improve my competence (P18)

Active participation in professional organizations is crucial among teachers and educators. Membership in such organizations provides opportunities for continuous learning, professional networking, and access to up-to-date resources. By enhancing teachers' knowledge and skills, professional organizations foster improved teaching practices, which positively affect teacher performance and student achievement (Shulman, 1987).

In an age when rapid advances in communication, science, and technology continue to reshape education, seminars and research conferences provide valuable opportunities for teachers to deepen their professional knowledge, reflect on their roles, and remain responsive to emerging educational trends. These platforms expose educators to innovations such as digital pedagogy, artificial intelligence, and evidence-based teaching practices, enabling them to adapt to the evolving demands of the profession. However, participation in such professional engagements is often challenged by time constraints, financial costs, and competing institutional responsibilities. Despite these limitations, sustained involvement in professional organizations and academic gatherings remains essential in fostering professional growth, strengthening competence, and cultivating a deeper sense of responsibility in teaching.

The application of these enhanced competencies is particularly significant in today's Philippine classrooms, where technology and innovative pedagogies are continuously shaping educational practices. Research shows that teachers who engage in ongoing professional development through such organizations are better equipped to meet diverse student needs and stay abreast of the latest educational trends (Darling-Hammond & McLaughlin, 1995).

Being a member of professional organizations is an effective way to support effective teaching and learning. According to Darling-Hammond et al. (2017), professional learning communities encourage collaboration among educators, leading to improved teaching practices and better student outcomes. Research suggests that participating in professional organizations greatly enhances teachers' pedagogical content knowledge and their capacity to implement research-based teaching strategies (Desimone, 2009).

Subtheme 1.2: Job Promotion Opportunities

These organizations have influenced me a lot, especially in terms of honing my teaching and research skills and competencies, and being able to collaborate with other universities, which can help me get promoted (P6)

Being a member of a professional organization, especially as an officer, and getting involved in its activities gives me a chance to get promoted. (P14)

I am aware that it's not enough to earn a baccalaureate degree to be considered competent. It takes advancing my degree and being part of professional organizations (P2)

Completing a bachelor's degree in education is an essential first step, but it is not, on its own, sufficient to guarantee a teacher's competence. In the Philippine setting, teachers are expected to pass a licensure examination and continue to grow professionally, as enshrined in the Philippine Professional Standards for Teachers. Educators must engage in ongoing professional

development to remain relevant and effective in the classroom. Therefore, becoming a member of relevant professional organizations is not just an option but a necessary step toward ensuring that educators continue to grow and contribute meaningfully to the educational community (Hargreaves & Fullan, 2012)

I am able to apply innovations in my teaching practices. Further, my personal and professional awareness, reflection, and development are enhanced. (P6)

I have gained other benefits as a member of professional organizations, such as improved interpersonal relations with colleagues from other universities. (P11)

As the educational landscape continues to evolve through rapid technological advancements, active participation in professional organizations has become increasingly indispensable for educators. These organizations serve as vital platforms to facilitate career growth *through* competency development and job promotion opportunities. Through sustained engagement, educators gain opportunities for promotion, expanded responsibilities, and meaningful contributions to educational innovation and reform. However, to sustain this momentum, professional organizations must also address persistent challenges such as time limitations and financial constraints, which often hinder active participation. By overcoming these barriers, these organizations can continue to empower educators and shape a more progressive and responsive future for education.

Theme 2: Build Networks

The second theme centers on how professional organizations provide a venue for building networks through *collaboration* and *mentorship*.

My involvement in these professional organizations affirms my commitment to education, research, and community engagement. It supports professional growth and networking – being part of these organizations allows me to connect with fellow educators, researchers, and extension workers, fostering

Mentorship and collaboration are essential in fostering professional growth and improving teaching competencies. Effective mentorship promotes knowledge sharing, skill development, and reflective teaching practices (Ingersoll & Strong, 2011). Collaborative efforts, especially through professional organizations, create opportunities for teachers to engage in continuous learning and to exchange best practices, thereby enhancing instructional effectiveness (Wang & Odell, 2002).

Sub-theme 2.1: Collaborations

Professional organizations are vital in expanding teachers' professional networks, offering mentorship opportunities, and facilitating knowledge sharing (Darling-Hammond et al., 2017). These organizations provide platforms for educators to engage in research, attend conferences, and participate in professional development programs. According to Avalos (2011), teachers who actively participate in professional organizations benefit from exposure to innovative teaching strategies and gain mentorship from experienced educators. Such networks support early-career teachers by reducing professional isolation and increasing their confidence in instructional delivery (Kraft & Papay, 2014). Some of the professors' narratives:

Gaining experience, building a professional network, and developing professional skills. (P11)

This means that participation in professional associations is a testament to ongoing learning and professional growth. Not only does this enhance your competency, but it also positions you as a leader in your field, with the potential to shape education policies and practices (Avalos, 2011). Professional associations provide a forum for sharing research findings and pushing for evidence-based educational reforms. Your participation bolsters the bridge between research scholarship and practice-based uses in teacher preparation and public service (Darling-Hammond et al., 2017).

Moreover, professional organizations encourage collaboration among educators, fostering a culture of shared learning and collective problem-solving (Desimone, 2009). Membership in these organizations provides access to academic resources, policy discussions, and leadership opportunities, all of which contribute to teachers' professional identity and instructional effectiveness (Lieberman & Miller, 2016).

Sub-theme 2.2: Mentorships

Mentorship is a crucial factor in improving teachers' instructional skills, classroom management, and professional confidence. Effective mentorship fosters the development of pedagogical expertise and reflective teaching practices (Hudson, 2013). Research suggests that teachers who receive structured mentorship demonstrate improved instructional quality and student engagement (Rockoff, 2008). Below are some of the *professors'* narratives:

Develop a mentorship system and a sustainable community outreach program focused on teacher education. (P4)

As a member of a professional organization, I can enhance my teaching skills by actively participating in training programs, attending conferences, and engaging in collaborative discussions with fellow educators, staying connected* with other professionals who are willing to mentor and be mentored. (P9)*

Mentorship programs provide novice teachers with guidance from experienced educators, helping them acquire essential teaching competencies, such as curriculum development, differentiated instruction, and student assessment (Hobson et al., 2009). Additionally, mentorship enhances teachers' adaptability by helping them navigate challenges in diverse learning environments (Feiman-Nemser, 2012). Through consistent feedback and professional support, mentees develop self-efficacy and become more effective in facilitating student learning (Schwille, 2008).

Theme 3. Navigate Challenges

Professional organizations provide avenues for members to effectively navigate the challenges of the teaching profession. Moreover, administrators and professors at higher education institutions face institutional and policy changes that can be overwhelming. Amidst the wave of change, professional organizations serve as a support system to help them manage institutional and societal *challenges*.

Sub-theme 3.1: Multi-faceted Roles

Faculty members in higher education perform multiple functions. They are expected to teach effectively, conduct research, and perform administrative tasks simultaneously. Membership in professional organizations offers educators opportunities to navigate the multiple responsibilities of teaching, research, and administrative roles in higher education.

Sometimes I got lost with so many deliverables as a faculty member. Like I am expected to teach, conduct research, do extension, and all... It's overwhelming. I am just thankful I am a member of PAFTE. The conferences are enlightening. The sessions helped me.

I love the collaboration in my organization. We are helping one another to succeed in the profession. (P14)

It can be gleaned from the responses that professional organizations facilitate collaboration and provide strategies to help members effectively perform their varied roles in the academe. This is affirmed by McFarlane (2015), who states that networking with peers through professional organizations allows faculty members to engage in joint research projects, reducing the burden of individual research while still fulfilling publication requirements. Moreover, professional organizations are sources of emerging pedagogical approaches *that* enhance teaching and learning through webinars and improve teaching effectiveness, while equipping *educators* with leadership competencies.

Sub-theme 3.2: Institutional and Policy Changes

The current education landscape requires institutional and policy changes for higher education institutions to remain relevant. One of the objectives of professional organizations is to assist *members* in effectively navigating changes brought about by rapid technological advancements.

This AI thing has changed how we teach and assess. I attended one of my organization's conferences and realized we need to implement policies on AI use in the classroom. (P15)

Moreover, the demand for intensive quality assurance mechanisms in higher education institutions requires a dynamic shift in policies to ensure quality.

I am stressed by many changes in documentation, especially with ISO. At least my colleagues in my organization gave me tips on preparing for ISO. They inspired me amidst changes and uncertainties. (P6)

It is evident that colleagues in professional organizations have motivated and inspired their fellow members to perform their roles despite policy changes. Support from professional organizations enables members to effectively perform their roles as faculty members in higher education institutions.

Theme 4. Promote Change

Leadership and advocacy play crucial roles in shaping the educational landscape, empowering educators to contribute to continuous educational improvement (Culduz, 2023). Through professional involvement, educators develop leadership skills that enhance their teaching practices and professional growth. At the same time, active participation in professional organizations provides a platform to advocate for policy reforms and educational improvements. This theme explores how educators assume leadership roles and use their voices to drive positive change in the education system.

Sub-theme 4.1: Leadership Development

Engaging in professional organizations provides teachers with valuable opportunities to develop leadership skills that enhance both their instructional practices and career growth (Makuachukwu, 2023). By participating in seminars, workshops, and collaborative projects through professional organizations, educators gain exposure to best practices, innovative teaching strategies, and current trends in education. These experiences allow them to take on leadership roles such as mentoring colleagues, leading training sessions, or contributing to curriculum development. Through active involvement, teachers not only refine their expertise but also build confidence in taking on greater responsibilities within their schools and communities. As one teacher shared:

It had a positive impact on my teaching career, increased my confidence in leadership, and strengthened my connections.
(P7)

These opportunities allow educators to expand their professional networks and collaborate with like-minded individuals, thereby further strengthening their leadership abilities. Professional organizations provide avenues for continuous learning and self-improvement that influence various aspects of teaching and personal development. One teacher reflected:

It has influenced my teaching style, the preparation of assessment tasks, and my teaching principles. It has also contributed to my growth as a teacher, as a leader, and as an individual. (P6)

Through engagement with these organizations, educators deepen their knowledge in education and related disciplines, enabling them to make informed decisions and adapt to changes in the educational landscape. The same educator also responded with a profound impact of professional involvement, stating:

It has contributed significantly to my decision-making, communication, and even my image as a person. (P6)

These insights *emphasize* how leadership development through professional involvement enhances teaching practices and shapes educators into well-rounded professionals capable of making meaningful contributions to their schools, the education sector, and the broader community (Stawnychko, 2024).

Sub-theme 4.2: Reform Advocacy

Teachers and educators play a vital role in advocating for policy reforms and educational improvements, as their firsthand classroom experiences provide valuable insights into the strengths and challenges of the education system. Educators can collaborate with policymakers, administrators, and fellow teachers by actively participating in professional organizations to propose and implement meaningful changes (Hara et al., 2023). Whether advocating for curriculum enhancements, better working conditions, or more inclusive policies, teachers help shape an education system that is responsive to the needs of both learners and educators. By engaging in discussions, research, and policy dialogues, they contribute to developing evidence-based reforms that promote quality education and equitable opportunities for all students (Catone et al., 2017). Their involvement in professional organizations allows teachers to broaden their professional network, gain access to career development opportunities, and stay updated on industry trends. As one respondent shared:

This helps broaden my professional network, gain access to opportunities for career development and ongoing education, stay abreast of industry trends, and possibly establish credibility in my field by connecting with other professionals through conferences, events, and online forums. (P4)

This exposure enables educators to advocate for meaningful policy changes based on global best practices and emerging educational needs. Beyond influencing policy at a systemic level, advocacy efforts also drive improvements in teaching practices and school environments. Teachers who take on leadership roles in professional organizations often spearhead

initiatives that enhance instructional methods, assessment strategies, and professional development programs. As a participant mentioned, strengthening organizations requires strategies such as encouraging diversity and inclusion, seeking stakeholder input, forming community partnerships, and implementing eco-friendly practices.

To enhance an organization and make its operations more responsive, inclusive, and sustainable, think about putting strategies like encouraging diversity and inclusion in the workforce, actively seeking input from a range of stakeholders, implementing eco-friendly practices across the board, forming community partnerships, and routinely reviewing and modifying programs to meet changing needs into practice—all while placing a high priority on accessibility and equity in all facets of the organization. (P4)

By sharing their expertise and experiences, teachers and educators inspire innovation and foster a culture of continuous learning within their schools and communities. Moreover, their advocacy extends to ensuring that educational reforms are sustainable, inclusive, and aligned with the evolving needs of 21st-century learners. Through their commitment to policy improvements and educational advancements, teachers and educators elevate their profession and contribute to a more effective, student-centered education system.

Theme 5: Improve Practice

Changes in innovation, whether in teaching or learning, continually enhance the effectiveness of professional development and instruction by often employing scientific strategies. Professional bodies significantly contribute to and partake in this work by publishing educational journals and conducting research for teachers to utilize in evidence-based education aimed at *improving students' engagement and performance* (Darling-Hammond et al., 2017). *These* bodies initiate and teach new artificial

intelligence technologies in education, gamification, and teaching through online *platforms* (Mishra & Koehler, 2006), creating modern approaches to education for teachers. Participating in these organizations enables teachers to update their instructional methods and techniques as lessons evolve to meet students' needs in the *21st century*.

Sub-theme 5.1: Technology Adoption

Professional organizations can enhance educators' skills in applying research-based teaching methods, ultimately improving student learning outcomes. These groups offer access to the latest educational research, opportunities for professional growth, and collaborative networks that help teachers fine-tune their teaching strategies.

Both organizations provided me with updates on issues and trends in the nursing and teacher education professions, which enabled me to learn approaches and strategies for addressing learners of this generation. (P1)

It influenced me to improve my teaching skills and to learn new teaching methods and pedagogical approaches. (P2)

I am up to date with the latest trends and teaching practices. (P14)

Seminars and conferences introduce new teaching methods and educational technology. (P11)

Professional organizations are increasingly recognized for helping teachers cope with advances in technology and other modern pedagogical practices. They provide structured professional learning opportunities, valuable resources, and collaborative support systems that contribute to teachers' continuing professional development. Through professional organizations, educators are able to exchange ideas, share best practices, and strengthen their instructional competencies. Overall, these organizations play an important role in supporting teachers' professional growth and lifelong learning.

Through active participation in collaborative professional development programs and professional learning communities, educators enhance their instructional methods and adapt their use of technology in teaching and learning.

Sub-theme 5.2: Research-Based Strategies

Joining professional organizations can enhance educators' ability to apply research-based teaching methods, ultimately improving student learning outcomes. These groups offer access to the latest educational research, opportunities for professional growth, and collaborative networks that help teachers fine-tune their teaching strategies. The impact of professional organization membership is evident in the experiences of educators:

Attendance at trainings and conferences organized by these organizations provides exposure to current trends and issues in the field, offers avenues to collaborate in research and extension, and serves as a means to promote the best practices unique to our school (P9)

Staying up to date on the latest research, pedagogical trends, and technological advancements allows me to refine my teaching strategies. Additionally, networking with experienced professionals provides valuable insights and mentorship, while contributing to publications or research initiatives helps deepen my expertise and credibility in the field. (P12)

Professional organizations' conferences and colloquia always present data-driven teaching practices. (P16)

The Research Partnership for Professional Learning (RPPL) emphasized the importance of leveraging teacher development with relevant research to improve educational outcomes. Their model calls for professional learning organizations, researchers, and educators to collaborate and build a practical evidence base for teacher learning. Research adds a positive dimension to the integration of teaching. Gresty et al. (2015) reported that the benefits of research-informed teaching included greater student engagement and graduates who were better prepared to take on employment in a volatile world. A case study by Jiang and Roberts (2011) on research-led education sought to assess its impact on student learning and found that students' participation in research projects improved their understanding of the subject and the research process.

Engaging with professional organizations enables educators to adopt research-based teaching practices. Through a collaborative network, they have access to new research, training, and other teachers, improving teaching methods and student academic performance. Membership and active involvement in these organizations ensure that teachers stay abreast of new developments in education, thus improving the quality of teaching and learning.

Theme 6: Foster Sustainability

For the last theme, the teachers shared that their membership in professional organizations has helped sustain them in the teaching profession. In many ways, it keeps teachers going in their chosen vocation, as the statement below suggests.

...Professional organization provides multiple opportunities for learning that contribute to the sustainability of one's commitment to the teaching profession. (P5)

In sustaining teachers in the teaching profession, two sub-themes are identified: inclusive environments and active engagement. These

themes are complementary: for a professional organization to sustain an educator, it must provide a safe space for growth and networking, while the educator should also actively participate. This is also supported by the idea of Darling-Hammond et al. (2017) and Fullan (2001) that the positive outcomes associated with active participation, such as access to current research, leadership development, mentorship, and collaborative initiatives, highlight the critical role these organizations play in sustaining professional excellence and adaptability in a globalized educational landscape.

Sub-theme 6.1: Inclusive Environments

Inclusive environments mean professional organizations foster both personal and professional engagement, where members even report feeling part of a family. As *Kraft and Papay (2014)* termed it, these networks can reduce professional isolation, especially for early-career teachers. This sub-theme is evident in the answers below.

Development of friendships and strong bonds among members/officers is the greatest benefit, the chance to meet your sisters and brothers from another mother.

These organizations have given me a stronger professional network that has opened doors for collaborations, especially in research. It is not so much about teaching practices but rather my well-being, as it is a support system. (P4)

Sub-theme 6.2: Active Engagements

Despite the many opportunities offered by professional organizations, it is important to note that teachers and educators must participate to gain the most benefit from them, as Covey (1989) highlighted. Paying membership fees and securing membership certificates as proof are not enough. For such membership to contribute to one's

professional sustainability, a teacher should engage with peers and mentors in meaningful, relevant activities.

I can fully enhance my teaching skills/practices as a member if I am actively involved in the organization. (P5)

By constantly participating in as many activities as possible organized by these organizations and through engaging in collaborative work in the areas of instruction, research, and extension. (P8)

CONCLUSION AND RECOMMENDATIONS

This study concludes that active membership in professional organizations plays a significant role in the personal and professional advancement of educators in higher education. These organizations serve as vital platforms for continuous learning, collaboration, and professional networking, which collectively contribute to career mobility, leadership development, scholarly productivity, and enhanced pedagogical competence. In addition, they provide meaningful opportunities for educators to adapt to contemporary challenges in education, including technological disruption, curriculum reforms, quality-assurance demands, and the increasing integration of artificial intelligence into teaching and learning.

Findings further suggest that professional organizations function as strategic enablers of growth by transforming challenges in the educational landscape into opportunities for innovation, knowledge exchange, and pedagogical improvement. Through sustained engagement, educators can strengthen their professional capital, expand their influence within their institutions, and contribute to advancing the teaching profession as a whole.

In light of these findings, the study recommends that educators across disciplines be strongly encouraged to join and maintain active and sustained membership in relevant professional organizations. Active participation—rather than mere affiliation—is essential to maximize the benefits of networking, mentorship, training, and collaborative research opportunities. Educators should be intentional in engaging in organizational

activities such as conferences, workshops, and research forums, as these directly contribute to professional growth and career advancement.

Furthermore, higher education institutions are encouraged to support faculty participation in professional organizations by providing institutional incentives such as financial assistance for membership fees, conference participation, and research dissemination. Such support mechanisms will ensure equitable access to professional development opportunities and enhance faculty engagement in scholarly and professional communities.

For professional organizations, the findings highlight the importance of continuously evaluating and strengthening their programs to ensure their activities remain responsive to educators' evolving needs. Organizations should regularly assess whether their initiatives effectively support members' professional advancement through leadership opportunities, research productivity, and pedagogical innovation. This evaluation can serve as a benchmark for improving program design and ensuring sustained relevance in a rapidly changing educational environment.

Finally, these benefits were reported by highly experienced educators, addressing the gap in *the understanding of* long-term professional advancement in the Philippine higher education context. The study provides evidence that strengthened collaboration between educators and professional organizations may contribute not only to individual career advancement but also to the broader goal of educational quality improvement and global competitiveness. By fostering active engagement and meaningful participation, professional organizations can continue to develop educators who are adaptive, innovative, and capable of leading educational transformation.

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FROM INNOVATION TO INTEGRITY: A FRAMEWORK FOR AI-ENHANCED AUTHENTIC PROJECT-BASED ASSESSMENT IN HIGHER EDUCATION

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ABSTRACT

Artificial Intelligence (AI) is increasingly integrated into higher education, offering opportunities to enhance authentic assessments that measure students' ability to apply knowledge and skills in real-world contexts. This mixed-methods study examined the integration of AI in project-based authentic assessments among college students and faculty in Philippine higher education institutions. Quantitative findings revealed that AI-supported tasks are generally perceived to moderately enhance task relevance, contextual realism, cognitive challenge, reflection, formative feedback, and learner engagement. Qualitative data further highlighted that both students and faculty view AI as supportive tools rather than replacements, emphasizing critical evaluation, originality, purposeful use, and ethical oversight. Based on these insights, an AI-Enhanced Educationally Authentic Assessment Framework is proposed, centering on task design, cognitive scaffolding, formative feedback, and intentional AI use guided by human judgment. The framework aims to balance pedagogical innovation, ethical integrity, and contextual relevance, providing a structured approach for responsible AI integration in higher education assessment practices.

Keywords: Artificial Intelligence, authentic assessment, project-based learning, higher education, ethical AI use, cognitive engagement

INTRODUCTION

AI is rapidly transforming higher education, offering innovative ways to design, deliver, and evaluate learning. Among its most promising applications is *its use* in authentic assessment, where AI tools assist educators in evaluating students' ability to apply knowledge and skills in real-world contexts. In higher education, authentic assessments—such as portfolios, essays, case studies, and project-based tasks—are central to fostering creativity, critical thinking, ethical judgment, and communication.

Various studies in both local and international contexts have highlighted the growing relevance of AI in education, particularly in authentic assessment. Research by Agbong-Coates (2024) demonstrates that ChatGPT integration significantly boosts personalized learning outcomes in the Philippine context, while Prestoza and Banatao (2024) and Lim and Go (2025) underscore how AI-enhanced pedagogy fosters engagement and supports the development of 21st-century skills. However, as Gustilo et al. (2024) caution, algorithmically driven writing raises ethical concerns related to academic integrity, fairness, and transparency. Collectively, these findings reveal a pressing need to establish structured, context-sensitive approaches that ensure AI integration into authentic assessments is pedagogically meaningful, ethically sound, and responsive to localized realities.

Although several frameworks provide valuable guidance for AI integration, important limitations remain. The Educationally Authentic Assessment Framework (Gono, 2024) primarily focuses on pedagogical authenticity, emphasizing task relevance, cognitive challenge, reflection, and formative feedback. While pedagogically robust, it does not explicitly address ethical issues related to AI use, such as transparency, accountability, bias, and responsible human oversight. Conversely, the Ethics of AI in Education framework (Holmes et al., 2022) provides comprehensive ethical principles for responsible AI use but offers limited guidance on designing authentic assessment tasks and instructional practices. Similarly, Guidance from UNESCO (2023, 2025) highlights policy and governance

considerations but does not operationalize how ethical principles may be embedded within authentic classroom assessments. Consequently, existing frameworks tend to address pedagogy, ethics, or institutional governance separately rather than as interconnected dimensions. The absence of an integrative framework that simultaneously addresses pedagogical authenticity, ethical responsibility, and institutional implementation represents a significant gap in the literature, particularly within higher education contexts in developing countries such as the Philippines.

In the Philippine context, initiatives such as the Education Center for AI Research (E-CAIR) and institutional policies on generative AI (De La Salle University–Dasmariñas, 2024) reflect growing interest in AI integration. Yet, despite these insights, there is a lack of comprehensive models that align leadership strategies, pedagogical authenticity, and ethical AI practices into a unified framework for higher education. This study responds to this gap by situating the development of a proposed AI-integration framework at the intersection of ethics, pedagogy, and institutional practice.

Guided by a mixed-methods design, this research addresses three interrelated questions:

1. How is AI currently integrated into authentic assessment practices among teachers and students in selected higher education institutions in Cavite, Philippines?
2. How do students and faculty perceive AI as influencing the authenticity, creativity, and originality of assessment outputs?
3. What framework can be proposed to guide the responsible and effective integration of AI in project-based authentic assessments?

By synthesizing empirical insights from local studies (Agbong-Coates, 2024; Prestoza & Banatao, 2024; Lim & Go, 2025), global guidance (UNESCO, 2023, 2025), and ethical principles (Holmes et al., 2022), this study positions itself to propose a systematic, context-sensitive framework. The framework aims to ensure that AI integration: (a) enhances

learning outcomes without compromising authenticity, (b) supports student creativity and reflective engagement, and (c) upholds ethical, transparent, and fair practices in project-based assessments. Ultimately, this research bridges theoretical, empirical, and practical dimensions of AI-enhanced authentic assessment, advancing the discourse and providing higher education institutions with a practical, implementable model for responsible AI use.

METHODOLOGY

This study employed an explanatory sequential mixed-methods design (QUAN → qual; Creswell & Plano Clark, 2018; Leavy, 2017). The quantitative strand was conducted first and served as the primary strand. Structured questionnaires were administered to students and faculty members to identify patterns in their perceptions and use of AI in authentic assessment. The qualitative strand followed and served an explanatory role. Semi-structured interviews were conducted with 15 purposively selected participants, eight faculty members and seven students, to explain and elaborate on the quantitative findings. Integration occurred during interpretation, when the qualitative themes were compared with and used to explain the survey results. The integrated findings subsequently informed the development of the proposed context-sensitive framework for AI integration in authentic assessment.

The study population comprised 1,525 individuals: 1,500 students and 25 faculty members drawn from college programs at five higher education institutions in Cavite, Philippines. The required student sample was estimated using Slovin's formula:

$$n = \frac{N}{1 + Ne^2}$$

where n is the required sample size, $N = 1,500$ is the student population, and $e = .05$ is the specified margin of sampling error. Substitution yielded

$$n = \frac{1,500}{1+1,500(.05)^2} = 315.79,$$

which was rounded up to 316 students. Proportionate stratified random sampling was used to obtain representation across the five institutions, academic programs, and year levels. Within each institution, students were grouped by academic program and year level—from the first through the fifth year, where applicable. The number of students selected from each stratum was determined proportionately based on enrollment, after which respondents were randomly selected from the corresponding institutional class lists.

Faculty participants were selected through purposive sampling. Inclusion criteria required participants to: (1) be full-time or part-time faculty members in participating institutions; (2) have at least one year of teaching experience in higher education; and (3) have direct experience designing, implementing, or evaluating project-based assessments in courses where AI tools were used or permitted. Faculty without experience in AI-supported assessment practices were excluded. For the qualitative phase, fifteen participants (eight faculty members and seven students) were purposively selected based on their willingness to participate, diversity of academic backgrounds, and demonstrated experience with AI-assisted assessment practices until data saturation was achieved.

Two research instruments were employed. The survey questionnaire included sections on demographics, task relevance, contextual realism, cognitive challenge, reflective engagement, formative feedback, ethical AI practices, and AI reliance in student outputs. It combined Likert-scale, multiple-choice, and open-ended items to collect both quantitative and qualitative data. The semi-structured interview guide explored participants' experiences, perceived benefits and challenges, ethical considerations, and recommendations for a context-sensitive AI-integration framework.

Both instruments underwent a rigorous validation process. The survey questionnaire and interview guide were reviewed by three experts specializing in educational assessment, educational technology, and

research methodology. Validators assessed the instruments in terms of clarity, relevance, coherence, and alignment with the study objectives. The computed item-level content validity index (I-CVI) values ranged from .87 to 1.00, while the Scale Content Validity Index (S-CVI) was .94, indicating excellent content validity. A pilot test involving 30 students and five faculty members from institutions not included in the final sample was subsequently conducted. Reliability analysis yielded acceptable internal consistency coefficients across constructs: task relevance and contextual realism ($\alpha = .89$), cognitive challenge and reflection ($\alpha = .87$), formative feedback and engagement ($\alpha = .91$), and ethical AI practices ($\alpha = .88$). Revisions following validation included rewording ambiguous items, simplifying technical terminology, and refining prompts to enhance contextual relevance and clarity.

Data collection followed a structured procedure. Approvals were obtained from HEI authorities and the Institutional Ethics Review Committee (IERC) of De La Salle University–Dasmariñas. Informed consent was secured, and participants were assigned unique codes to maintain anonymity. Survey questionnaires were administered, and interviews were recorded and transcribed verbatim. All digital and physical materials were securely stored and retained for five years before secure disposal, in accordance with institutional policies.

Data analysis integrated quantitative and qualitative approaches. Quantitative data were analyzed using frequencies, percentages, means, and weighted means to identify trends in AI integration and its perceived influence on authentic assessment practices. Qualitative data were analyzed using thematic analysis (Braun & Clarke, 2006), following a six-phase process of familiarization, coding, theme development, and interpretation. Emergent themes were triangulated with survey results to strengthen the validity and robustness of the findings. This comprehensive analysis informed the development of a practical, evidence-based framework for integrating AI into project-based authentic assessments, ensuring alignment with pedagogical authenticity, ethical principles, and contextual realities.

All procedures involving human participants in this study were

reviewed and approved by the Institutional Ethics Review Committee (IERC) of De La Salle University–Dasmariñas. The research was conducted in strict accordance with the ethical guidelines and regulations for human research outlined by the institution and in compliance with national and international standards for the conduct of educational research.

Informed consent was obtained from all participants prior to their involvement in the study. Participants were fully briefed on the purpose of the research, the voluntary nature of their participation, their right to withdraw at any time without consequence, and the measures in place to ensure confidentiality and data security. Unique codes were assigned to all participants (e.g., P1, F1) to prevent disclosure of identifiable information.

All data collection, storage, and retention procedures complied with institutional policies, ensuring ethical handling of participant information throughout the study.

RESULTS

This section presents the findings based on the data collected from the quantitative and qualitative research methods and organized using the explanatory sequential mixed-methods design proposed by Leavy (2017). In this approach, the quantitative phase is conducted first to establish general patterns and trends, followed by the qualitative phase to provide deeper insights and explanations that clarify or expand on the initial results. The integration of both strands allows for a more comprehensive and nuanced understanding of the phenomenon under investigation.

Consistent with the explanatory sequential mixed-methods design, qualitative findings were used not merely to corroborate quantitative results but to explain and interpret observed quantitative patterns. Specifically, qualitative themes were examined to explain variations in perceptions regarding task relevance, cognitive challenge, feedback practices, and ethical AI use. The integrated interpretation of both datasets informed the subsequent development of the proposed framework.

The Integration of Artificial Intelligence into Project-Based Assessments in Philippine HEIs

The extent to which AI tools are currently integrated into authentic assessment practices across Philippine higher education institutions (HEIs) was first examined. The table presents the quantitative results that describe faculty members’ and students’ perceptions of task relevance and contextual realism, cognitive challenge, and formative feedback and engagement in *this* integration.

Table 1 *Integration of artificial intelligence into Project-Based Assessments in Selected Higher Education Institutions in Cavite, Philippines*

Focus area	Students		Faculty members		Interpretation (students; faculty)
	M	SD	M	SD	
Task relevance and contextual realism	3.40	0.52	3.00	0.56	ME; ME
Cognitive challenge and reflection	2.91	0.62	3.35	0.69	ME; ME
Formative feedback and engagement	3.00	0.60	3.70	0.48	ME; CE

Note. *M* = mean; *SD* = standard deviation; LE = least extent; LIE = limited extent; ME = moderate extent; CE = considerable extent; GE = greatest extent. Scale interpretation: 1.00–1.80 = LE, 1.81–2.60 = LIE, 2.61–3.40 = ME, 3.41–4.20 = CE, and 4.21–5.00 = GE.

Table 1 presents students’ and faculty members’ perceptions of the extent of AI integration in project-based authentic assessment practices across three focus areas. Most group-level ratings corresponded to a moderate extent. For task relevance and contextual realism, the ratings of both students (*M* = 3.40, *SD* = 0.52) and faculty members (*M* = 3.00, *SD* = 0.56) were interpreted as moderate. For cognitive challenge and reflection, the ratings of students (*M* = 2.91, *SD* = 0.62) and faculty members (*M* = 3.35, *SD* = 0.69) were likewise interpreted as moderate. For formative feedback and engagement, the students’ rating remained moderate (*M* = 3.00, *SD* = 0.60), whereas the faculty members’ rating corresponded to a

considerable extent ($M = 3.70$, $SD = 0.48$). Descriptively, faculty members reported higher mean ratings for cognitive challenge and reflection and for formative feedback and engagement, whereas students reported higher mean ratings for task relevance and contextual realism. These results indicate differences in the two groups' perceptions; however, because Table 1 presents descriptive statistics only, the observed differences should not be interpreted as statistically significant.

The integration of AI in authentic assessments within the programs of Philippine higher education revealed several key themes across both quantitative and qualitative data.

Task Relevance and Contextual Realism

AI is perceived to enhance the real-world applicability of tasks. Quantitative findings show that students and faculty generally rate AI-assisted tasks as moderately to considerably aligned with real-life contexts. Faculty highlighted that AI facilitates the design of creative, experiential, and personalized learning tasks using real-world data and culturally grounded examples. Students echoed this perspective, noting that AI makes tasks more meaningful and relatable, providing clearer explanations, expanded ideas, and manageable task processes that connect academic activities to everyday, community, and workplace contexts.

Cognitive Challenge and Reflection

AI integration exerts a balanced influence on higher-order thinking. Quantitative results indicate moderate perceptions of cognitive challenge and reflective demands, suggesting that AI supports but does not replace critical thinking. Faculty perspectives identified three intersecting effects: AI can strengthen critical thinking through analysis, evaluation, and simulation; it can reduce engagement if students over-rely on AI outputs; and its effectiveness is contingent on instructional design. Students reflected similar insights, seeing AI as a tool for idea generation, structured reasoning, comparative analysis, and reflection, while recognizing risks when AI is used as a shortcut rather than a cognitive aid.

Formative Feedback and Learner Engagement

AI supports timely feedback and interactive engagement, though perceptions differ between students and faculty. Quantitative data show students perceive AI feedback at a moderate level, while faculty rate it as considerable. Faculty emphasized AI's role in providing clear, actionable, and dynamic feedback, supporting engagement in interactive learning tasks. They distinguished agentic engagement, where students actively use AI feedback to improve their outputs, from passive reliance, where cognitive effort may be offloaded. Students reported that AI enhances engagement by clarifying tasks, supporting drafting and practice, and increasing motivation, while noting the need for personal evaluation to maintain learning authenticity.

Ethical, Pedagogical, and Practical Considerations in AI Integration

Across both groups, AI is recognized as a tool that balances efficiency with ethical responsibility and pedagogical authenticity. Quantitative data show moderate perceptions across all indicators, with the top-ranked practices being adequate AI training, attention to ethical concerns, and effective use in project-based assessments. Faculty highlighted AI's potential to foster personalized learning and reflection, while warning against overreliance. Students emphasized AI's capacity to enhance meaningfulness, expand knowledge, and support active engagement, while requiring critical evaluation of outputs.

Overall, AI integration in authentic assessments supports realistic, contextually grounded, and cognitively engaging tasks, while fostering creativity, reflection, and learner engagement, provided there is appropriate human oversight and ethical implementation.

Student and Faculty Perceptions of Students' AI Use and Its Perceived Effects on Authentic Assessment

To examine students' use of artificial intelligence (AI) in authentic assessment and its perceived effects, students and faculty members rated

five statements concerning reliance on AI to complete assessment tasks, the originality and creativity of submitted work, innovative problem-solving, and learner autonomy. Table 2 presents the mean scores and standard deviations for both respondent groups. The ratings were interpreted using the five-level scale provided in the table note, ranging from least extent to greatest extent. These descriptive results compare students' and faculty members' perceptions of how AI use relates to students' assessment practices and learning.

Table 2. *Student and Faculty Ratings of Students' AI Use and Its Perceived Effects on Authentic Assessment*

Focus item	Students		Faculty members		Interpretation
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Students rely heavily on AI tools to complete assessment tasks.	3.04	0.73	3.2	0.63	ME; ME
AI use affects the originality of students' submitted work.	3.07	0.69	3.6	0.52	ME; CE
Overreliance on AI affects students' creativity in assessment outputs.	3.21	0.68	3.6	0.52	ME; CE
AI use encourages innovative approaches to problem-solving in authentic assessments.	2.99	0.62	3.1	0.88	ME; ME
AI use enhances students' autonomy in learning.	2.96	0.65	3.1	0.88	ME; ME

Note. *M* = mean; *SD* = standard deviation. Interpretations are presented in the following order: students; faculty members. LE = least extent; LIE = limited extent; ME = moderate extent; CE = considerable extent; GE = greatest extent. Scale interpretation: 1.00–1.80 = LE, 1.81–2.60 = LIE, 2.61–3.40 = ME, 3.41–4.20 = CE, and 4.21–5.00 = GE.

Table 2 shows that students' ratings for all five items corresponded to a moderate extent, with mean scores ranging from 2.96 to 3.21. Faculty members also provided moderate ratings for students' reliance on AI to complete assessment tasks (*M* = 3.20, *SD* = 0.63), the use of AI for innovative problem-solving (*M* = 3.10, *SD* = 0.88), and the enhancement of learner autonomy (*M* = 3.10, *SD* = 0.88). However, faculty ratings regarding the perceived effects of AI on the originality of submitted work (*M* = 3.60, *SD* = 0.52) and creativity in assessment outputs (*M* = 3.60,

SD = 0.52) corresponded to a considerable extent. Descriptively, faculty members provided higher mean ratings than students for all five items. Because the table reports descriptive statistics only, these differences should not be interpreted as statistically significant.

Table 3. *Major themes of reliance on AI in authentic assessment by students*

Major Themes	Significant Statements
1. Awareness of AI Limitations and the Need for Critical Evaluation	Participant 1: "I've been designed to flag potential errors or inconsistencies in AI-generated outputs, but users should still critically evaluate AI responses." Participant 2: "Yes. There were times when the answer didn't match what my teacher said. That made me unsure if the AI was giving the right explanation." Participant 5: "Once, I used AI to help me research sources, and it gave me some info that wasn't right. I checked other sources and found out that the AI was wrong." Participant 7: "I once asked AI to summarize a complex article for an assignment. But it missed important points. I questioned it, compared it with the original text, and fixed it myself."
2. Varied Extent of Reliance on AI	Participant 1: "Many students use AI a lot, especially for research, brainstorming, checking grammar, and summarizing their works, but it's important to still do our own work <i>and</i> think critically, not just copy what AI gives us." Participant 3: "Personally, I ask for help from AI when I have a hard time processing the tasks given. It goes to the extent that I just paraphrase answers so that <i>they</i> wouldn't be dubbed as AI." Participant 7: "Students vary widely in <i>their</i> reliance—some use AI lightly for planning or proofreading, while others depend heavily on it, which can affect authenticity."
3. Use of AI as a Support Tool Rather than a Replacement	Participant 6: "Some use it mainly as a support tool to clarify concepts, generate ideas, or check their work. Others may rely too much, using AI to draft responses or find answers." Participant 4: "By <i>using it</i> for summarizations, <i>studying</i>, and <i>solving</i> equations." Participant 2: "When making practice exams for a reviewer because there are <i>additional</i> exams."

4. Strategies to Ensure Authenticity	Participant 2: "I rewrite everything in my own words, add my own examples, and relate it to my understanding. I only use AI as a guide."
	Participant 5: "To ensure that the answers remain authentic despite AI usage is to make students use AI as a learning tool and a guide for their work, where they should be the ones to create and <i>develop</i> ideas, and AI will only be a guide."
	Participant 7: "I make sure my answers remain authentic by including personal experiences, documenting my process, and verifying that I can explain or defend any ideas AI helped me generate."
5. Purposeful and Intentional Use of AI	Participant 6: "By not just simply letting another AI tool detect it, but <i>by understanding</i> if this text would be something that this person would write."
	Participant 3: "An example is, 'Summarize this lesson because I have a quiz tomorrow.'"
	Participant 1: "Research. When doing research, it is good to use AI with purpose and intent, but AI sometimes may share incorrect information, which makes me question the answers it gives."
	Participant 4: "Yes, when I used a prompt to generate a photo, and it didn't <i>turn out the way I wanted</i> ."

Table 4. *Major themes of reliance on AI in authentic assessment by faculty members*

Major Themes	Significant Statements
1. Questioning AI Outputs and Ensuring Accuracy	Participant 1: "The AI platform gave different versions of a literary piece."
	Participant 2: "When the task is something I already know, I ask it to be more creative."
	Participant 4: "It's easy to spot an AI-generated output. Since the university has a learning management software system, I utilize it to comment on and point out to specific students that their answers are almost 100% AI-generated."
	Participant 5: "At times, I've also tested my students' skills by asking them to discuss points they raised or references they made in their research, especially when I know they've used AI."
	Participant 6: "I questioned an output when the AI gave confident but incorrect information, which didn't match the lesson context or reliable sources."
	Participant 7: "Yes. There are several situations where an AI-generated output may raise questions. Here is a strong example you can use: There are several situations where I question AI."
	Participant 8: "Yeah, just last week the AI gave a low score to a student's essay about community issues. It said their argument was weak, but when I read it, they'd used really specific local examples that the AI just didn't recognize as relevant. I ended up adjusting the score and having the student explain why those details mattered, so the AI's blind spot didn't mess up their grade."
	Participant 3: "I don't question it, but I make necessary corrections and perform verification."

2. Observations on Students' Reliance on AI	Participant 1: "They use it for paraphrasing and constructing essays."
	Participant 2: "I cannot speak for them, but I think they can be 100% reliant on it."
	Participant 3: "None."
	Participant 4: "It's automatic. They can rely on AI on almost any task, even those which have been designed to be AI-proof. I think it only depends on how they manipulate the information at hand."
	Participant 5: "Students often use AI for ideas and drafts, but some rely on it too heavily unless guided carefully."
	Participant 6: "Students' reliance on AI varies, but many use it moderately to heavily, depending on their skills, confidence, and the nature of the task. Here are some common practices among students. As a Support Tool (Moderate Reliance), many students use AI to support their work—not to replace it. They rely on AI for brainstorming ideas, clarifying difficult concepts, organizing thoughts, improving grammar or sentence structure, and receiving quick feedback. In this case, students still do the main work themselves."
	Participant 7: "Most students use AI to get started or gather info, like finding data or drafting ideas, but they still do the real work of putting it all together and making it their own."
	Participant 8: "Students rely heavily on AI for completing their tasks."
3. Ensuring Authenticity Despite AI Usage	Participant 1: "Trust, AI declaration."
	Participant 2: "Asking students to explain or present their work in class."
	Participant 3: "None."
	Participant 4: "It is necessary for students to be transliterate in a multiliterate world, for them to have the ability to navigate across platforms. And so, with a transdisciplinary emancipatory framework, I ensure that the students in my literature classes are able to demonstrate skills that are woven into that pedagogical framework."
	Participant 5: "I require students to explain their reasoning, show drafts, and connect their outputs to personal experiences or class discussions."
	Participant 6: "Require personalization and contextualization. Students must connect their answers to real-life experiences, local contexts, personal reflections, classroom observations, and community examples."
	Participant 7: "I make sure their work is authentic by asking them to tie everything back to their own experiences, local examples, or things the AI can't come up with on its own. And I always have them walk me through their thinking process, so I know they're not just copying what the AI said but actually understand it."
	Participant 8: "Require the students to submit their references."

Tables 3 and 4 present the qualitative themes derived from the accounts of students and faculty members, respectively. Student responses yielded five themes: awareness of AI limitations and the need for critical evaluation, varied levels of AI reliance, use of AI as a support tool rather than a replacement, strategies for ensuring authenticity, and purposeful and intentional AI use. Faculty responses yielded three themes: questioning AI

outputs and ensuring accuracy, observations regarding students' reliance on AI, and ensuring authenticity despite AI use. Cross-group comparison therefore indicated convergence in three principal areas: the critical evaluation of AI outputs, recognition of varying levels of student reliance, and the use of safeguards to preserve authenticity. Both groups also described practices consistent with using AI as a support tool rather than as a substitute for human judgment. However, purposeful and intentional AI use emerged as a distinct theme only in the student data and should not be presented as a confirmed theme for both groups.

Taken together, the findings demonstrate that students and faculty members share concerns regarding the accuracy of AI-generated content, the risks associated with overreliance, and the need to preserve originality and accountability. Students emphasized verification, personalization, process documentation, reflective justification, and goal-directed AI use. Faculty members emphasized verification of AI-generated content, oral explanations, contextualization, process documentation, and other assessment practices that allow instructors to evaluate students' understanding. These related but not identical perspectives provide a more precise account of how AI is shaping authentic assessment practices and inform the development of the proposed framework for responsible AI integration.

Theme 1: Shared Emphasis on Critical Evaluation of AI Outputs

Both faculty members and students emphasized the importance of critically evaluating AI-generated outputs rather than accepting them at face value. Students reported encountering inaccuracies or incomplete responses from AI tools and responding by cross-checking sources and revising content, while faculty described actively questioning AI outputs, correcting errors, and probing students' understanding through follow-up discussions. This shared vigilance highlights the continued centrality of human judgment in AI-assisted authentic assessment.

Theme 2: Mutual Recognition of Varied Levels of AI Reliance

Faculty and students alike acknowledged that reliance on AI varies widely among learners. Students described differing personal practices, ranging from limited use for clarification to extensive reliance for drafting and task completion. Faculty observations reinforced this pattern, noting that students' dependence on AI is shaped by task design, skill level, and the guidance provided. This mutual recognition suggests that AI reliance is not uniform and must be addressed through intentional instructional strategies.

Theme 3: Consensus on AI as a Support Tool Rather Than a Substitute

Both groups consistently viewed AI as a tool that supports learning processes rather than replacing student thinking. Students reported using AI for brainstorming, summarizing, and organizing ideas, while faculty emphasized that meaningful learning occurs when students retain responsibility for analysis, interpretation, and synthesis. This consensus underscores the role of AI as a cognitive aid that enhances, but does not replace, authentic student engagement.

Theme 4: Shared Strategies to Safeguard Authenticity and Originality

Faculty and students identified parallel strategies to ensure authenticity in AI-assisted assessments. Students emphasized rewriting content in their own words, adding personal insights, and defending their ideas, while faculty described requiring contextualization, oral explanations, process documentation, and reference verification. These complementary practices function as safeguards that preserve originality, accountability, and academic integrity in AI-supported tasks.

Theme 5: Student Emphasis on Purposeful and Intentional AI Use

Purposeful and intentional AI use emerged as a distinct theme in the student accounts. Students described goal-directed uses of AI for study, review, research, clarification, and content generation while recognizing the need to verify AI-generated outputs and retain responsibility for their final

work. Faculty members emphasized structured guidance, clear expectations, and safeguards against misuse or overreliance; however, these responses were categorized under ensuring authenticity rather than purposeful AI use as a separate theme. Accordingly, purposeful and intentional AI use is reported primarily as a student-derived theme, with faculty responses providing related but indirect support.

The quantitative findings indicated that students rated all five aspects of AI use and reliance at a moderate extent. Faculty members provided moderate ratings for students' reliance on AI, innovative problem-solving, and learner autonomy, but considerable ratings for AI's perceived effects on originality and creativity. The qualitative findings provide further context for these results. Students demonstrated awareness of AI's limitations by verifying outputs and using personalization and critical reflection to preserve authenticity. Faculty members similarly emphasized human oversight, contextual judgment, and assessment designs requiring explanation, defense, and real-world grounding. Taken together, the findings suggest that AI is most appropriately positioned as a cognitive and pedagogical support tool when its use is guided, ethically framed, and anchored in authentic assessment principles.

Proposed Framework for Integrating AI in Project-Based Authentic Assessments

AI-Enhanced Educationally Authentic Assessment Framework

This framework conceptualizes AI as a pedagogically governed support system embedded within project-based authentic assessments in higher education. Anchored on the Educationally Authentic Assessment Framework, it emphasizes learning authenticity, student agency, and human oversight.

The proposed framework was systematically derived through the integration of quantitative findings and qualitative themes. Quantitative results demonstrated moderate to considerable perceptions regarding

task authenticity, cognitive challenge, formative feedback, and ethical AI practices. Qualitative findings further explained these patterns by identifying five recurring themes: (1) critical evaluation of AI outputs, (2) varied levels of AI reliance, (3) AI as a support tool rather than a replacement, (4) strategies for safeguarding authenticity, and (5) purposeful and intentional AI use. These empirically derived themes served as the foundational elements of the framework. Accordingly, the framework synthesizes pedagogical, ethical, and institutional dimensions emerging from participant experiences rather than merely adapting existing theoretical models.

Core Dimensions of the Framework

1. AI-Supported Authentic Task Design

Focus: Task Relevance and Contextual Realism

- AI assists educators in designing project-based tasks grounded in real-world, local, and culturally meaningful contexts.
- Tasks emphasize community issues, workplace simulations, and discipline-based applications.
- AI functions as a design amplifier, expanding contextual depth while preserving instructor intent.

2. AI-Mediated Cognitive Challenge and Reflective Engagement

Focus: Higher-Order Thinking and Metacognition

- AI supports idea generation, comparative analysis, and structured reasoning.
- Students remain responsible for interpretation, synthesis, and reflection.
- Learning activities require explanations of reasoning, reflective commentary, and decision justification.
- AI functions as a cognitive scaffold, not a replacement for thinking.

3. AI-Enabled Formative Feedback with Human Oversight

Focus: Feedback Quality and Learner Engagement

- AI provides timely, iterative, and actionable formative feedback.
- Educators validate, contextualize, and supplement AI-generated feedback.
- Feedback cycles promote revision, dialogue, and improvement.
- AI functions as a feedback accelerator under continuous human judgment.

Integrative Principle: Purposeful and Reflective AI Use

Across all dimensions, AI use is governed by:

- Intentional alignment with learning outcomes
- Student originality and personalization
- Transparency in AI use and process documentation
- Active human oversight and

DISCUSSION

This study examined how AI is currently integrated into project-based authentic assessments in college programs within the selected higher education institutions, how such integration influences authenticity, creativity, and originality, and what framework may guide responsible and effective AI use. By integrating quantitative trends and qualitative insights from both faculty and students, the discussion situates the findings within existing theoretical, ethical, and policy-oriented literature on AI-enhanced authentic assessment.

AI Integration and Educational Authenticity in Project-Based Assessment

Findings indicate that AI integration in authentic assessments is generally perceived at a moderate to considerable extent across task relevance and contextual realism, cognitive challenge and reflection, and formative feedback and engagement. This suggests that AI is neither marginal nor

dominant in current assessment practices but is increasingly embedded as a supportive pedagogical tool. These results align with Gono's (2024) assertion that authenticity in assessment is achieved not simply by task simulation but through meaningful engagement with real-world contexts, reflective processes, and learner agency.

Both students and faculty emphasized that AI enhances task relevance by enabling the design of assessments grounded in real-life, local, and culturally situated contexts. Faculty members described using AI to generate realistic scenarios, community-based problems, and discipline-specific applications, while students reported that AI-supported tasks felt more relatable, manageable, and connected to everyday and future workplace experiences. These findings echo prior research suggesting that AI can enrich contextual realism and personalization when aligned with instructional intent (Agbong-Coates, 2024; Lim & Go, 2025). In the Philippine context—where learning is often rooted in sociocultural and community engagement—AI appears to function as a contextual amplifier rather than a decontextualizing force.

Cognitive Challenge, Reflection, and the Risk of Overreliance

The study revealed a balanced influence of AI on cognitive challenge and reflective engagement. Quantitative results indicate moderate perceptions of AI's contribution to higher-order thinking, while qualitative data illuminate a nuanced interplay between cognitive support and potential dependency. Faculty members articulated three intersecting positions: AI can strengthen analysis, evaluation, and simulation; it may diminish critical engagement when overused; and its educational value is contingent upon task design and instructional guidance. Students similarly recognized AI's usefulness in idea generation, comparison, and structured reasoning but cautioned against its use as a shortcut that bypasses thinking.

These findings support earlier concerns raised by Gustilo et al. (2024) regarding algorithmically assisted writing and the need to preserve intellectual labor and authorship. At the same time, they reinforce Baker

and Hawn's (2021) argument that AI can function as a cognitive scaffold rather than a substitute when learners retain responsibility for interpretation, synthesis, and reflection. The results therefore underscore that AI does not inherently weaken or strengthen cognitive challenge; rather, its impact depends on pedagogical framing, assessment design, and explicit expectations regarding student reasoning and reflection.

Formative Feedback, Engagement, and Human Mediation

One of the strongest areas of convergence between quantitative and qualitative findings is the role of AI in formative feedback and learner engagement. Faculty members rated AI's contribution to feedback at a considerable extent, highlighting its capacity to provide timely, clear, and actionable input that supports iterative improvement. Students likewise reported increased engagement due to AI's immediacy, particularly in drafting, reviewing, and practice activities. These findings resonate with Lim and Go's (2025) observation that AI-enhanced feedback can sustain learner motivation and engagement when embedded in reflective learning cycles.

However, both groups distinguished between agentic engagement, where students actively use AI feedback to refine their work, and passive engagement, where feedback leads to cognitive offloading. This distinction reinforces the importance of human oversight, as emphasized in UNESCO's (2025) guidance on human-centered AI. The findings suggest that AI-generated feedback is most effective when educators validate, contextualize, and supplement it, ensuring that feedback remains dialogic rather than purely automated.

Authenticity, Originality, and Ethical AI Reliance

Results related to AI reliance reveal a moderate level of dependence among students, accompanied by a strong awareness of AI's limitations. Both faculty and students consistently emphasized critical evaluation, verification, and personalization as essential practices. Students reported cross-checking AI outputs, rewriting content in their own words,

and incorporating personal or local examples, while faculty required explanations, oral defenses, drafts, and contextual grounding. These shared strategies align with Holmes et al.'s (2022) principles of transparency, accountability, and human oversight in AI-supported education.

Importantly, AI was widely framed as a support tool rather than a replacement for student thinking, creativity, or authorship. While concerns about originality and creativity were evident—particularly in cases of overreliance—participants also acknowledged AI's potential to encourage innovative approaches to problem-solving and autonomous learning when used intentionally. This finding supports UNESCO's (2023, 2025) position that ethical risks associated with AI are mitigated not through prohibition but through guided, transparent, and pedagogically grounded use.

Implications for a Framework on Responsible AI Integration

Taken together, the findings highlight a critical gap between emerging AI practices and the need for a coherent, pedagogically anchored framework that integrates authenticity, ethics, and institutional guidance. While participants demonstrated adaptive and reflective AI use, reliance on individual strategies alone may lead to inconsistency and inequity across courses and institutions. This underscores the necessity of a structured framework that aligns AI integration with authentic assessment principles, ethical safeguards, and human oversight.

In response, the proposed AI-enhanced Educationally Authentic Assessment Framework positions AI as a pedagogically governed support system embedded within project-based learning. Anchored in Gono's (2024) Educationally Authentic Assessment Framework and informed by ethical AI principles (Holmes et al., 2022; UNESCO, 2025), the framework emphasizes AI-supported task design, cognitively demanding and reflective learning, formative feedback with human mediation, and purposeful, transparent AI use. The framework offers participating institutions a practical, context-sensitive model for responsible AI integration. It also provides preliminary insights that may inform similar Philippine higher education contexts.

Summary of Discussion

Overall, the findings suggest that participants did not perceive artificial intelligence (AI) integration in authentic assessment as inherently beneficial or detrimental. Instead, its educational value was perceived to depend on how its use was designed, guided, and governed. Participants generally viewed AI as supporting task realism, cognitive engagement, and formative feedback when it was aligned with authentic assessment principles, ethical safeguards, and human-centered pedagogy. At the same time, the quantitative and qualitative findings identified potential risks to originality, creativity, and authenticity when AI use became excessive or insufficiently guided. These context-specific findings from selected higher education institutions in Cavite, Philippines, informed the proposed framework for responsible AI integration in project-based authentic assessment and may offer preliminary guidance for institutions operating in comparable contexts. Further validation across other institutions, disciplines, and student populations is necessary before the framework can be applied more broadly.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the role of AI in project-based authentic assessments within Philippine higher education, with particular attention to issues of trust, ethics, authenticity, and pedagogical integrity. Drawing from a sequential mixed-methods design, the findings demonstrate that AI integration in authentic assessment practices is currently perceived at a moderate to considerable extent across task relevance, contextual realism, cognitive challenge, reflective engagement, and formative feedback. These results indicate that AI is already embedded in assessment practices not as a dominant force, but as a supportive pedagogical tool whose educational value depends largely on how it is designed, guided, and governed.

Quantitative and qualitative findings converge in showing that AI

enhances task realism, feedback timeliness, and learner engagement when aligned with authentic assessment principles. Faculty and students alike view AI as a means to amplify contextual depth, support idea generation, and facilitate iterative improvement, particularly in project-based tasks grounded in real-world and local contexts. However, the study also reveals consistent concerns regarding overreliance, originality, and the potential erosion of cognitive effort when AI use is unguided. These concerns reinforce the conclusion that AI does not inherently compromise authenticity; rather, its impact is mediated by human oversight, instructional design, and ethical framing.

Importantly, both students and faculty demonstrate a strong awareness of AI's limitations and emphasize critical evaluation, verification, personalization, and reflective justification as essential practices. AI is widely conceptualized not as a replacement for student thinking or creativity, but as a cognitive and pedagogical scaffold that supports higher-order thinking when students remain accountable for interpretation, synthesis, and reflection. This shared stance underscores the centrality of trust—not blind trust in technology, but trust grounded in transparency, accountability, and human judgment.

In response to these findings, the study proposed the AI-enhanced Educationally Authentic Assessment Framework, which situates AI within the core dimensions of authentic assessment: task relevance, cognitive challenge, reflective engagement, and formative feedback, all governed by purposeful and ethical use. Anchored in established pedagogical and ethical frameworks, the proposed model offers a context-sensitive approach that balances innovation with integrity, particularly within the Philippine higher education landscape. The findings should be interpreted in light of certain limitations. Data were collected from only five higher education institutions located in Cavite, Philippines; therefore, the results are not intended to represent all Philippine higher education institutions. While the participating institutions provided diverse perspectives, broader generalizations should be made cautiously. Future studies involving larger and more geographically diverse samples are necessary to validate and

refine the proposed framework across different institutional contexts. Overall, this research contributes empirical and conceptual insights to the growing discourse on responsible AI integration, affirming that educational authenticity and ethical trust can be sustained when AI is intentionally aligned with human-centered pedagogy.

RECOMMENDATIONS

Based on the conclusions of the study, the following recommendations are proposed to support responsible, ethical, and pedagogically sound integration of AI in authentic assessments:

First, higher education institutions should develop clear, context-sensitive AI policies and guidelines that explicitly define acceptable, transparent, and ethical uses of AI in assessment. These policies should emphasize AI as a support tool rather than a substitute for student thinking and should require disclosure, process documentation, and accountability in AI-assisted outputs.

Second, faculty development programs should be strengthened to build AI pedagogical literacy, particularly in designing authentic, AI-aware assessments. Training should focus on task design that requires contextualization, explanation, reflection, and defense of ideas, ensuring that AI use enhances rather than diminishes cognitive challenge and originality.

Third, assessment designs should intentionally embed safeguards for authenticity, such as reflective components, oral defenses, iterative drafts, and locally grounded or personalized tasks that cannot be easily outsourced to AI. These strategies help preserve student agency, creativity, and ownership of learning while allowing AI to function as a cognitive scaffold.

Fourth, human oversight must remain central in AI-enabled formative feedback systems. While AI can provide timely and actionable feedback, educators should validate, contextualize, and supplement AI-generated responses to ensure fairness, accuracy, and relevance, particularly

in culturally and locally situated assessments.

Fifth, students should be explicitly taught ethical and reflective AI use as part of academic literacy. Instruction should emphasize critical evaluation of AI outputs, responsible prompting, verification of information, and metacognitive reflection on how AI contributes to learning rather than merely task completion.

Finally, future research is encouraged to test and refine the proposed AI-enhanced Educationally Authentic Assessment Framework across disciplines, institutional types, and learning modalities. Longitudinal and experimental studies may further examine how guided AI use influences learning outcomes, creativity, and ethical decision-making over time.

By implementing these recommendations, higher education institutions can foster a culture of trustworthy, ethical, and educationally authentic AI integration, ensuring that technological innovation strengthens—rather than undermines—the core values of teaching, learning, and assessment.

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INVESTMENTS IN THE DEVELOPMENT OF RESEARCH CULTURE

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ABSTRACT

This study examined the human capital and resource investments necessary to develop a research culture in teacher education institutions. Using narrative inquiry, interviews were conducted with key informants from seven reputable teacher education institutions in the Philippines, and the data were analyzed thematically using NVivo 11.3.2. Findings contributed to the development of the Gestation–Expansion–Maturation (GEM) Theory of Research Culture Development by identifying the investment-related conditions that facilitate progression across developmental stages. Six interrelated themes emerged across three stages of development. During Gestation, institutions focus on capability-building through enabling faculty and allocating budgets. Expansion is characterized by collaboration through the formation of research teams and the attainment of external grants. Maturation is achieved when institutions establish research leadership through spearheading projects and generating resources. The findings suggest that research culture develops through a cycle of observable and measurable inputs that contribute to subsequent institutional outputs and outcomes. As the investment dimension of the GEM Theory, the framework provides university leaders and research administrators with a practical roadmap for strategically allocating human and material resources to strengthen and sustain research culture.

Keywords: research culture, investment, human capital, resource allocation

INTRODUCTION

Universities and higher education institutions, in general, are challenged to focus on research productivity and to develop their research culture. The Commission on Higher Education (CHED) Memorandum Order No. 46, series of 2012, introduced a typology for Philippine higher education institutions. This quality assurance system puts into place a horizontal typology wherein a higher education institution can be classified as a professional institution, college, or university, to be better equipped and positioned to address the needs and challenges of the changing educational landscape in the local, national, and international contexts (Commission on Higher Education, 2014). An institution is classified as a university when a premium is placed on “providing highly specialized educational experiences to train experts in various technical and disciplinary areas and by emphasizing the development of new knowledge and skills through research and development...thus a research orientation is emphasized in the bachelor, master’s, and doctoral degree programs.” This implies a robust culture of research permeating all levels of the organization.

Evans (2012) defines research culture as the shared values, assumptions, beliefs, rituals, and behaviors through which an academic community recognizes the importance of research and its outputs. Within such a culture, research is integrated into the institution’s core operations rather than treated as an ancillary activity. Developing this culture requires supportive institutional conditions. Bland and Ruffin (1992, as cited in Jung, 2012) identified resources, particularly human resources, as important contributors to a productive research environment. Similarly, Houlihan (2007) reported that relatively few students entered the program with adequate field-research skills and that most required substantial instruction and assistance to complete their research projects. Collectively, these studies suggest that developing research competence requires not only capable human resources but also adequate institutional, instructional, and material support to sustain research productivity.

Marchant (2009) cited the following elements to be considered

in the development of research and research culture: high-level focus, a specialized research leadership and administration unit, local or sub-unit factors, and human resource management policy, procedures, and processes. In addition, Pratt et al. (1999) conducted a case study that identified decentralized management within the higher education institution's structure and strong leadership at the dean level as vital considerations for the maturation of research culture. For quality outputs, quality inputs are essential. In the previously mentioned research, quality human resources are a must. Over time, in various phases, certain elements need to be examined to facilitate the growth of the research culture.

Research practices imply both human and non-human resources that should be present for a higher education institution to move from mere establishment to nourishment and ultimately to its complete enhancement. The Commission on Higher Education (CHED) has issued directives to improve research productivity and alleviate the scarcity of research in colleges and universities nationwide (Salazar-Clemeña & Almonte-Acosta, 2007). Various higher education institutions in the Philippines are pursuing initiatives to strengthen their research practices. Despite CHED's initiatives, there remains a need to improve research undertakings in the country in terms of quantity, quality, thrusts, and contribution to national development (Salazar-Clemeña in Salazar-Clemeña & Almonte-Acosta, 2007).

While existing studies have identified factors that contribute to research productivity and research culture, the literature remains limited in explaining how research culture develops over time as institutions progress from emerging to mature research environments. Much of the existing scholarship focuses on isolated factors such as leadership, resources, policies, and incentives, with little attention given to the developmental phases through which research culture evolves. Moreover, there is a paucity of localized frameworks that describe and categorize the stages of research culture development within Philippine higher education institutions. Given the unique policy environment, organizational structures, and research mandates of Philippine higher education institutions, there is a need for a contextually grounded model that explains how investments in human and

material resources contribute to the progressive development of research culture.

Taken together, these studies suggest that research culture develops through a series of stages characterized by varying levels of investment in human and material resources. Rather than viewing research culture as a static institutional attribute, the study conceptualizes it as an evolving organizational capability shaped by people, resources, and research activities. This developmental perspective is articulated through the Gestation–Expansion–Maturation (GEM) framework, which explains how teacher education institutions progress from establishing foundational research capacities to achieving sustained research productivity and institutional recognition. Gestation represents the stage in which the foundations of research culture are laid through capability-building and resource provision. Expansion occurs when institutions experience increasing research engagement, collaboration, and productivity. Maturation is reached when research becomes embedded in institutional practices, enabling institutions to consistently generate quality outputs, lead research initiatives, and establish their standing within the academic community. Figure 1 illustrates how these stages are achieved through the interaction of human capital, resource allocation, and research activities. The developmental logic of the framework has subsequently been examined through its investment, process, dynamics, and outcomes dimensions, further supporting the view of research culture as a progressive and evolving institutional capability (Olvido, 2020; Olvido, 2021a; Olvido, 2021b; Olvido, 2022).

The GEM framework posits that progression through developmental stages is driven by strategic investments in people, resources, and research. While the specific manifestations of these investments vary across institutions, they collectively influence an institution's capacity to establish, expand, and sustain its research culture. Figure 1 illustrates the developmental process and highlights the factors that drive movement through the stages of Gestation, Expansion, and Maturation. Although progression is generally cumulative, research culture development is

not necessarily linear; institutions may stagnate or regress when critical investments and support mechanisms are not sustained (Olvido, 2020, 2021b, 2022).

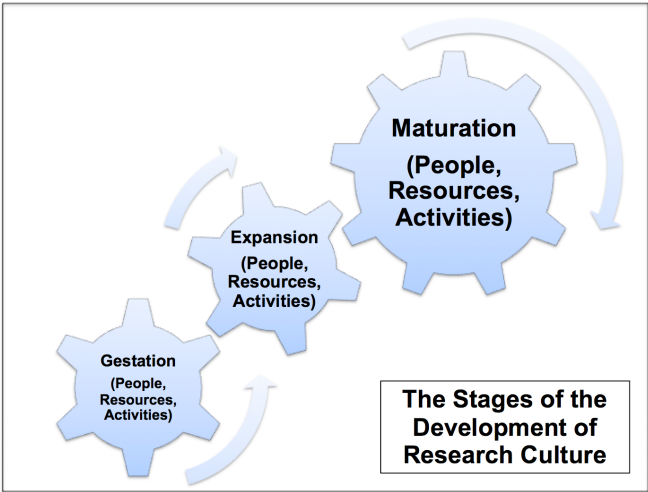


Figure 1. *The Gestation–Expansion–Maturation Theory on the Development of Research Culture*

This paper sought to explain the developmental process of research culture in teacher education institutions (TEIs), a specific category of higher education institutions (HEIs), by identifying the human and material investments, institutional practices, and milestones that characterize the Gestation, Expansion, and Maturation stages. This study is significant both theoretically and practically. Theoretically, it contributes to the literature on research culture by advancing the understanding of it as an evolving organizational capability shaped by strategic investments in people, resources, and research activities. In doing so, it provides a contextually grounded explanation of how teacher education institutions progress toward research maturity and provides empirical support for the Gestation–Expansion–Maturation (GEM) framework of research culture development. In practice, the findings offer university administrators, research directors, and policymakers an evidence-based framework to guide investments in faculty development, resource allocation, collaboration, and research

leadership to strengthen institutional research capacity, productivity, and long-term sustainability.

METHODOLOGY

This qualitative study used narrative inquiry to examine how research culture developed over time within teacher education institutions. Specifically, narrative inquiry was used as a method of investigation, as the development of research culture unfolds over time as a narrative within the context of a higher education institution. Using purposive sampling, data were gathered from teacher education institutions in Region VII with at least Level II accreditation, indicating a level of institutional development that typically includes research structures and initiatives, and engagement in research-related activities. The institutions were selected to capture variation in the experiences of accredited teacher education institutions in Region VII and to provide a range of perspectives on the development of research culture within the teacher education context.

Semi-structured interviews were conducted with the Vice President for Research, Research Director, and Dean of the College of Education, depending on the positions available within each institution. The interview guide was developed based on the study objectives and relevant literature and was reviewed by the research expert panel to ensure alignment with those objectives. These individuals were selected because they hold leadership roles that offer complementary institution-wide and program-level perspectives on the development of research culture. Vice Presidents for Research and Research Directors provide insights into research governance, policy, resource allocation, and strategic directions, while Deans offer perspectives on implementing and integrating research initiatives within teacher education programs. Collectively, these informants provide a comprehensive account of the investments, practices, and developmental milestones that shape research culture within teacher education institutions.

Interviews were conducted in the participants' offices and lasted between 20 and 58 minutes. With the participants' consent, the interviews

were audio-recorded for transcription and analysis. Consistent with the principles of narrative inquiry, the researcher adopted a facilitative role by encouraging participants to recount their institutional experiences, using follow-up probes to clarify and elaborate, and avoiding leading questions that could influence their responses. Participation in the study was voluntary. Prior to the interviews, participants were informed of the purpose of the study, and their consent was obtained. To protect confidentiality, all names of individuals and institutions, as well as any identifiable information, were coded during transcription and reporting.

The data were analyzed thematically following Braun and Clarke's (2006) six-phase approach. First, the researcher engaged in data familiarization, which involved transcribing the interviews verbatim, reading and reviewing the data, and taking down initial ideas. Second, the generation of initial codes was completed, and the search for themes was conducted. Third, themes were reviewed against the coded extracts and the complete data set. The researcher did this three times using NVivo 11.3.2. All names of people, institutions, events, and other data that could be used to identify the informants were coded to ensure confidentiality. The researcher sought themes regarding the human and other resources present at each stage of the development of research culture, including their attributes and characteristics as reported by the different informants, by identifying significant statements and deriving formulated meanings from them. These themes were reviewed, and the researcher identified the "narrative" that could be drawn out from them. Mind maps were drawn as the last step, and themes were finally defined, named, and reported in the next section of this paper.

RESULTS

Analysis of the interviews yielded six overarching themes characterizing research culture as an institutional investment in teacher education institutions. The codebook containing the complete list of

significant statements and formulated meanings has thirty-six pages. For this paper, only vignettes of the interviews are cited, and a summary of the formulated meanings and significant statements is appended (Appendix A–C).

Table 1. *Milestones and Key Action Points on the Inputs of Research Culture as an Investment*

Research Culture as a Investment: Inputs			
Stage	Milestone	Human Capital	Resource Allocation
Gestation	Capacity-Building	Enabling Faculty	Allocating Budget
Expansion	Collaboration	Building Teams	Attaining Grants
Maturation	Institution	Spearheading Projects	Generating Resources

Operating on the assumption that the development of research culture is evidence-based and consists of observable and measurable inputs and outputs, these themes are reported *as* milestones and key action points (Table 1). However, it is important to recognize that these themes are not to be taken separately but are interconnected aspects of the development of research culture.

This paper focuses on the human and non-human resources at the varying levels of the development of research culture, thus focusing on the definition of research as an investment that needs to be evidence-based and that consists of observable and measurable inputs and outputs. The findings suggest that although research culture is a broad and abstract concept that may not have one encompassing definition, its presence must be evidence-based. The interviews revealed that this evidence can be classified into two major categories: inputs (which are facilitated by research-driven policies) and outputs (that reflect development-oriented outcomes). Research culture is said to be evident as an input in a teacher education institution when there is the harnessing of human capital accompanied by adequate resource allocation.

Capacity building begins first and foremost with enabling the faculty (Appendix A, Table 2) as the faculty are the prime movers of research in the teacher education institution. With all 14 informants as participants, this theme is comprised of 52 formulated meanings and 197 significant statements. However, upon further analysis, these 52 formulated meanings can be narrowed down to five clusters.

In this stage of research culture development, the researcher noted that the institution should provide training and a variety of capability-building activities to train faculty researchers (CEF 3), taking into consideration that learning how to research and the act of doing research are different for each person or individual (CEF 1). P4 states under EF1 that,

“For me, the research training series, once we finish one round of that and we get to produce researches, I’m positive they will learn to like it.”

While P9 says,

“In general, of course teachers have ambivalent feelings because several trainings have been conducted for capability building. But we have to understand that research should come from within the person...”

Therefore, it can be said that enabling the faculty entails that those designing capability-building activities should have knowledge of the characteristics of the faculty.

Interviews revealed that faculty training, no matter how contextualized to faculty members’ needs and interests, is not enough. They should be given a supportive research environment and community (CEF 2) and backed by sound research policies (CEF 4). A supportive learning community includes both the technical aspect, as highlighted by the statement of P11 under EF25 that,

“... A school that has not started conducting research, I think what I could advise the school is to look for somebody that will guide its faculty in doing it. Somebody who is already into that kind of work”.

And the motivational aspect as stated by P9 under EF36,

“Modeling means those people who are encouraging people also to write, to do research, and to conduct research should be researchers themselves because if they ask people to do research and then they themselves have no research, then that won’t do”.

Policies then should be in place for the creation of this support system.

Lastly, enabling the faculty is a continuous and ongoing process for all the institutions (CEF 5). The informants shared that many of their assumptions are tested and sometimes proven wrong as they go along but that this is part of the process. P1 says,

“Despite the handsome incentives provided by the university, very few papers were submitted under the program.”

These insights often led to redirection and reinvention, implying a mature research culture that has a responsive system of enabling the faculty in place.

To build the capacity of human capital, the institution needs to allocate budget (Appendix A, Table 3) to mobilize resource allocation. This can be clearly observed in certain activities like the provision of research grants (AB10), training programs (AB13), and incentives (AB14 and AB17). This is also *evident* when research becomes part of the promotion system (AB03) and *when setting* in place monitoring and evaluation systems (AB09). The allocation of budget is seen as a form of support (AB06) and investment (AB06). It should be deliberately done, but certain budget-allocation policies can be counterproductive to the development of research culture (AB02). P12 and P13 mention certain Commission on Audit

policies that discontinue certain research incentives. In the statement of P6, the challenge comes from the lack of permanent faculty items for the faculty.

“I think it’s the same here but the thing is, I do not know why, we cannot give the item. We really have teachers who are really very good but they are not here anymore because they have to look for greener pastures. That is it. So had we been all permanent, then perhaps the drive is stronger. But the situation is we are just waiting for DepEd to call our teachers now and when they come, we look for other teachers (P6).”

The researcher notes that there are certain insights shared by the informants that should be taken into consideration. Two informants have shared that allocating budget, though important, does not equate to productivity (AB01) and that despite the lack of monetary support, research productivity is seen when the researchers do not rely on institutional budget (AB18). P4 shares,

“My problem now is that there is a lot of budget for research and yet we are producing very few papers. (Problema lagi jud ko kay daghan man kaayo’g budget sa research, gamay ra ma’g papers).”

P9 adds that,

“There is money... We have that, but the teachers are very busy now, I understand. We have good proposals.”

Expansion

The next milestone is building teams (Appendix B, Table 4) and attaining grants (Appendix B, Table 5). In building teams, the institution should have clearly identified and worked with *its* stakeholders (BT01, BT08, and BT09) and recognized that human capital does not only mean

the faculty (BT02, BT09, BT21, and BT23). There are important insights on this theme that build on the previous stage such that building teams require mentoring and modeling (BT05), therefore serving as a reminder that the statements, meanings, and themes are not separate elements; rather, they form part of a larger whole.

Important insights gleaned from the interviews in this stage of research development include the acknowledgment that building teams takes time (BT03), requires a team mindset (BT06), and must be pursued deliberately (BT08). P2 states that,

“And then research directors or coordinators will be meeting regularly to discuss how many outputs were already published. So there are metrics and there are targets. When you say metrics and targets, once this particular target is reached for this particular month, that is even better. But if it’s not yet being reached, then we help this particular college on what to do. The university is really in collaboration along the way.”

Teams are not only limited to the technicalities of research but should also foster the growth of each member of the team (BT22). P2 adds,

“It’s not really looking at research per se, ‘You have to do research because it’s a requirement for CHED.’ We don’t do that. We do action learning programs. For example, I myself am an action learning moderator. So I do action learning from time to time, ‘How are you doing?’ Those process questions are very important. (We) process activities before we do the academic tasks. It’s very important that we should do a ‘kumustahan.’ We should also ask, ‘What’s your level of participation? Why are you not participating?’ Of course, that’s very important to monitor and talk to faculty members more often and talk to them personally because I’ve been doing that for 3 years when I was still chair.”

Those who build teams for research should also take note that

teams are built because of a shared vision (BT18) and thus help ensure sustainability (BT19), especially when structures are put into place that are supportive of collaboration (BT16). In line with the formation of themes, an institution at the level of expansion also moves from just utilizing the budget that is allocated to attaining grants (Table 5). This activity can be burdensome (AG01) and can be seen as a challenge (AG02), especially for administrators who need to take initiatives (AG09) in answering the call for proposals (AG10) and seeking funding agencies (AG11). P2 reveals,

“Before, we were benchmarking but right now we are very much confident to share and to exchange practices with others (collaborative research). And of course, it’s very important since we don’t have much funding, research is very expensive, and we also do some commissioned research. We look for partner companies or agencies who would like to seek a partnership.”

At first, it may seem that attaining grants is only done to fund or augment the funding for research. The interviews revealed that the achievement of grants is considered a testament to a developing research culture (AG08) and can be motivational (AG06). P13 shares that,

“One particular experience that I can relate to this is I was one of the first to be given a chance to present the paper with the support of the CHED Zonal Center. After that experience, there were also others who followed suit and they asked me how to apply for it, and it started a sort of ripple effect. When you receive grants, it serves as an affirmation of the research capability of the institution.”

This statement is supported by another theme highlighting that commissioned research is a consequence or result of good track records (AG03). This is seen in the answer of P14,

“That’s why I just explain to them that we should look at what we are doing now as an investment because eventually we may be able to make ourselves visible to the community, to the industry, and to research grant

institutions. Be able to establish our name to show that we are capable of doing research, then maybe the grants will come in.”

From this statement, one can only see that research grants and commissioned research highlight contribution to the community (AG04).

Maturation

In the development of the research culture, the teacher education institution does not only have enabled faculty and research teams but also spearheads projects (Appendix C, Table 6). From allocating budget and attaining grants, the college or university now goes into generating resources (Appendix C, Table 7). Together, these activities manifest research leadership and institutionalization.

In a mature research culture, researchers in the university are externally recognized (SP02), especially when they lead projects in partnership with external agencies (SP01) and undertake research *at a* macro level to generate solutions to problems (SP03). P3 shares that their faculty receive research awards from the Commission on Higher Education, while P13 reported collaborative research with DOST, DAR, CHED, DLSU, and NEDA and experience leading projects within those partnerships. Over and above recognition, being a reputable institution goes back to contribution to the community. In the words of P2,

“And of course the scope of your research might only be locally based, or it’s good that it will also be national so that it will really create or generate solutions to problems. It’s going back to the contribution. That’s really the reminder for everyone because a lot are doing research because they want to be ranked. They failed to realize that they need to do research because they want to create new knowledge again. That’s what it’s supposed to be.”

In terms of resource allocation, the research produced in the institution can help generate resources not only for the teacher education institution but also for the community (Table 8). The resources generated

are a result of a good track record in research (GP12), and these resources go back to the community (GR09). Maturation in the research culture in terms of output translates to development (GR02 and GR08), and this should be done with intention (GR01) and as a responsibility (GP10). These formulated meanings reveal that research is no longer done as a requirement but that the faculty have developed a sense of contribution to their spheres of influence. This in turn helps build their name in the academic community as a research institution. P14 discusses,

“We have seen that if studies are done based on the field of discipline that they are in, they can easily be cascaded to the community for extension and utilization. People are now becoming aware that it’s not just instruction that we have to excel and focus on, but we need to come up with researches that can aid instruction and it’s not just the faculty who will be able to extend to the community, but the students as well can now extend to the community what they have learned in the university. So hopefully, we would have a more developed economy and country. The research outputs can be a source of wealth creation...”

This account illustrates how administrators conceptualize maturation in terms of institutional inputs and investments.

Figure 2. *The Milestones of Research Culture as an Investment*

STAGES	MATURATION	Institution	INPUT	Creation	OUTPUT
	EXPANSION	Collaboration		Dissemination	
	GESTATION	Capacity-Building		Production	
		INVESTMENT			

DISCUSSION

In looking into the inputs of the teacher education institution over the period of research culture development, interviews revealed that the milestones move from Capacity-Building to Collaboration until they reach the level of Institution (Figure 2). In gestation, the Teacher Education Institution (TEI) begins by capacitating itself: human resources and material resources. This, in turn, reveals that the two noteworthy activities in this milestone of Capacity-Building involve enabling the faculty and allocating a budget. As the research culture of the university reaches the expansion stage, the TEI now moves from building its research aptitude to being able to go into meaningful collaborations with other educational stakeholders, which can be broken down into two major activities: the enabled faculty now goes into building teams (human resources), and research in the TEI does not purely rely on allocated budget but has now begun the process of attaining grants. At maturation, faculty not only enter partnerships but also lead projects within academic networks, while institutional research generates resources that sustain knowledge production. It is through the accomplishment of these activities that the research culture matures by achieving institutionalization and establishing a recognized research identity.

In Capacity-Building, enabling the faculty means that the institution should recognize that a researcher's journey is personal, create a supportive learning community, train researchers, put researcher-friendly policies in place, and learn from faculty-enabling initiatives to improve. This reveals that, as much as the institution can push the faculty to conduct research, each person has their own path to take. For example, some are more motivated than others. Nevertheless, it is agreed by the informants that at the level of the institution, support must be provided for, research should be treated as a skill, and efforts must be exerted to really train the faculty. This is possible when the institution adopts policies that support the growth of its human resources, with the acknowledgment that there is much room for improvement. This is affirmed by the research of Pratt et al. (1999), which identified decentralized management in the higher education

institution's structure and strong leadership at the dean level as vital considerations for the development of a research culture. Strong leadership is important in creating a good policy environment.

At this stage of research-culture development, resource investment involves the intentional allocation of funds for research grants, training, incentives, facilities, and related activities. It also entails recognizing faculty research contributions in workload allocation, promotion, and performance evaluation. Participants regarded these investments as visible forms of institutional support for faculty research. However, evidence from the participating cases indicated that funding alone did not guarantee increased research productivity; its contribution depended on complementary conditions such as faculty capability, accessible support mechanisms, research collaboration, appropriate incentives, and enabling institutional policies. Informants from the participating state universities and colleges described cases in which available funding had not yet translated into commensurate research output. In contrast, informants from the participating private institutions perceived increased funding as facilitating greater research activity. These observations are specific to the institutions included in the study and do not establish a general distinction between public and private higher education institutions. Taken together, the findings suggest that resource allocation can support the expansion of research culture when accompanied by faculty development, collaboration opportunities, effective incentive systems, and policies conducive to research. This interpretation is consistent with Quimbo & Sulabo (2014), who emphasized the importance of faculty development, research collaboration, productivity support, and incentive systems in strengthening institutional research culture.

Upon reaching the milestone of Collaboration, building teams means learning to work with stakeholders at all levels of the institution and community; valuing modeling and mentoring; developing a team mindset that contributes to sustainability; deliberately forming teams for collaborative research activities; managing fear; empowering each other; and instilling accountability. Tynan & Garbett (2007) affirm the value of

teams in their study, highlighting the need for collaboration in the higher education research landscape, which may have placed too much emphasis on individualism and competition among researchers.

Expansion at this level is evident in the faculty's willingness to learn rather than wait for learning opportunities to be granted to them. There is appreciation for mentors and models, and a desire to work with others and pursue sustainable practices. To support this finding, the literature reveals that teacher educators increase their research productivity and build their own identity as fully fledged research academics when they are given opportunities to work with more experienced colleagues in a supportive academic environment (Hill & Haigh, 2012). This is not to say that there is no longer fear, maybe of rejection or failure among others, but people at this stage have learned to take the posture of empowerment and being part of a bigger team or academic community. It is at this stage as well that accountability is highlighted, with a system of checks being part of what one wants to develop to build a robust research culture.

Complementary to the action point on building teams is the act of attaining grants, which pushes an institution to seek external funding, though burdensome and challenging, utilize it as a testament to a good track record, highlight contribution to the community in all its research endeavors, use this as a source of motivation, and partner with agencies and institutions. To expand the research culture, there must be an initiative to bring in resources, which implies a certain level of tolerance for discomfort. Here, it can be said that there is a commitment to growth. Edgar & Geare (2013) highlight that a core feature of high-functioning departments at a university, in terms of research productivity, is a commitment-oriented work setting. Also, grants can help build a strong research track record for an individual and an institution because they are usually awarded when proposals are anchored in relevant problems. Growth in grants and partnerships is a testament to the institution's potential for valuable contributions.

Lastly, investments reach an institutional level when, in spearheading projects, the human resource is able to lead projects in

partnership with external agencies, receive external recognition for the institution's research expertise, and undertake macro-level research to solve problems. Leadership in projects is evidence of expertise, and when it is recognized by others outside the institution, it is usually because the institution has conducted research that merits such accolades. There are very few significant statements in this key action point, which may imply that an institution's idea of maturity is influenced by its current level of research culture development, thereby limiting its perspective. These institutions may view maturation as simply the next step from where they are, rather than as what is considered mature in the academic community.

Institutions with mature research cultures align their research activities with institutional priorities and the needs of the communities and industries they serve. Such institutions may obtain returns on research investment by undertaking studies intended to benefit communities, producing systems, procedures, patents, theories, and other intellectual products, recognizing research's potential economic and social value, contributing to sustainability, and translating findings into policy, practice, and development. These returns are not necessarily monetary; they may include strengthened institutional identity, contributions to disciplinary knowledge, improved community outcomes, and practical applications for partner industries. The benefits of research investment may therefore accrue not only to higher education institutions but also to the communities and industries with which they collaborate. However, the characterization of research-culture maturity presented in this study reflects the perspectives of research leaders from the participating institutions and may be influenced by institution-specific interpretations of research success, productivity, and maturity.

CONCLUSIONS

The development of research culture is an investment and, therefore, evidence-based, consisting of observable, measurable inputs. Gestation is achieved through capability building, which involves enabling the faculty and allocating the necessary budget. Expansion occurs when

research teams are established within and beyond the teacher education institution and secure external grants to support research activities, thereby fostering collaboration. Maturation establishes the university or college's identity and leadership as a research institution, which involves spearheading projects and leveraging research activities to generate resources.

The findings suggest that the development of research culture in teacher education institutions is shaped by strategic investments in human and material resources across the stages of Gestation, Expansion, and Maturation. These investments enable institutions to build research capacity, expand participation and productivity, and ultimately establish research leadership and credibility within the academic community. More broadly, the study advances the understanding of research culture as a developmental institutional capability that evolves through identifiable stages rather than as a static organizational attribute. Unlike studies that describe the characteristics of research-active institutions, this study identifies the stage-specific investments and developmental milestones that facilitate progression toward research maturity, thereby providing a process-oriented explanation of the development of research culture in teacher education institutions. By demonstrating how specific investments, practices, and milestones contribute to institutional progression, the study provides an empirically grounded explanation of how teacher education institutions move toward research maturity. While these conclusions are grounded in the experiences and perspectives of research leaders from selected teacher education institutions, the framework provides a useful lens for understanding how research culture develops and offers practical insights for institutions seeking to strengthen their research capacity, productivity, and long-term sustainability.

RECOMMENDATIONS

Any institution that seeks to build a strong research culture should have a specific investment plan for its human and material resources. There should be short- and long-term plans to develop a research culture.

Future studies may validate and extend the framework by examining the development of research culture from the perspectives of faculty members, researchers, and other stakeholders across diverse institutional contexts.

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APPENDIX A

Summary of Formulated Meanings for Capacity-Building

Table 2. Formulated Meanings for Key Action Point - Enabling Faculty

Cluster	FM Code	Formulated Meaning	#	Sources
CEF1 Recognize that the researcher's journey is personal	EF32	Motivation comes as you do research, not before it	3	P1, P4, P12
	EF1	Experiences of researchers vary	14	P3 (2), P4, P5, P7, P9, P11, P12 (2), P13, P14 (4)
	EF3	Be humble to admit limitations	3	P2, P13, P14
	EF5	Build confidence among the faculty	4	P4 (4)
	EF7	Create the desire to do research	7	P7 (2), P8, P11, P12 (3)
	EF8	Create the desire to learn	1	P5
	EF10	Develop persistence among the faculty	1	P3
	EF13	Fear of correction	2	P1, P5
	EF31	Motivate faculty to do research	13	P3 (2), P5, P7 (2), P8, P10 (3), P11, P12 (2), P14
	EF38	Research is embedded in the faculty member's persona	5	P3, P7 (2), P12, P14
	EF44	Teach faculty to deal with rejection	1	P3
	EF45	The attitude of the faculty affects research productivity	4	P5 (2), P13, P14
	EF46	There are faculty members who pursue research despite difficulties	5	P6, P8, P11, P13, P14
			63	
CEF2 Create a supportive learning community for the researcher	EF4	Build accountability among stakeholders	7	P4 (2), P8, P12, P13 (2), P14
	EF14	Fearsome image of the research council	1	P1
	EF20	Hire consultants and experts	3	P2, P11, P13
	EF21	Identify core research faculty	4	P1, P3, P7, P13
	EF2	Administrators should also be researchers	3	P5, P9, P2
	EF15	Foster research interaction between students and faculty	9	P5 (2), P7, P12 (3), P13, P14 (2)
	EF23	Influence the faculty to pursue knowledge	1	P2
	EF24	Institutional leaders are powerful role models	6	P3, P9, P10, P13, P14 (2)
	EF30	Mentoring researchers take time	2	P2 (2)
	EF35	Provide mentors	7	P1, P2, P3, P4, P5, P11 (2),
	EF36	Provide models	6	P5, P9, P10, P13 (2), P14,
	EF 52	Work as a team	3	P2, P5, P8
			52	

Cluster	FM Code	Formulated Meaning	#	Sources
CEF3 Train the researcher	EF18	Harness the strength of the current faculty members	4	P5, P7, P7, P11
	EF34	Provide carefully-planned and sustainable trainings	5	P4, P7, P13 (2), P14
	EF42	Same faculty are doing research	1	P1
	EF11	Expose faculty to the process despite fear	2	P1, P12
	EF12	Expose teachers to the research process	4	P3, P6, P7, P9
	EF28	Invest in the young faculty members and administrators	3	P2, P9, P13
	EF29	Involve the faculty in planning research-related activities	1	P4
	EF47	Train faculty to do research	16	P1, P4, P7 (3), P9 (5), P10 (2), P11 (2), P12, P13
	EF48	Train faculty to identify significant human problems	1	P1
	EF49	Train teachers to be mentors	1	P2
	EF50	Train teachers to be trainers	2	P2 (2)
	EF51	Train teachers to widen perspective	6	P2 (2), P7, P11 (2), P13
			46	
CEF4 Put researcher- friendly policies in place	EF16	Give them time to do research	4	P4, P9, P12, P13
	EF19	Heavy teaching load	4	P1, P7, P9, P10
	EF25	Integrate research to faculty load	1	P1
	EF26	Integrate research to faculty schedule	2	P1, P2
	EF33	Policies hamper development	1	P6
	EF37	Requiring research	4	P4, P7 (2), P14
	EF43	Take care of the human resources	2	P6, P7
			18	
CEF5 Learn from enabling faculty initiatives	EF6	Building a strong research culture takes time	6	P3, P7, P11, P13, P14 (2)
	EF9	Deloading does not guarantee research productivity	1	P4
	EF17	Graduate studies do not equate to research capability	1	P12
	EF22	Incentives do not guarantee productivity	1	P1
	EF27	Integrating research to teaching load does not guarantee productivity	1	P1
	EF39	Research is not easy	2	P4, P14
	EF40	Research is not for everyone	3	P1, P3, P9
	EF41	Research takes time	3	P1, P5, P8
			18	
	TOTAL			197

Table 3. Formulated Meanings for Key Action Point - Allocating Budget

FM Code	Formulated Meaning	#	Sources
AB01	Budget does not necessarily equate to productivity	2	P4, P9
AB02	Certain policies can be counterproductive to research culture development	5	P6, P12 (2), P13 (2),
AB03	Consideration in the promotion system	3	P3, P5, P6
AB04	Deliberate effort of the people in the system	9	P5, P7 (3), P9, P11, P12, P13, P14,
AB05	Deloading	9	P4, P5 (2), P7, P8, P10, P13, P14 (2)
AB06	Financial support is a form of investment	3	P5 (2), P14
AB07	Form of institutional support	10	P3, P4, P7 (2) P8, P9, P10, P12, P13 (2)
AB08	Funding for mentoring	1	P2
AB09	Funding for monitoring and evaluation mechanisms	1	P2
AB10	Funding for research grants	10	P1, P4 (3), P5, P10, P11, P13 (2), P14
AB11	Funding for research presentations	4	P1, P4, P13, P14
AB12	Funding for research-related travels	4	P3, P5, P6, P8
AB13	Funding for trainings	7	P2, P4, P7, P11, P12, P13, P14
AB14	Presentation incentives	6	P4, P7 (2), P10, P13 (2)
AB15	Promotions make it a requirement	5	P3, P4, P10, P11, P13
AB16	Provision of facilities	1	P14
AB17	Publication incentives	11	P3, P4 (3), P5, P7 (2), P10, P12, P13 (2)
AB18	Researchers do not rely on institutional budget for research	1	P9
TOTAL			92

APPENDIX B

Summary of Formulated Meanings for Collaboration

Table 4. Formulated Meanings for Key Action Point - Building Teams

FM Code	Formulated Meaning	#	Sources
BT01	Academic stakeholders are research stakeholders	3	P2, P3, P8
BT02	Build teams at all levels of the TEI	7	P2 (2), P4, P5 (2), P13, P14
BT03	Building a research culture takes time	3	P3, P7, P11
BT04	Building teams requires mentoring and modeling	15	P3 (2), P4, P5 (4), P8, P9, P10, P11, P12 (3), P13
BT05	Collaborative researches help build teams	1	P7
BT06	Develop a team mindset	5	P2, P3, P8 (2), P12
BT07	Empowered faculty become research trainers and mentors	2	P2, P3
BT08	Teams are formed deliberately	13	P2 (3), P3 (3), P4, P5 (2), P7 (2), P12, P13
BT09	Invite experts to be part of your research team	3	P2, P13 (2)
BT10	Measures to manage fear must be put into place	2	P5, P11
BT11	Members are held accountable for institutional investments on their development	1	P4
BT12	Mentoring takes time	4	P2, P3 (2), P11
BT13	Personal development contributes to team development	2	P3, P7
BT14	Recognition of exemplary achievements can be motivational	5	P5 (2), P12, P13, P14
BT15	Stakeholders empower each other	5	P2, P3, P5, P9, P12
BT16	Structures should be designed for collaboration	1	P4
BT17	Team players recognize the contribution of others	1	P3
BT18	Teams are built by shared visions	5	P7, P8, P11, P13, P14
BT19	Teams contribute to sustainability 2		P7 (2)
BT20	Teams must have room for diversity	2	P2, P3
BT21	The community and industry are part of our team	2	P2, P9
BT22	There should be consideration for the needs of members	6	P2 (2), P3, P4, P5, P12
BT23	Your staff is part of your team	2	P11, P13
TOTAL			92

Table 5. Formulated Meanings for Key Action Point - Attaining Grants

FM Code	Formulated Meaning	#	Sources
AG01	Attaining grants can be burdensome	2	P8, P9
AG02	Attaining grants is a challenge	3	P2, P8, P9
AG03	Commissioned research results from strong track records	4	P3, P5,P14(2)
AG04	External funding highlight contribution to the community	2	P2, P14
AG05	Get commissioned researches	3	P2, P3 (2)
AG06	Getting external support can be motivational	3	P13, P14 (2)
AG07	Partner with agencies for funding	2	P2, P10
AG08	Partnering with institutions is a testament of our research culture.	3	P3, P14 (2)
AG09	Seeking grants is part of the administration's initiatives	1	P2
AG10	TEIs should answer call for proposals	1	P2
AG11	TEIs should seek funding agencies	1	P2
TOTAL			25

APPENDIX C
Summary of Formulated Meanings for Institutionalization

Table 6. Formulated Meanings for Key Action Point – Spearheading Projects

FM Code	Formulated Meaning	#	Sources
SP01	Lead projects in partnership with external agencies	6	P2, P3 (2), P5, P13, P14
SP02	Researchers in the university are externally recognized	10	P3 (3), P7 (2), P11, P12, P13, P14 (2)
SP03	Undertake research at macro level to generate solutions to problems.	9	P2 (2), P3, P5, P7, P11, P12, P13, P14,
TOTAL			25

Table 7. Formulated Meanings for Key Action Point – Generating Resources

FM Code	Formulated Meaning	#	Sources
GR01	Contributing to the community through research should be done with intention	1	P14
GR02	Development in educational research can mean systems, procedures, patents, theories and theorems, postulates.	2	P3, P7
GR03	Maturity is assessed by indicators	1	P5
GR04	Maturity necessitates investment	1	P5, P14
GR05	Maturity takes time	2	P5, P11
GR06	Research contributes to sustainability	1	P12
GR07	Research has economic value	2	P12, P14
GR08	Research should translate to development	3	P3, P12, P14
GR09	Resources generated through research go back to the community	4	P2, P7, P12, P14
GP10	The contribution of research to the community is seen as a responsibility	1	P2
GP11	The institution is associated with valuable contributions to the field of discipline.	1	P3
GP12	When you have a good track record, research generates resources	5	P3 (2), P5, P11, P14
TOTAL			25

EXAMINING THE RELATIONSHIP BETWEEN GENERAL WEIGHTED AVERAGE AND PERFORMANCE OF TEACHER EDUCATION STUDENTS IN THE LEPT: A PREDICTIVE CORRELATIONAL STUDY

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ABSTRACT

The Licensure Examination for Professional Teachers (LEPT) is a key benchmark for assessing teacher education graduates in the Philippines and evaluating the effectiveness of teacher education institutions (TEIs). This study examined the March and September 2023 LEPT performance of 82 graduates of the Holy Angel University School of Education and determined whether their general weighted average (GWA) in General Education, Professional Education, and Majorship courses predicted their corresponding LEPT domain scores. Using a predictive correlational design, the study analyzed institutional academic records and official LEPT ratings through separate linear regression models. General Education GWA significantly predicted corresponding LEPT scores at both the elementary level ($b = 1.020$, 95% CI [0.045, 1.990], $R^2 = .212$, $p = .041$) and the secondary level ($b = 0.551$, 95% CI [0.239, 0.863], $R^2 = .163$, $p < .001$). Professional Education GWA significantly predicted LEPT scores at the secondary level ($b = 0.410$, 95% CI [0.151, 0.669], $R^2 = .136$, $p = .002$) but not at the elementary level ($b = 0.367$, 95% CI [-0.107, 0.841], $R^2 = .128$, $p = .121$). Majorship GWA did not significantly predict major LEPT scores ($b = 0.243$, 95% CI [-0.214, 0.700], $R^2 = .017$, $p = .291$). These findings indicate that the predictive relationship between GWA and licensure performance varied by academic domain and program level. The results may inform targeted curriculum review, academic support initiatives, and closer alignment between course outcomes and licensure requirements.

Keywords: Licensure Examination for Professional Teachers, academic performance, predictive validity, teacher education, curriculum alignment

INTRODUCTION

As one of the TEIs in the country, Holy Angel University (HAU) has offered the Bachelor of Elementary Education (BEED) and Bachelor of Secondary Education (BSED) programs since 1947. HAU has consistently rated above the national passing percentage for the BSED program, but not in the BEED program. However, HAU's target in the LEPT is not only to rate above the national passing percentage. Since 2015, HAU Teacher Education graduates' overall passing rate should be 75% and above in both programs. From 2010 to 2022, HAU achieved an overall passing rate above 75% in only two elementary-level and three secondary-level examination cycles. Holy Angel University ranked only 15th among the 22 TEIs qualified as well-performing TEIs with an average overall passing rate (combined BEED and BSED passing rate) of 53.82% (Nool & Ladia, 2017), which is far below the requirement of the Center of Development (COD). Evidently, there is a need for HAU to examine the factors that contribute to the performance of its pre-service teachers in the LEPT.

The teaching profession is regulated by the Professional Regulation Commission (PRC) in the Philippines. Under Republic Act No. 7836 (1994), graduates of teacher education programs must pass the Licensure Examination for Professional Teachers (LEPT) as a requirement for professional registration and eligibility to teach in public and private basic education schools. Accordingly, LEPT performance provides one indicator of graduates' preparedness and the effectiveness of teacher education curricula.

In its analysis of the LEPT performance of teacher education institutions (TEIs) from 2010 to 2022, the Philippine Business for Education (PBE, 2023) reported that 56% of TEIs recorded passing rates below the 12-year national average. The corresponding 12-year average passing rates were 37% for elementary-level examinees and 40% for secondary-level examinees. The report also indicated that more than 81% of TEIs designated by the Commission on Higher Education as Centers of Excellence and 91% of those designated as Centers of Development had overall passing rates below 75%. These findings indicate substantial disparities in licensure examination

performance among TEIs. Similarly, Nool and Ladia (2017), who examined the performance of TEIs in Central Luzon from 2009 to 2016, found that most of the institutions studied recorded low LEPT performance and that institutional performance trends were significantly associated with national passing rates.

One of the factors that this study examined was the general weighted average (GWA) of the pre-service teachers. With the implementation of the Enhanced Basic Education (K–12) curriculum in 2013, through Republic Act *No.* 10533, HAU had its pioneer graduates of this curriculum in March 2022. This research may shed light on the broader relationship between these pioneer graduates' GWA and performance in the LEPT.

REVIEW OF RELATED LITERATURE

Predictive Validity Studies

Universities worldwide conduct assessments to validate their system and predict the success of their graduates in board examinations. Predictive validity studies offer benefits such as assessing future performance, evaluating selection criteria, improving prediction accuracy, ensuring quality assurance, and providing evidence to stakeholders. These contribute to more effective decision-making, improved outcomes, and enhanced understanding of predictive relationships in various fields.

A study in the Philippines found that the success of teachers in licensure examinations is significantly predicted by selected measures, including GWA. System Admission and Scholarship Examination scores were highly valid predictors of licensure performance (Cahapay & Toquero, 2022). Another study found a significant relationship between graduates' academic performance and their performance in the LEPT. The study recommended mastering general and professional education courses and attending LET review sessions and mock board examinations. Pre-LET and LET examination performances were also found to be significant predictors (Fiscal & Roman, 2022; Lagcao et al., 2023). In the Cordillera Administrative

Region, admission criteria were found to be the best predictor of licensure performance in agriculture, criminology, and teacher education (Ognayon & Afalla, 2022). In the study by Balinario et al. (2023), high scholastic ratings and passing admission scores correlated with better LET performance. Valencia (2023) recommended using high school achievement and college entrance test results in admission screening to support LET success.

Several studies were also conducted in the field of health and sciences and revealed the following results: A study on the Board Licensure Examination for Psychometricians (BLEP) found that general academic performance was a significant predictor of performance (Pangngay, et al., 2023). In the field of Medicine, the GWA was found to be a strong predictor of success in the National Physical Therapy Examination (NPTE) (Reynolds et al., 2022). In paramedical courses, the GWA was found to be a positive predictor of performance in the National Council Licensure Examination for Registered Nurses (NCLEX-RN). An increase in GWA increased the odds of passing the NCE on the first attempt (Cosper, S., Callan, R., & Anderson, L., 2023). It was also found that GWA is a significant predictor of COMLEX performance, alongside academic and non-academic factors (Kortz et al., 2022).

Studies conducted in the Philippines have consistently shown that academic performance, particularly General Weighted Average (GWA), is a strong predictor of success in licensure examinations, including the Licensure Examination for Professional Teachers (LEPT).

Across the reviewed studies, stronger collegiate academic performance, as reflected in general weighted average (GWA), was generally associated with better licensure examination performance (Amanonce & Maramag, 2020; Mendez, 2025). Admission and scholarship examination results also contributed to the prediction of first-time licensure performance; however, Cahapay and Toquero (2022) found that the admission and scholarship examination score was the only independently significant predictor in their multivariable model. Fiscal and Roman (2022) further reported that pre-licensure examination results predicted subsequent licensure performance, particularly in the general education and professional education components

for elementary education graduates. Collectively, these findings indicate that licensure performance may be predicted by multiple measures of prior academic preparation and should not be attributed to GWA alone.

These findings reinforce the importance of academic preparedness and structured support in ensuring the success of teacher education students in licensure exams.

Overall, predictive validity research continues to shape education policies and assessment strategies across disciplines, ensuring that academic institutions better prepare students for professional certification and career success.

This study focused on the GWA as a predictor of success in the licensure examination. Its participants were the first batch of graduates of the Enhanced K-12 Curriculum of 2013 from the School of Education (SED) of Holy Angel University. Moreover, these graduates were enrolled in the course Program Assessment (EPROGASSES), an institutional course offering integrated into the 2018 curriculum of SED.

The Philippine Teachers Professionalization Act of 1994

The Philippine Teachers Professionalization Act, or Republic Act No. 7836 of 1994, was enacted by Congress in 1994 to recognize the vital role of teachers in nation-building and development through a responsible and literate citizenry. It should also ensure and promote quality education by proper supervision and regulation of the licensure examination and professionalization of the practice of the teaching profession. Article 3, Section 13 of this Act states:

“All applicants for registration as professional teachers shall be required to undergo a written examination, which shall be given at least once a year in such places and dates as the Board may determine upon approval by the Commission. A valid certificate of registration and a valid professional license from the Commission are required before any person is allowed to practice as a professional teacher in the Philippines, except as otherwise allowed under this Act.”

This provision clearly states that no individual can practice the teaching profession in the Philippines without passing the Licensure Examination for Professional Teachers (LEPT).

In Section 14, the scope of the examination is also provided. Section 14 specifies the examination components:

“The examinations for the elementary and secondary school teachers shall be separate. The examination for teachers at the elementary level shall consist of two (2) parts, namely: 60% professional education and 40% general education. The examination for teachers *at* the secondary level shall consist of three (3) parts, namely: 40% professional education, 20% general education, and 40% field of specialization.”

The general education courses refer to core subjects like Filipino, English, Math, Science, and Social Science/Studies. Professional education courses refer to those related to the teaching profession, such as Facilitating Learning, Early Childhood and Adolescent Development and Education, Principles of Teaching, Methods and Strategies, Curriculum Development, and the Teaching Profession as a whole. Lastly, the field of specialization/major courses refers to the specific discipline secondary teachers must teach, such as English, Biology, Chemistry, Math, Filipino, Social Studies, Music, Art, Physical Education, and Health or MAPEH. Nowadays, there are usually 150 items for general education, 150 for professional education, and 150 test items for the field of specialization, which are taken for 3 hours each. To pass the examination, the examinee must have an average rating of at least 75% and must not get a score below 50% on any of the courses. The LEPT is held twice annually. The first examination is usually held in March, while the second one is held in September.

The LEPT results are presented according to two examination levels: elementary and secondary. Graduates of the Bachelor of Elementary Education (BEEd), Bachelor of Special Needs Education (BSNEd), and Bachelor of Early Childhood Education (BECED) programs are reported under the elementary level. Graduates of the Bachelor of Secondary Education (BSEd), Bachelor of Physical Education (BPEd), Bachelor of

Technology and Livelihood Education (BTLEd), and Bachelor of Technical-Vocational Teacher Education (BTVTEd) programs are reported under the secondary level.

The Teacher Education Curriculum of 2017

In 2017, the Commission on Higher Education (CHED) issued program-specific policies, standards, and guidelines for the Bachelor of Elementary Education through CHED Memorandum Order No. 74, s. 2017 (CHED, 2017a); Bachelor of Physical Education through CHED Memorandum Order No. 80, s. 2017 (CHED, 2017b); Bachelor of Secondary Education through CHED Memorandum Order No. 75, s. 2017 (CHED, 2017c); and Bachelor of Special Needs Education through CHED Memorandum Order No. 77, s. 2017 (CHED, 2017d). These issuances prescribe minimum curricular requirements covering general education, professional education, specialization or major courses, electives, and mandated courses, as applicable. The general education component follows CHED Memorandum Order No. 20, s. 2013 (CHED, 2013). For the present study, the courses were grouped into general education, professional education, and specialization domains because these categories correspond to the academic and LEPT components examined.

Consistent with Commission on Higher Education Memorandum Order No. 20, series of 2013 (CMO No. 20, s. 2013), the general education component comprises 24 units of core courses and 9 units of electives, together with the separately mandated 3-unit course on the life and works of José Rizal. The eight core courses are Understanding the Self; Readings in Philippine History; The Contemporary World; Mathematics in the Modern World; Purposive Communication; Art Appreciation; Science, Technology, and Society; and Ethics. The nine units of electives must cover at least two of the following knowledge domains: arts and humanities; social sciences and philosophy; and mathematics, science, and technology.

Professional education courses are classified into three*. The first classification is the foundation/theories and concepts, which include The

Child and Adolescent Learners and Learning Principles, The Teacher and the Community, School Culture, and Organizational Leadership, Foundations of Special and Inclusive Education, and The Teaching Profession. The second classification of courses is pedagogical content knowledge, which includes Technology for Teaching and Learning 1, Assessment of Learning 1, Assessment of Learning 2, Building and Enhancing Literacy Skills Across the Curriculum, Facilitating Learner-Centered Teaching, and The Teacher and the School Curriculum. The third course classification is experiential learning, which includes Observations of Teaching-Learning in Actual School Environment, Participation and Teaching Assistantship, and Teaching Internship.

The field of specialization or majorship courses are the specific disciplines secondary teachers must teach, such as English, Filipino, Science, Math, Social Studies, Physical Education, Music, Health, and Values Education.

HAU Teacher Education Curricula of 2018–2019

In 2017–2018, Holy Angel University (HAU), through the School of Education (SED), drafted its teacher education curricula for the BEED, BSED, BSNEDE, and BPED programs based on CHED Memorandum Orders (CMOs) Nos. 74, 75, 77, and 80. The School of Education (SED) implemented its enriched curricula in the academic year 2018–2019. For the BEED program, a total of 170 units are distributed as follows: 36 units of general education courses, 42 units of professional education courses, 60 units of major courses, 3 units of elective courses, 14 units of mandated courses, and 15 units of institutional courses.

For the BSED programs, HAU SED enriched the mandated curriculum with additional units in the field of specialization or major courses and institutional courses. The BSED in Values Education was improved with the integration of 18 courses *in* religious education. Thus, the area of specialization is BSED in Religious and Values Education. The institutional courses include Peace Education, Theology 101, Theology 102,

Theology 103, and Program Assessment.

For the BSNEED program, a total of 158 units is divided into the following: 36 units of general education courses, 42 units of professional education courses, 51 units of major courses, 14 units of mandated courses, and 15 units of institutional courses.

As for the BPED program, it requires 36 units of general education courses, 42 units of professional education courses, 66 units of major courses, 14 units of mandated courses, and 15 units of institutional courses.

The Program Assessment course is offered during the students' final semester as a review course for the Licensure Examination for Professional Teachers (LEPT). The course's final requirement is the mock board examination. The pre-service teachers must get an average passing rate of 60% across all the courses (general education, professional education, and field of specialization) to pass. (For the list of courses, see Appendix A and Appendix B.)

Theoretical Framework

This study is guided by the concept of predictive validity, which concerns the extent to which an earlier measure is associated with performance on a subsequent criterion. Graduates' domain-specific General Weighted Averages (GWAs) in general education, professional education, and, where applicable, specialization coursework serve as the predictor variables, while their corresponding Licensure Examination for Professional Teachers (LEPT) component ratings serve as the criterion variables. This framework supports the use of correlational and regression analyses to estimate the direction, strength, and statistical significance of the relationships between academic performance and subsequent LEPT performance. Because the study uses a nonexperimental predictive correlational design, its findings demonstrate statistical association and predictive utility rather than causal effects.

This framework is supported by empirical research where the predictive validity of academic accomplishment indicators was confirmed,

such as that of Balinario et al. (2023), who showed that GWA and entrance scores significantly predicted Licensure Examination for Teachers (LET) performance. In a similar vein, Mendez (2025) discovered a significant positive correlation between GWA and LET results, highlighting the fact that steady academic achievement is a trustworthy indicator of licensure success.

Statement of the Problem

This study was built on existing research that explores the relationship between GWA and board examination performance. While numerous studies have established this link, many board programs still struggle with low passing rates. This research aimed to contribute valuable insights that may help enhance board exam performance and inform strategies for academic improvement.

This study aimed to examine the performance of the teacher education graduates of HAU SED in the Board Licensure Examination for Professional Teachers (LEPT) in March and September 2023 in relation to their GWA in the different course domains. Specifically, the study sought to answer the following questions:

1. How may the BEED, BSED, BSNEDE, and BPED graduates' GWA be described in the following course domains:
 - 1.1. general education courses;
 - 1.2. professional education courses; and
 - 1.3. *area* of specialization courses?
2. What is the passing rate of BEED, BSED, BSNEDE, and BPED graduates in the March and September 2023 Licensure Examination for Professional Teachers on the following:
 - 2.1. general education courses;
 - 2.2. professional education courses; and
 - 2.3. field of specialization/major courses for BSED and BPED?

3. Do the graduates' GWAs significantly predict LEPT passing rate?
4. What strategies or actions may be proposed to improve the LEPT passing rate based on the respondents' GWA performance trends?

Significance of the Study

The performance of the graduates in the LEPT could help the students focus on areas of improvement and refine their study strategies.

Professors, mentors, and administrators in teacher education programs may use the findings to enhance curricula, provide targeted interventions, and support students in better preparation for the LEPT.

Furthermore, the data yielded by this study shall aid the university's personnel and administrators of the different offices in charge of student admission, retention, and promotion as input for enhancing their policies, as well as strengthening the practice and culture of evidence-based teaching in the university, ultimately helping improve the quality of teacher education and licensure outcomes.

METHODOLOGY

Research Design

This quantitative study employed a predictive correlational design to examine whether graduates' domain-specific General Weighted Averages (GWAs) were associated with and statistically predicted their corresponding Licensure Examination for Professional Teachers (LEPT) component ratings. Predictive correlational research examines relationships among naturally occurring variables and may use regression analysis to estimate predictive relationships without manipulating variables or establishing causation (Putri et al., 2025).

The study analyzed the academic and licensure examination records of the first Bachelor of Elementary Education (BEEd), Bachelor of Secondary Education (BSEd), Bachelor of Special Needs Education (BSNEd), and Bachelor of Physical Education (BPed) cohorts educated under HAU's 2018 teacher education curricula who took the March or September 2023 LEPT. Their GWAs in general education, professional education, and, where applicable, specialization coursework were treated as predictor variables, while the corresponding LEPT component ratings were treated as criterion variables. Correlational and regression analyses were used to estimate the direction, strength, and statistical significance of these relationships. Accordingly, the findings were interpreted as evidence of association and predictive utility rather than causal influence.

Sources of Data

The data collected were the board examination ratings of 82 out of 109, or 75.23%, graduates of the BEED and BSED programs during the second semester of Academic Year 2021–2022 in the three (3) areas of general education, professional education, and field of specialization courses from the Professional Regulation Commission (PRC), and the GWAs of graduates who took the licensure examinations in March and September 2023 in the three (3) areas of general education, professional education, and field of specialization courses from the Office of the University Registrar and Information Technology Service (ITSS). The board examination ratings of individual students, coded as Student A, Student B, etc., were compared with the General Weighted Averages in the three (3) areas, respectively. The students comprised the first batch under the 2018 teacher education curriculum, having previously completed the Senior High School (SHS) curriculum of the K–12 Basic Education Program. The distribution of the data per level is as follows:

Table 1: *Number of LEPT takers per level*

Level	Number of Graduates	March 2023	September 2023	Total LEPT Takers
Elementary Level				
Bachelor of Elementary Education	10	6	2	8
Bachelor of Special Needs Education	12	11	1	12
Subtotal	22	17	3	20
Secondary Level				
Bachelor of Physical Education	13	7	1	8
Bachelor of Secondary Education – English	18	9	3	12
Bachelor of Secondary Education – Filipino	10	6	1	7
Bachelor of Secondary Education – Mathematics	10	7	2	9
Bachelor of Secondary Education – Religious and Values Education	11	6	4	10
Bachelor of Secondary Education – Science	9	3	2	5
Bachelor of Secondary Education – Social Studies	16	10	1	11
Subtotal	87	48	14	62
Grand Total	109	65	17	82

Research Instrument

A standardized data-extraction sheet was used to record registrar and PRC data, present the HAU transmutation of grades, and present the grading system of the licensure examination as the research instruments.

Data Collection

The Licensure Examination for Professional Teachers (LEPT) ratings of 82 out of 109, or 75.23%, graduates were officially requested from the PRC Research and Statistics Division Office, while the GWAs of the 82 graduates in the three (3) course domains who took the March

and September 2023 LEPT were requested from the ITSS Director of the University through the Office of the University Registrar with permission from the University’s Data Privacy Officer and Data Management Officer.

Data Analysis

Descriptive statistics were used, such as frequency, percentage, and weighted mean.

1. The GWA of graduates in the three (3) course domains was described using the University’s transmutation table.

Grade	Letter Grade	Percentage Grade	General Classification
1.00	A	≥ 97	Outstanding
1.25	A-	94–96	Excellent
1.50	B+	91–93	Superior
1.75	B	88–90	Very Good
2.00	B-	85–87	Good
2.25	C+	82–84	Satisfactory
2.50	C	79–81	Fairly Satisfactory
2.75	C-	76–78	Fair
3.00	D	75	Passed
5.00	F	< 75	Failed
6.00	FA	—	Failure due to Absences
8.00	UW	—	Unauthorized or <i>Unreported</i> Withdrawal
9.00	DRP	—	Dropped (with <i>permission</i>)

2. The GWA is derived from the course final grade multiplied by the number of units and divided by the total number of units per semester per curriculum level.
3. The 2023 LEPT examination program assigned different component weights to the elementary and secondary levels. For elementary-level examinees, including graduates of the Bachelor of Elementary Education (BEEd) and Bachelor of Special Needs Education (BSNEd) programs, the overall rating comprised

general education (40%) and professional education (60%). For secondary-level examinees, including graduates of the Bachelor of Secondary Education (BSEd) and Bachelor of Physical Education (BPed) programs, the overall rating comprised general education (20%), professional education (40%), and specialization (40%) (Professional Regulation Commission [PRC], 2023). Before regression analysis, assumption testing was conducted to ensure linearity, independence, homoscedasticity, and normality of residuals. Confidence intervals and effect sizes were reported alongside regression coefficients to provide estimates of precision and magnitude. Residual diagnostics were examined to assess model fit, and potential outliers were identified using standardized residuals and influence statistics in Jamovi software version 2.7.

4. Regression analysis was applied to predict the Licensure Examination for Professional Teachers (LEPT) rating based on the GWA of LEPT takers.

Ethical Consideration

This study was approved and commissioned by the HAU University Research Office. Additionally, the Data Privacy Act of 2012, as well as its implementing rules and regulations, was adhered to in the handling of the collected data. Thus, permission was sought from the Data Privacy Officer. The study was also submitted to the HAU Institutional Research Board (HAU-IRB) for evaluation and exemption since there were no human participants involved in the study. The assigned protocol number was 2025-038-AMNATIVIDAD-RelationshipofGWA&TeacherEdLEPT.

The information was only accessible to the researcher. The gathered information was stored on password-protected, encrypted institutional devices and access-controlled cloud storage. The duration of data safekeeping was until the publication of the paper. Even files in the Recycle Bin and those produced by programs that might be able to recover the data were deleted by the researcher. To avoid any fabrication or appropriation of other people's works, the researcher followed proper citation and reference guidelines.

1. Description of BEED and BSED Graduates' General Weighted Average (GWA)

Table 3 presents the mean GWA of graduates from the elementary level (BEED and BSNEED) and secondary level (BSED and BPED programs), by course categories: general education, professional education, and field of specialization. These quantitative indicators are interpreted using verbal descriptors aligned with the university's institutional grading standards, thereby reflecting the quality of academic performance across domains.

BEED and BSNEED graduates demonstrate consistently high academic achievement. The professional education component yielded the highest mean score ($M = 91.515$), classified as "Superior," indicating robust mastery of pedagogical principles and instructional competencies. The general education component ($M = 90.935$) attained a "Very Good" descriptor, suggesting comprehensive foundational knowledge and cognitive readiness.

BSED and BPED graduates exhibited similarly commendable performances. The general education ($M = 89.830$) and professional education ($M = 89.130$) domains both achieved "Very Good" classifications, denoting sustained academic rigor. Notably, the field of specialization recorded the highest mean ($M = 93.350$), also classified as "Superior," underscoring graduates' advanced content expertise and preparedness for discipline-specific instruction.

Across both cohorts, no domain fell below the "Very Good" threshold, affirming the overall strength of the academic programs. The consistently high performance in professional education across levels highlights the institution's effectiveness in cultivating pedagogical proficiency. Furthermore, the exceptional outcome in the secondary-level field of specialization represents a distinct peak in academic performance, reinforcing the depth and rigor of subject-area preparation.

Table 3: *Graduates’ General Weighted Average (GWA) in General Education, Professional Education and area of specialization courses*

Examination Level	Program Group	n	Academic Domain	M	Verbal Interpretation
Elementary	BEEd and BSNEd	20	General Education	90.09	Very Good
Elementary	BEEd and BSNEd	20	Professional Education	89.68	Very Good
Secondary	BSEd and BPEd	62	General Education	89.83	Very Good
Secondary	BSEd and BPEd	62	Professional Education	89.13	Very Good
Secondary	BSEd and BPEd	62	Field of Specialization	93.35	Superior

2. Passing Rate of BEED and BSED Graduates in the September and March 2023 Licensure Examination for Professional Teachers (LEPT)

Table 4 presents a comparative analysis of the licensure examination passing rates for the elementary level (BEED and BSNEd programs) and the secondary level (BSED and BPEd programs) across two testing periods—March and September 2023. The data are disaggregated by course components: general education, professional education, and field of specialization.

The mean LEPT ratings of the Bachelor of Elementary Education (BEED) and Bachelor of Special Needs Education (BSNEd) graduates were classified as “Satisfactory” in both examination schedules. The mean general education rating was 83.65 in March 2023 (n = 17) and 84.67 in September 2023 (n = 3), a descriptive difference of 1.02 points. The corresponding professional education means were 83.06 and 84.33, respectively, a difference of 1.27 points. Because the March and September results represent different groups and the September subgroup was very small, these differences should not be interpreted as evidence of improvement over time or increased competence.

The BSED and BPEd graduates similarly maintained “Satisfactory” performance in general and professional education during both periods. However, a notable elevation to “Good” was recorded in General Education for the September cohort, indicating enhanced mastery of core content. The field of specialization remained within the “Fairly Satisfactory” range, though

a modest gain of 1.27 points was observed in September 2023, reflecting slight progress in discipline-specific proficiency.

Table 4: *LEPT Ratings of BEED and BSED Graduates in the March and September 2023 Licensure Examination for Professional Teacher*

Examination Level	Program Group	Schedule	n	LEPT Component	M	Verbal Interpretation
Elementary	BEEd and BSNEd	March 2023	17	General Education	83.65	Satisfactory
Elementary	BEEd and BSNEd	March 2023	17	Professional Education	83.06	Satisfactory
Elementary	BEEd and BSNEd	September 2023	3	General Education	84.67	Satisfactory
Elementary	BEEd and BSNEd	September 2023	3	Professional Education	84.33	Satisfactory
Secondary	BSEd and BPEd	March 2023	48	General Education	83.34	Satisfactory
Secondary	BSEd and BPEd	March 2023	48	Professional Education	82.56	Satisfactory
Secondary	BSEd and BPEd	March 2023	Field of Specialization	79.86	Fairly Satisfactory	
Secondary	BSEd and BPEd	September 2023	14	General Education	85.13	Good
Secondary	BSEd and BPEd	September 2023	14	Professional Education	84.88	Satisfactory
Secondary	BSEd and BPEd	September 2023	Field of Specialization	81.13	Fairly Satisfactory	

3. Prediction of LEPT Component Ratings from Domain-Specific GWA

Before conducting the regression analyses, the assumptions of linear regression were examined. Residual diagnostics, including Q–Q plots, standardized residuals, and Cook’s distance statistics, were used to assess normality, linearity, homoscedasticity, and influential observations. Confidence intervals and model-fit statistics were also examined.

For the elementary-level general education model (BEED and BSNED; $N = 20$), general education GWA significantly predicted general education LEPT performance, $B = 1.020$, $SE = 0.463$, $\beta = .460$, $t(18) = 2.20$, $p = .041$, $R^2 = .212$, adjusted $R^2 = .168$, 95% CI for B [0.045, 1.990]. No extreme standardized residuals were detected; however, one observation had a Cook's distance greater than 1, indicating a potentially influential case.

For the elementary-level professional education model (BEED and BSNED; $N = 20$), professional education GWA did not significantly predict professional education LEPT performance, $B = 0.367$, $SE = 0.226$, $\beta = .358$, $t(18) = 1.63$, $p = .121$, $R^2 = .128$, adjusted $R^2 = .080$, 95% CI for B [-0.107, 0.841]. No extreme standardized residuals or influential observations were detected.

For the secondary-level general education model (BSED and *BPEd*; $N = 66$), general education GWA significantly predicted general education LEPT performance, $B = 0.551$, $SE = 0.156$, $\beta = .404$, $t(64) = 3.53$, $p < .001$, $R^2 = .163$, adjusted $R^2 = .150$, 95% CI for B [0.239, 0.863]. One observation had a standardized residual outside ± 3 ; however, the maximum Cook's distance was below 1, indicating that no observation exerted undue influence on the model.

For the secondary-level professional education model (BSED and *BPEd*; $N = 66$), professional education GWA significantly predicted professional education LEPT performance, $B = 0.410$, $SE = 0.129$, $\beta = .368$, $t(64) = 3.17$, $p = .002$, $R^2 = .136$, adjusted $R^2 = .122$, 95% CI for B [0.151, 0.669]. One observation had a standardized residual outside ± 3 ; however, the maximum Cook's distance was below 1, indicating the absence of influential outliers.

For the secondary-level *field of specialization* model (BSED and *BPEd*; $N = 66$), *field-of-specialization* GWA did not significantly predict *field-of-specialization* LEPT performance, $B = 0.243$, $SE = 0.229$, $\beta = .132$, $t(64) = 1.06$, $p = .291$, $R^2 = .017$, adjusted $R^2 = .002$, 95% CI for B [-0.214, 0.700]. No extreme standardized residuals or influential observations were detected.

Regression Model	N	B	SE	β	t(df)	p	95% CI for B	R ²	Adjusted R ²	Diagnostic Note
Elementary GE GWA → GE LEPT	20	1.020	0.463	.460	2.20 (18)	.041	[0.045, 1.990]	.212	.168	No extreme residuals; Cook's D = 2.345 indicates a potentially influential case.
Elementary Professional Education GWA → Professional Education LEPT	20	0.367	0.226	.358	1.63 (18)	.121	[-0.107, 0.841]	.128	.080	No extreme residuals; maximum Cook's D = 0.456.
Secondary GE GWA → GE LEPT	66	0.551	0.156	.404	3.53 (64)	< .001	[0.239, 0.863]	.163	.150	One standardized residual exceeded ± 3 ; maximum Cook's D = 0.463.
Secondary Professional Education GWA → Professional Education LEPT	66	0.410	0.129	.368	3.17 (64)	.002	[0.151, 0.669]	.136	.122	One standardized residual exceeded ± 3 ; maximum Cook's D = 0.270.
Secondary Field of Specialization GWA → Field of Specialization LEPT	66	0.243	0.229	.132	1.06 (64)	.291	[-0.214, 0.700]	.017	.002	No extreme residuals; maximum Cook's D = 0.286.

DISCUSSION

This research sought to establish a correlational predictive relationship among the variables under study and to develop predictive models for anticipating future outcomes.

The mean GWA of teacher education graduates across general education, professional education, and *i* of specialization courses is presented by level (Elementary and Secondary *levels*). The data reflect consistently high academic performance, with verbal descriptors ranging from Very Good to Superior, indicating strong curricular alignment and instructional efficacy across domains.

At the elementary level ($N = 20$), graduates achieved a mean GWA of 90.09 in General Education courses (Very Good) and 89.68 in Professional Education courses (Very Good).

The performance in both general and professional education courses implies that elementary-level teacher candidates are not only absorbing theoretical knowledge but are also developing practical teaching skills

essential for classroom effectiveness. This trend supports the notion that pedagogical training is a critical determinant of teacher readiness and quality.

Amanonce and Macarubbo (2020) confirmed that academic achievement in teacher education—particularly in Professional Education—correlates strongly with performance in the Licensure Examination for Teachers (LET), underscoring the importance of pedagogical mastery in professional success. Their study highlights that aligning instructional delivery with LET competencies enhances both academic and licensure outcomes.

Bejerano and Rocamora (2023) reported that performance in professional education courses was associated with curriculum-related and pedagogical factors. Their findings provide context for examining graduates' academic performance; however, course grades alone do not establish the effectiveness of curriculum implementation or faculty competence.

Ampo (2023) similarly examined the role of curriculum alignment and instructional quality in teacher education. The study reported a significant relationship between academic performance in professional education and licensure-examination ratings. This association suggests that instructional and curricular factors may be relevant to academic and licensure outcomes, but it does not demonstrate that these factors directly caused the observed performance.

Taken together, these studies provide context for interpreting the elementary-level professional education results. In the present sample, the mean GWA in professional education was classified as Very Good according to the institutional grading scale. This descriptive result indicates relatively high academic performance among the graduates studied; however, it does not independently demonstrate curriculum effectiveness, faculty competence, institutional commitment, future licensure success, or classroom readiness.

At the secondary level ($N = 62$), graduates obtained mean GWAs of 89.83 in general education and 89.13 in professional education, both classified as Very Good. The area of specialization had the highest mean GWA at 93.35, classified as Superior. These results show that the sampled graduates performed comparatively higher in their specialization courses.

Nevertheless, the mean grades alone do not establish exceptional content mastery, instructional competence, or readiness for subject-specific teaching.

Malahay (2021) reported an association between specialization and teaching performance among science teachers in Negros Oriental. This finding provides contextual support for examining subject-area preparation but should not be interpreted as evidence that the specialization grades of the present cohort directly reflect classroom effectiveness or student engagement.

Ampo (2023) also found that performance in specialization courses was associated with licensure-examination outcomes. This finding suggests that specialization-course performance may be relevant to licensure performance. However, the descriptive GWA results of the present study do not, by themselves, establish that the graduates were prepared for licensure or classroom practice.

Additionally, the alignment of CHED, PRC, and DepEd standards plays a pivotal role in maintaining academic rigor and institutional accountability. The Education Commission 2 (2023) highlights that synchronized policies across these agencies ensure that teacher education programs meet national benchmarks for accreditation and licensure.

The comparative strengths between elementary and secondary cohorts—elementary graduates excelling in pedagogical coursework and secondary graduates in specialization—suggest the need for strategic curriculum calibration. Carvajal et al. (2025) advocated for future-proofing teacher education through curriculum reframing, emphasizing differentiated instructional support based on program level and learner needs.

The mean component ratings of BEED and BSNEED graduates at the elementary level and BSED and BPEd graduates at the secondary level in the March and September 2023 Licensure Examination for Professional Teachers are presented by academic domain. The March and September results represent different cohorts: the elementary-level cohorts comprised 17 and 3 examinees, respectively, whereas the secondary-level cohorts comprised 48 and 14 examinees, respectively. Among the secondary-level cohorts, the mean general education rating was 83.34% (Satisfactory) in March and

85.13% (Good) in September. This 1.79-percentage-point difference is descriptive and should not be interpreted as *an* improvement within the same group. Mean professional education ratings ranged from 82.56% to 84.88% across the two levels and examination cycles, with all ratings classified as Satisfactory. For the secondary-level cohorts, the mean field-of-specialization ratings were 79.86% in March and 81.13% in September, both classified as Fairly Satisfactory. Because the examination cycles involved different cohorts, these results do not demonstrate changes in mastery or pedagogical competence over time.

The results echo those of Salendab et al. (2024) *regarding* the findings on domain-specific performance disparities in LEPT performance trends among BEED graduates from Sultan Kudarat State University. Their study found that General and Professional Education domains consistently yielded higher mean component ratings compared to the field of specialization. Nool (2018) analyzed LEPT results of BEED graduates from Tarlac State University and emphasized the importance of curriculum alignment and instructional quality in improving licensure outcomes. The study recommended targeted interventions in specialization areas to address lower mean component ratings.

Regression analyses revealed different patterns across the five program-area models. At the elementary level, general education GWA significantly predicted general education LEPT performance, $R = .460$, $R^2 = .212$, $p = .041$, 95% CI for B [0.045, 1.990]. The positive slope indicated that higher general education GWA was associated with higher general education LEPT performance. However, one observation had a Cook's D of 2.345, indicating that it may have substantially influenced the model. This finding should therefore be interpreted cautiously pending the results of a sensitivity analysis with and without the potentially influential case.

In contrast, elementary-level professional education GWA did not significantly predict professional education LEPT performance, $R = .358$, $R^2 = .128$, $p = .121$, 95% CI for B [-0.107, 0.841]. Because the confidence interval included zero, the analysis did not provide sufficient evidence of an association between professional education GWA and professional education

LEPT performance at the elementary level.

At the secondary level, general education GWA significantly predicted general education LEPT performance, $R = .404$, $R^2 = .163$, $p < .001$, 95% CI for B [0.239, 0.863]. One observation had a standardized residual outside ± 3 ; however, its Cook's D was 0.463, indicating limited influence on the fitted model. Secondary-level professional education GWA also significantly predicted professional education LEPT performance, $R = .368$, $R^2 = .136$, $p = .002$, 95% CI for B [0.151, 0.669]. Although one observation had a standardized residual outside ± 3 , its Cook's D was 0.270, indicating limited influence.

Secondary-level majorship GWA did not significantly predict major-component LEPT performance, $R = .132$, $R^2 = .017$, $p = .291$, 95% CI for B [-0.214, 0.700]. The confidence interval included zero, and no extreme standardized residuals or influential observations were identified.

Overall, significant positive predictive associations were observed for elementary-level general education GWA and for secondary-level general and professional education GWA. No statistically significant associations were found for elementary-level professional education GWA or secondary-level majorship GWA. These results describe predictive associations within the analyzed sample and should not be interpreted as evidence of causation.

Implications of the Findings of the Study

The significant associations indicate that academic performance in selected general and professional education domains was related to corresponding licensure-examination outcomes. Across the five regression models, the proportion of explained variance ranged from approximately 1.7% to 21.2% ($R^2 = .017-.212$), indicating substantial variation in predictive strength across program areas. For the elementary level, GE GWA emerged as a significant predictor of licensure performance, implying that mastery of general education competencies provides a solid foundation for success in the LEPT. However, the non-significant role of the Professional Education

course GWA suggests that elementary-level professional coursework may require closer review to ensure alignment with licensure demands.

At the secondary level, both GE and ProfEd GWA significantly predicted licensure outcomes, reinforcing the value of balanced preparation across general and professional domains. These results imply that curriculum design and instructional strategies in secondary teacher education should continue to emphasize both breadth and depth of learning. The presence of minimal outlier influence further supports the robustness of these findings.

Meanwhile, majorship GWA did not significantly predict licensure performance, indicating that specialization courses may not directly translate into licensure success. This finding suggests a need to re-examine the integration of major-specific competencies with licensure requirements, ensuring that specialization tracks contribute more effectively to examination readiness.

Overall, the study implies that program improvement efforts should prioritize strengthening general and professional education components while reassessing the role of specialization courses. For policy and practice, these results support continuous curriculum alignment with licensure standards, targeted interventions for weaker predictors, and enhanced support systems to bridge the gap between academic performance and licensure success.

Within Holy Angel University, this single-institution cohort provides preliminary evidence for the local use of selected GWA components as indicators of licensure performance. The findings may inform institutional program evaluation and student-support planning; however, they do not validate GWA as a national predictor or support generalization across teacher education institutions in the Philippines. Broader implications require replication using larger samples from multiple institutions and examination cohorts.

CONCLUSION

Based on the findings, the following conclusions were drawn:

1. Graduates in both Elementary and Secondary programs demonstrated consistently high GWAs, described as Very Good and Superior, affirming strong academic preparation across domains.
2. Licensure outcomes in March and September 2023 were generally satisfactory to good, with Elementary graduates showing stable performance and Secondary graduates achieving slightly higher ratings in General and Professional Education.
3. GWA significantly predicted three of the five LEPT component outcomes; thus, the hypothesis was only partially supported.
4. General Education GWA emerged as a consistent and significant predictor of licensure performance for both elementary and secondary levels. This suggests that success in the LEPT is significantly influenced by basic academic achievement.
5. Professional Education GWA significantly predicted licensure outcomes at the secondary level but not at the elementary level. This suggests that professional coursework has stronger alignment with licensure demands in secondary teacher preparation.
6. Majorship/area of specialization GWA did not significantly predict licensure performance, highlighting a potential disconnect between specialization courses and licensure examination outcomes.
7. The models explained modest proportions of variance (8–21%), implying that while academic grades are important, other factors—such as test-taking skills, review practices, or non-academic influences—also play a role in licensure success.
8. Residual diagnostics confirmed model adequacy, and the minimal influence of detected outliers supports the robustness of the findings.

Limitations of the Study

The study has several limitations that must be acknowledged in interpreting its findings. First, the relatively small institutional sample size restricts the generalizability of the results, as the data reflect only a limited cohort of graduates. Closely tied to this is the single-university setting, which narrows the scope of applicability and may not fully capture the diversity of experiences across other teacher education institutions. The possibility of selection bias arises from graduates who did not take the March or September 2023 LEPT or whose records were unavailable, as their absence may skew the representativeness of the sample. Beyond these structural constraints, it is important to recognize that other variables influencing LEPT performance—such as review attendance, personal motivation, socioeconomic background, test anxiety, and study habits—were not considered in this study. These factors, while outside the immediate focus of the study, may have exerted a significant influence on licensure outcomes. Taken together, these limitations highlight the need for cautious interpretation of the results and point toward opportunities for future research that expands the sample base, diversifies institutional contexts, and integrates additional predictors of licensure success.

RECOMMENDATIONS

The following recommendations were drawn based on the conclusions:

1. Because general education GWA was significantly associated with corresponding LEPT performance at both the elementary and secondary levels, Holy Angel University may consider reinforcing general education competencies through curriculum mapping, targeted enrichment, and formative assessments. However, the elementary-level finding should be interpreted cautiously pending a sensitivity analysis of the potentially influential observation.

2. At the secondary level, professional education GWA was significantly associated with professional education LEPT performance. Holy Angel University may therefore continue reviewing the alignment of professional education courses with licensure standards and consider practice-based learning and appropriate examination preparation. The observed association should not be interpreted as evidence that these measures directly improve licensure performance.
3. Majorship or area of specialization GWA did not significantly predict the corresponding LEPT component in this cohort. This nonsignificant finding does not establish that the specialization courses are ineffective or misaligned. Any review of these courses should be supported by additional evidence, such as curriculum mapping, course-assessment results, and findings from subsequent cohorts.
4. Holy Angel University may continue periodically reviewing the alignment of its teacher education curricula with applicable licensure-examination frameworks as part of its regular quality-assurance processes. Such alignment should be evaluated using multiple indicators and should not be assumed, on the basis of the present regression results alone, to ensure licensure readiness.
5. Because the regression models explained approximately 1.7%–21.2% of the variance in LEPT performance, Holy Angel University may consider supplementary support, such as review programs, mentoring, and test-taking workshops. The effectiveness of these initiatives should be evaluated, and future studies should examine other academic and non-academic factors that may be associated with licensure performance.

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FEATURED ARTICLES

- [1] Exploring the Contributions of Professional Organization Membership to the Career Advancement of Full Professors in Philippine State Universities and Colleges
Ethel L. Abao
Helen B. Boholano
Filomena T. Dayagbil
Angeline M. Pogoy
Catalina M. Canasa
Michelle Mae J. Olvido
- [33] From Innovation to Integrity: A Framework for AI-Enhanced Authentic Project-Based Assessment in Higher Education
Clark Dominic Alipasa
- [59] Investments in the Development of Research Culture
Michelle Mae J. Olvido
- [88] Examining the Relationship Between General Weighted Average and Performance of Teacher Education Students in the LEPT: A Predictive Correlational Study
Alma M. Natividad