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A TPACK-Informed Assessment of Faculty Competencies and Professional Development Priorities

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Abstract

This exploratory institutional need assessment examined the self-reported competencies and professional development priorities of 57 faculty members in the Integrated Basic Education Department of La Consolacion College Bacolod. The data were originally gathered for internal faculty development planning through a questionnaire containing rating-scale items and open-ended questions. For secondary analysis, the competency items were organized into six TPACK-informed competency areas: Technological Knowledge, Pedagogical Knowledge, Content Knowledge, Pedagogical Content Knowledge, Technological Pedagogical Knowledge, and integrated Technological Pedagogical Content Knowledge. Descriptive statistics, retrospective internal-consistency estimates, and systematic categorization of open-ended responses were used. Results showed high self-reported competence across all six areas, with Content Knowledge obtaining the highest mean and Technological Knowledge the lowest. At the item level, technical troubleshooting and digital assessment design received the comparatively lowest ratings. Descriptive variations were observed according to prior faculty development participation, educational attainment, teaching experience, and grade-level assignment. Research and Publication and Technology Integration emerged as the leading professional development priorities. Most respondents preferred face-to-face workshops and favored activities conducted either as needed or quarterly. Open-ended responses further identified unstable internet connectivity, inadequate equipment, unequal access to devices, inclusive education, faculty wellness, and mission-oriented formation as important concerns. The findings support differentiated, practical, and mission-responsive faculty development directions that combine research support, digital pedagogy, mentoring, inclusive instruction, wellness initiatives, and institutional infrastructure improvement. Because the instrument was originally designed for internal needs assessment and did not measure the complete seven-domain TPACK framework, the findings should be interpreted as an institution-specific planning baseline rather than a definitive measure of faculty competence.

Keywords: faculty development; institutional needs assessment; self-reported competence; TPACK; technology integration; basic education teachers

Introduction

Teacher quality remains central to improving educational outcomes because curriculum reforms, instructional innovations, and educational technologies ultimately depend on teachers' capacity to transform policy and subject content into meaningful learning experiences. Contemporary teachers are expected not only to possess strong content knowledge but also to design learner-centered instruction, address learner diversity, use assessment evidence, collaborate with colleagues, and integrate digital technologies appropriately. Professional learning must therefore be understood as a career-long process through which teachers continually broaden and deepen their knowledge, respond to emerging tools and practices, and address the changing needs of learners (OECD, 2025).

In the Philippines, these expectations are reflected in the Philippine Professional Standards for Teachers, adopted through Department of Education Order No. 42, s. 2017. The PPST defines teacher quality through seven interconnected domains covering content knowledge and pedagogy, learning environments, learner diversity, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development. It also recognizes that teacher competence progresses across career stages and should be supported through appropriate continuing professional development opportunities (Department of Education – Teacher Education Council [DepEd - TEC], 2017). The PPST consequently provides an important policy basis for schools to assess teachers' competencies and use empirical evidence in planning faculty development programs.

The need for systematic faculty development has become more pronounced with the phased implementation of the revised K to 10 or MATATAG Curriculum beginning in School Year 2024–2025. The curriculum reform requires schools and teachers to respond to revised learning competencies, curricular expectations, assessment practices, instructional schedules, and resource requirements (DepEd, 2024). These changes demand that teachers continually strengthen their capacity for curriculum interpretation, lesson design, differentiated instruction, assessment alignment, and the purposeful selection of learning resources. Because schools vary in staffing, infrastructure, learner profiles, and access to instructional technologies, faculty development programs must also be responsive to their particular institutional contexts.

Alongside curriculum reform, the expanding use of digital platforms and artificial intelligence has increased the range of competencies expected of teachers. Technology can support differentiated instruction, formative assessment, multimedia learning, communication, collaboration, and access to educational resources. However, effective integration requires more than operational familiarity with applications. Teachers must determine whether a particular technology is appropriate for the intended learning outcomes, subject matter, pedagogical approach, and developmental characteristics of their learners. UNESCO's AI Competency Framework for Teachers emphasizes that educators need technical knowledge together with ethical understanding, human-centered judgment, appropriate pedagogy, and the capacity to use artificial intelligence responsibly in teaching, learning, and assessment (Miao & Cukurova, 2024).

The emergence of generative artificial intelligence has made this developmental need increasingly urgent. Generative AI may support lesson preparation, instructional material development, feedback, inquiry, assessment, and administrative work, but its use also introduces concerns related to accuracy, bias, privacy, academic integrity, overreliance, and the preservation of teacher and learner agency. Faculty development should therefore move beyond teaching educators how to operate AI-enabled tools. It should help teachers decide when, why, and how such technologies may be used in pedagogically appropriate, ethically responsible, and context-sensitive ways (Miao & Cukurova, 2024).

A useful framework for examining this multidimensional form of teacher knowledge is Technological Pedagogical Content Knowledge, or TPACK. Mishra and Koehler (2006) proposed that effective technology integration emerges from the interaction among three core knowledge domains: Technological Knowledge, Pedagogical Knowledge, and Content Knowledge. Their intersections produce Technological Content Knowledge, Technological Pedagogical Knowledge, and Pedagogical Content Knowledge, while the integrated relationship among all three domains constitutes Technological Pedagogical Content Knowledge. The framework emphasizes that technology should not be treated as an isolated instructional addition. Rather, teachers must understand how particular technologies interact with disciplinary content, teaching strategies, learner characteristics, and educational contexts (Mishra & Koehler, 2006; Koehler et al., 2013).

Research on TPACK has shown that technology integration is shaped by the relationships among teacher knowledge, professional beliefs, access to resources, institutional culture, and opportunities for sustained professional learning. Teachers may be proficient in using digital applications while still experiencing difficulty selecting technologies that correspond with learning outcomes, disciplinary content, or appropriate pedagogical strategies. Moreover, TPACK is situated and context-dependent; competence demonstrated in one subject, grade level, or technological environment may not automatically transfer to another (Ertmer & Ottenbreit-Leftwich, 2010; Voogt et al., 2013). Faculty development must therefore connect technological skills with authentic lesson design, classroom implementation, collaboration, reflection, and subject-specific practice.

Self-assessed TPACK competence must also be interpreted cautiously. A high self-rating represents a teacher's perception of competence but does not necessarily establish objectively demonstrated classroom performance. Self-assessments may be influenced by confidence, prior experience, social desirability, familiarity with the instrument, or awareness of professional standards. Teachers who have participated in professional development may even assess themselves more critically because training has increased their awareness of the complexity of effective technology integration. Accordingly, self-reported competency data are more informative when considered alongside

teachers' expressed development priorities, instructional experiences, contextual barriers, and preferred modes of professional learning.

Effective teacher professional development should be sustained, active, collaborative, connected to teachers' work, and aligned with school and learner needs. Darling-Hammond et al. (2017) identified content focus, active learning, collaboration, modeling of effective practice, coaching, feedback, reflection, and adequate duration as common features of effective teacher professional development. Similarly, current OECD guidance emphasizes that continuing professional learning should build on teachers' prior knowledge, respond to individual development needs, and contribute to collective improvement within schools (OECD, 2025). These principles suggest that uniform, one-time seminars are unlikely to address the varied developmental needs of teachers across grade levels, subject areas, and career stages.

Differences in teaching experience, educational preparation, grade-level assignment, subject specialization, and access to resources may shape teachers' TPACK profiles and professional learning priorities. For example, digital tools appropriate for specialized Senior High School instruction may not be developmentally suitable for preschool or elementary learners. Newly appointed teachers may be familiar with recent technologies but still require support in classroom management, assessment, and pedagogical judgment. Experienced teachers may possess strong content and pedagogical knowledge while needing opportunities to explore newer digital platforms at an appropriate pace. These variations support the design of differentiated development pathways rather than a single program offered uniformly to all faculty members.

This need is particularly relevant to the Integrated Basic Education Department of La Consolacion College Bacolod, which serves learners from preschool through Senior High School. Its faculty members work across different developmental levels, subject disciplines, curricular expectations, and instructional contexts. Although the department regularly conducts seminars, in-service training, research activities, and other professional development initiatives, it had not previously conducted a systematic TPACK-informed assessment that examined teachers' perceived competencies alongside their stated professional development priorities and institutional challenges.

An evidence-based assessment is also important because faculty development within the institution must support both instructional quality and its Catholic, Augustinian, and Marian educational mission. Professional formation should therefore address technological, pedagogical, and content-related competence while sustaining values integration, ethical practice, learner well-being, responsible innovation, and commitment to institutional identity. Teachers' capacity to apply their knowledge may likewise be affected by contextual conditions such as internet connectivity, availability of devices, functioning audiovisual equipment, workload, student access, and administrative support. Examining competencies and contextual needs together can provide a more realistic basis for planning than relying on generalized training preferences alone.

Accordingly, this study assessed the self-reported competencies and professional development priorities of teachers in the Integrated Basic Education Department of La Consolacion College Bacolod. Specifically, it sought to determine teachers' perceived competence across the six TPACK-informed competency areas represented in the questionnaire; describe patterns according to participation in faculty development programs, highest educational attainment, years of teaching experience, and grade level taught; identify preferred development areas, training modalities, instructional challenges, and institutional barriers; and use the findings as a basis for differentiated and mission-responsive faculty development directions. By distinguishing self-assessed competencies from expressed professional development priorities, the study aimed to provide a more precise and actionable foundation for continuing faculty development within the department.

Research Questions

This study sought to answer the following questions:

1. What is the level of teachers' self-assessed competence across the six TPACK-informed areas represented in the needs-assessment questionnaire: Technological Knowledge, Pedagogical Knowledge, Content Knowledge, Pedagogical Content Knowledge, Technological Pedagogical Knowledge, and integrated Technological Pedagogical Content Knowledge?
2. What descriptive patterns in teachers' self-assessed TPACK competence emerge when they are grouped according to participation in faculty development programs, highest educational attainment, years of teaching experience, and grade level taught?
3. What professional development priorities, preferred training modalities, instructional challenges, and institutional barriers are identified by the teachers?

4. What differentiated and mission-responsive faculty development directions may be proposed based on the findings?

Methodology

Research Design

This study employed a descriptive institutional needs-assessment design with rating-scale and open-ended components. The data were originally collected to support internal faculty development planning in the Integrated Basic Education Department of La Consolacion College Bacolod. During the secondary analysis, the rating-scale items were organized into six conceptually related competency areas using the Technological Pedagogical Content Knowledge framework as an interpretive lens.

The quantitative component described teachers' self-reported competencies in technology-, pedagogy-, and content-related instructional practices. The open-ended component identified their professional development priorities, preferred training modalities and frequency, instructional and technological challenges, and requested forms of institutional support.

The study was descriptive and exploratory. It did not seek to establish causal relationships or objectively verify classroom performance. The findings were intended primarily to provide an institution-specific basis for faculty development planning.

Research Locale

The needs assessment was conducted in the Integrated Basic Education Department of La Consolacion College Bacolod. The department provides education from preschool through Senior High School within a Catholic, Augustinian, and Marian educational context.

The department was considered an appropriate setting for the assessment because its teachers work across different developmental levels, subject areas, curricular requirements, and instructional contexts. These variations made it necessary to examine both shared and differentiated professional development priorities.

Participants and Sampling

The participants were the 57 faculty members of the Integrated Basic Education Department during Academic Year 2024–2025. Total enumeration was used because the assessment was intended to generate department-wide information for faculty development planning.

All 57 eligible faculty members completed the questionnaire, resulting in a 100% response rate. The professional characteristics included in the analysis were:

- previous participation in faculty development activities;
- highest educational attainment;
- years of teaching experience; and
- grade-level assignment.

These characteristics were used to describe patterns in the responses and were not treated as causal determinants of teacher competence.

Needs-Assessment Questionnaire

Data were gathered using a faculty development needs-assessment questionnaire prepared for internal institutional use. The instrument consisted of three parts.

The first part gathered selected professional information, including educational attainment, years of teaching experience, grade-level assignment, and previous participation in faculty development activities.

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The second part contained rating-scale statements concerning teachers' perceived capabilities in the following areas:

- use of digital tools and artificial intelligence-assisted applications;
- basic technical troubleshooting;
- lesson design and differentiated instruction;
- formative and summative assessment;
- classroom management and inclusive practice;
- content mastery and contextualization;
- selection and adaptation of teaching strategies and materials;
- digital assessment design;
- integration of technology into teaching and content delivery; and
- integration of Catholic, Augustinian, and Marian values.

Respondents rated each statement using a five-point response scale. The response anchors were:

Scale	Response
5	Strongly agree
4	Agree
3	Neither agree nor disagree
2	Disagree
1	Strongly disagree

TPACK-Informed Organization of the Competency Items

After data collection, the rating-scale items were reviewed and organized according to conceptually related areas within the TPACK framework of Mishra and Koehler (2006). The framework was used as an analytical structure rather than as evidence that the original questionnaire was a standardized or formally validated TPACK instrument.

The retained items were grouped into six TPACK-informed competency areas:

1. Technological Knowledge;
2. Pedagogical Knowledge;
3. Content Knowledge;
4. Pedagogical Content Knowledge;
5. Technological Pedagogical Knowledge; and
6. integrated Technological Pedagogical Content Knowledge.

The original questionnaire did not contain a distinct set of items adequately representing Technological Content Knowledge. The study therefore did not claim to measure all seven domains of the complete TPACK framework. The findings were interpreted as a partial, TPACK-informed profile of the teachers' self-reported competencies.

Data-Collection Procedure

The needs-assessment questionnaire was administered in November 2025 as part of the department's internal faculty development planning process. Faculty members were invited to participate through the Office of Research and Creative Works.

The questionnaire was distributed through Google Forms. Respondents were informed that the assessment was intended to identify faculty development priorities and support institutional planning. Participation was voluntary, and completion of the questionnaire indicated consent to participate in the internal assessment.

Responses were downloaded from Google Forms, stored in a password-protected file, and accessed only for institutional planning and subsequent secondary analysis. No names, email addresses, or other direct identifiers were

retained in the analytical dataset used for the secondary analysis. Results were reported in aggregate form to minimize the possibility of identifying individual faculty members.

Data Screening and Preparation

The dataset was examined for completeness, duplicated variables, and invalid entries before analysis. All 57 responses were complete across the retained rating-scale items.

Data screening identified two columns with identical wording concerning the respondent's ability to remain updated with developments in the subject area. Because the first occurrence appeared within the intended sequence of Content Knowledge items, it was retained, while the later duplicate was excluded. This process left 17 distinct competency items for analysis.

The 17 retained items were assigned to the six TPACK-informed competency areas according to their conceptual content. Area scores were computed by averaging the responses to the items assigned to each area. An overall self-reported competence score was computed from all 17 retained items.

Interpretation of Responses

The mean scores were interpreted using the following categories:

Mean range	Interpretation
4.50–5.00	Very high self-assessed competence
3.50–4.49	High self-assessed competence
2.50–3.49	Moderate self-assessed competence
1.50–2.49	Low self-assessed competence
1.00–1.49	Very low self-assessed competence

The interpretations were used only to describe respondents' perceptions. They were not treated as evidence of verified expertise or classroom performance.

Data Analysis

Quantitative data were analyzed using frequencies, percentages, means, and standard deviations. Frequencies and percentages were used to summarize the respondents' selected professional characteristics, primary development priorities, preferred training formats, and preferred frequency of faculty development activities.

Means and standard deviations were calculated for:

- each competency item;
- each of the six TPACK-informed competency areas; and
- the overall 17-item scale.

Internal consistency was examined retrospectively using Cronbach's alpha. The reliability analysis was conducted during the secondary analysis of the institutional needs-assessment data and was not part of the original administration of the questionnaire. Because several competency areas contained only two items, their reliability coefficients were interpreted cautiously.

Competency scores were summarized according to previous participation in faculty development activities, highest educational attainment, years of teaching experience, and grade-level assignment. Means were compared descriptively to identify patterns that could inform faculty development planning. Because the study was exploratory

and the subgroup sizes were small and unequal, no inferential conclusions were drawn regarding differences among groups.

The analysis was conducted using JASP version 0.95.4.

Analysis of Open-Ended Responses

The open-ended responses were analyzed through systematic categorization. All responses were read repeatedly to identify recurring concerns, requested competencies, preferred development activities, and institutional support needs.

The categorization was conducted by two members of the research team, who independently reviewed the responses and resolved differences through discussion.

Conceptually similar responses were grouped into broader categories, including:

- research and publication;
- technology integration and troubleshooting;
- artificial intelligence and digital platforms;
- instructional and assessment practices;
- inclusive education and classroom management;
- subject-specific content development;
- preferred training modalities and frequency;
- technological infrastructure;
- mentoring and institutional support;
- faculty well-being and work-life balance; and
- mission-oriented formation.

The qualitative component was treated as a structured categorization of open-ended responses rather than as a formal thematic analysis. The identified categories were used to clarify and contextualize the quantitative results.

Integration of Findings

The rating-scale and open-ended responses were interpreted together to develop a practical understanding of faculty development priorities.

The quantitative findings described areas in which teachers perceived themselves as more or less capable. The open-ended responses provided direct evidence of the types of training they wanted, the barriers affecting their instructional practice, and the institutional support they considered necessary.

High self-reported competence was not interpreted as the absence of a development need. Similarly, a comparatively lower mean was not treated as sufficient evidence of a deficiency. Professional development priorities were identified through the convergence of:

- comparatively lower competency ratings;
- directly selected development priorities;
- recurring concerns in the open-ended responses;
- reported instructional and technological barriers; and
- relevance to institutional and curricular responsibilities.

Ethical and Data-Management Considerations

The original questionnaire was administered for internal institutional planning rather than as a formal research study. For the secondary scholarly use of the data, the study was reviewed by the Institutional Ethics Review Board, which granted an exemption from full ethical review on December 4, 2025.

Participation in the original needs assessment was voluntary. The questionnaire collected institutional email addresses and included an optional name field as part of its original administrative use. Before the secondary scholarly

analysis, names, email addresses, and other direct identifiers were removed from the analytical dataset. Results were reported only in aggregate form to minimize the possibility of identifying individual faculty members.

Electronic records were stored in password-protected files accessible only to the research team. The data were used exclusively for institutional planning and scholarly analysis.

Results

Data Screening and Preparation

The needs-assessment dataset contained responses from all 57 faculty members of the Integrated Basic Education Department. No missing responses were found across the rating-scale items included in the analysis.

During data screening, the statement *"I stay updated with the latest developments in my subject area"* appeared twice in the dataset. Because the first occurrence appeared within the intended sequence of Content Knowledge items, it was retained, while the later duplicate was excluded. The final quantitative analysis therefore covered 17 distinct competency items.

The questionnaire did not contain a distinct set of items that adequately represented Technological Content Knowledge. Consequently, the results were organized into six TPACK-informed competency areas: Technological Knowledge, Pedagogical Knowledge, Content Knowledge, Pedagogical Content Knowledge, Technological Pedagogical Knowledge, and integrated Technological Pedagogical Content Knowledge. The findings should therefore be understood as a partial, TPACK-informed profile rather than a complete measurement of all seven domains of the TPACK framework.

Retrospective Internal Consistency

Internal consistency was examined during the secondary analysis of the institutional needs-assessment data. The overall 17-item scale obtained a Cronbach's alpha of .950, indicating high internal consistency. The coefficients for the six competency areas ranged from .846 to .924.

Table 1. *Internal Consistency of the TPACK-Informed Competency Areas*

Competency area	Cronbach's alpha
Technological Knowledge	.877
Pedagogical Knowledge	.866
Content Knowledge	.846
Pedagogical Content Knowledge	.876
Technological Pedagogical Knowledge	.904
Integrated TPACK	.924
Overall 17-item scale	**.950**

These coefficients indicate that the items within the reconstructed areas were internally consistent in the present dataset. However, the reliability estimates do not establish the content or construct validity of the original needs-assessment questionnaire.

Overall Self-Reported Competency Profile

Table 2 presents the teachers' self-reported competence across the six TPACK-informed areas. All areas obtained mean scores within the high range. The overall mean was 4.13, with a standard deviation of 0.51.

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Content Knowledge obtained the highest mean of 4.29, followed by Pedagogical Content Knowledge at 4.25. Pedagogical Knowledge obtained a mean of 4.13, while Technological Pedagogical Knowledge and integrated TPACK obtained means of 4.10 and 4.08, respectively. Technological Knowledge received the lowest mean at 4.01, although it remained within the high self-reported competence range.

Table 2. *Teachers' Self-Reported Competencies Across the TPACK-Informed Areas*

Competency area	Number of items	Mean	SD	Interpretation
Technological Knowledge	4	4.01	0.68	High
Pedagogical Knowledge	4	4.13	0.57	High
Content Knowledge	3	4.29	0.53	High
Pedagogical Content Knowledge	2	4.25	0.60	High
Technological Pedagogical Knowledge	2	4.10	0.64	High
Integrated TPACK	2	4.08	0.63	High
Overall	**17**	**4.13**	**0.51**	**High**

The findings indicate that the faculty generally perceived themselves as capable in content, pedagogy, and technology-related instructional tasks. The comparatively lower mean for Technological Knowledge suggests that technology-related capabilities may require closer attention in faculty development planning, particularly when considered together with the teachers' expressed needs and reported institutional barriers.

Item-Level Competency Ratings

Table 3 presents the mean and standard deviation for each of the 17 retained competency items. The highest-rated item was the ability to connect lesson content to real-life contexts and global issues, with a mean of 4.42. Other highly rated items included adapting instructional materials to learners' developmental levels, with a mean of 4.26, and selecting appropriate teaching strategies for the subject area and explaining key concepts clearly and accurately, both with means of 4.23.

The lowest-rated item was the ability to troubleshoot basic technical issues during classes, with a mean of 3.88. Designing digital assessments aligned with subject standards obtained the second-lowest mean of 4.00. Although these ratings remained within the high range, they represented comparatively lower areas within the overall competency profile.

Table 3. *Item-Level Self-Reported Competency Ratings*

Area	Item	Mean	SD	Interpretation
TK	Use digital tools for teaching and learning	4.02	0.81	High
TK	Troubleshoot basic technical issues during classes	3.88	0.78	High
TK	Use AI-assisted tools to enhance lesson delivery	4.11	0.84	High
TK	Evaluate digital learning materials	4.05	0.74	High
PK	Design active and differentiated lessons	4.07	0.70	High
PK	Use formative and summative assessment	4.14	0.69	High
PK	Manage diverse classrooms inclusively	4.14	0.61	High
PK	Integrate Catholic, Augustinian, and Marian values	4.16	0.70	High

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Area	Item	Mean	SD	Interpretation
CK	Explain key concepts clearly and accurately	4.23	0.63	High
CK	Connect content to real-life and global issues	4.42	0.57	High
CK	Remain updated in the subject area	4.21	0.62	High
PCK	Select appropriate subject-specific teaching strategies	4.23	0.68	High
PCK	Adapt materials to learners' developmental levels	4.26	0.58	High
TPK	Use technology to illustrate difficult concepts	4.19	0.67	High
TPK	Design digital assessments aligned with standards	4.00	0.68	High
TPACK	Integrate technology into teaching and content delivery	4.11	0.65	High
TPACK	Reflect on the interaction of technology, pedagogy, and content	4.05	0.67	High

The item-level findings show that the teachers' strongest ratings were associated with content contextualization, instructional adaptation, and subject-specific pedagogy. Practical technology-related tasks, especially troubleshooting and digital assessment design, received comparatively lower ratings.

Competency Patterns According to Participation in Faculty Development Activities

Of the 57 respondents, 46 had previously participated in faculty development activities, while 11 had not. As shown in Table 4, both groups reported high self-assessed competence across all six areas.

Table 4. *Self-Reported Competencies According to Participation in Faculty Development Activities*

Competency area	Participated, n = 46	Did not participate, n = 11
Technological Knowledge	3.95	4.30
Pedagogical Knowledge	4.09	4.30
Content Knowledge	4.30	4.21
Pedagogical Content Knowledge	4.22	4.36
Technological Pedagogical Knowledge	4.03	4.36
Integrated TPACK	4.05	4.18
Overall	**4.10**	**4.28**

Teachers who had not participated in faculty development activities obtained a higher overall mean of 4.28, compared with 4.10 among those who had participated. Non-participants reported higher means in Technological Knowledge, Pedagogical Knowledge, Pedagogical Content Knowledge, Technological Pedagogical Knowledge, and integrated TPACK. Participants reported a slightly higher mean only in Content Knowledge.

The observed variations were treated as descriptive patterns only. The results do not establish that participation or non-participation in faculty development activities was associated with higher self-reported competence, particularly because the assessment did not examine the nature, duration, quality, or recency of the programs attended.

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Competency Patterns According to Highest Educational Attainment

Ten respondents held a master's degree, while 47 held a bachelor's degree. Both groups reported high self-assessed competence across all areas.

As shown in Table 5, master's degree holders obtained a slightly higher overall mean of 4.15, compared with 4.13 among bachelor's degree holders. Master's degree holders reported higher means in Content Knowledge, Pedagogical Knowledge, Pedagogical Content Knowledge, and integrated TPACK. Bachelor's degree holders reported slightly higher means in Technological Knowledge and Technological Pedagogical Knowledge.

Table 5. *Self-Reported Competencies According to Highest Educational Attainment*

Competency area	Master's degree, n = 10	Bachelor's degree, n = 47
Technological Knowledge	3.90	4.04
Pedagogical Knowledge	4.18	4.12
Content Knowledge	4.43	4.26
Pedagogical Content Knowledge	4.30	4.23
Technological Pedagogical Knowledge	4.00	4.12
Integrated TPACK	4.15	4.06
Overall	**4.15**	**4.13**

The overall ratings of the two groups were nearly identical. The small variations across competency areas were interpreted descriptively and do not indicate that one educational-attainment group was more competent than the other.

Competency Patterns According to Years of Teaching Experience

The respondents were grouped into three categories: 25 had zero to three years of teaching experience, 12 had four to seven years, and 20 had eight years or more.

Teachers with zero to three years of experience obtained the highest overall mean of 4.21, followed by those with four to seven years at 4.17. Teachers with eight years or more obtained the lowest overall mean of 4.01.

The clearest descriptive pattern occurred in Technological Knowledge. Teachers with zero to three years of experience reported a mean of 4.22, compared with 4.08 among those with four to seven years and 3.71 among those with eight years or more.

Table 6. *Self-Reported Competencies According to Years of Teaching Experience*

Competency area	0–3 years, n = 25	4–7 years, n = 12	8 years or more, n = 20
Technological Knowledge	4.22	4.08	3.71
Pedagogical Knowledge	4.15	4.19	4.06
Content Knowledge	4.33	4.28	4.23
Pedagogical Content Knowledge	4.28	4.21	4.23
Technological Pedagogical Knowledge	4.16	4.17	3.98
Integrated TPACK	4.10	4.13	4.03

Overall	**4.21**	**4.17**	**4.01**

The results show a descriptive tendency in which teachers with fewer years of experience reported higher technology-related ratings. However, the findings should not be interpreted as evidence that teaching experience determines technological competence.

Competency Patterns According to Grade-Level Assignment

The grade-level groups consisted of 27 Senior High School teachers, 15 Junior High School teachers, and 15 Preschool and Elementary teachers. Preschool and Elementary respondents were combined because only two respondents were assigned exclusively to Preschool.

Senior High School teachers obtained the highest overall mean of 4.21. Preschool and Elementary teachers followed with an overall mean of 4.13, while Junior High School teachers obtained the lowest overall mean of 3.99.

Senior High School teachers reported the highest mean in Technological Knowledge at 4.20. Junior High School teachers obtained comparatively lower means in Technological Knowledge at 3.85, Technological Pedagogical Knowledge at 3.87, and integrated TPACK at 3.90. Preschool and Elementary teachers reported strong means in Pedagogical Knowledge, Content Knowledge, and Pedagogical Content Knowledge, but obtained a comparatively lower Technological Knowledge mean of 3.83.

Table 7. *Self-Reported Competencies According to Grade-Level Assignment*

Competency area	Senior High School, n = 27	Junior High School, n = 15	Preschool and Elementary, n = 15
Technological Knowledge	4.20	3.85	3.83
Pedagogical Knowledge	4.13	4.05	4.20
Content Knowledge	4.35	4.16	4.31
Pedagogical Content Knowledge	4.26	4.13	4.33
Technological Pedagogical Knowledge	4.19	3.87	4.17
Integrated TPACK	4.19	3.90	4.07
Overall	**4.21**	**3.99**	**4.13**

Primary Professional Development Priorities

The respondents were asked to identify the area in which they most needed professional development. Research and Publication was selected by 23 teachers, representing 40.4% of the respondents. Technology Integration followed with 20 responses or 35.1%.

Table 8. *Primary Professional Development Priority Identified by Respondents*

Development area	Frequency	Percentage
Research and Publication	23	40.4%
Technology Integration	20	35.10%
Pedagogy	6	10.5%
Content Mastery	5	8.8%

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Faith Formation	3	5.3%
Total	**57**	**100.00%**

Pedagogy was selected by six respondents, Content Mastery by five, and Faith Formation by three.

Research and Publication and Technology Integration together accounted for 75.5% of all responses. This finding shows that the teachers' professional development priorities extended beyond areas with comparatively lower competency ratings. Although the respondents generally reported high competence, they still expressed a clear need for continued learning in research, technology, pedagogy, content, and mission formation.

Preferred Faculty Development Format

Face-to-face workshops were preferred by 38 respondents or 66.7% of the faculty. Ten respondents preferred a blended format, seven preferred online webinars, and two preferred peer mentoring.

Table 9. *Preferred Faculty Development Format*

Preferred format	Frequency	Percentage
Face-to-face workshop	38	66.70%
Blended format	10	17.50%
Online webinar	7	12.30%
Peer mentoring	2	3.50%
Total	**57**	**100.00%**

The strong preference for face-to-face workshops indicates that most faculty members favored practical, facilitated, and hands-on professional learning activities.

Preferred Frequency of Faculty Development Activities

Nineteen respondents or 33.3% preferred faculty development activities to be conducted as needed. Seventeen respondents or 29.8% preferred quarterly sessions, while 13 preferred biannual activities. Eight respondents selected annual training.

Table 10. *Preferred Frequency of Faculty Development Activities*

Preferred frequency	Frequency	Percentage
As needed	19	33.30%
Quarterly	17	29.80%
Biannually	13	22.80%
Annually	8	14.00%
Total	**57**	**100.00%**

The distribution suggests that the faculty preferred a flexible but recurring professional development system. The combined responses for needs-based and quarterly activities accounted for 63.1% of the respondents.

Professional Development Areas Identified in the Open-Ended Responses

The open-ended responses were systematically reviewed and organized into recurring categories. One recurring category concerned research capability. Teachers expressed interest in developing skills in research methodology, research writing, identifying research problems, publication, and guided research implementation.

Technology-related development was another prominent category. Respondents requested training in artificial intelligence, digital instructional tools, multimedia development, gamification, updated educational applications, programming, and the creation of technology-supported instructional materials.

Teachers also identified pedagogical priorities, including classroom management, differentiated instruction, inclusive education, assessment, lesson planning, curriculum development, and support for learners with special educational needs. Other responses emphasized subject-specific content mastery, instructional leadership, professional ethics, values formation, and Catholic-Augustinian-Marian mission integration.

Several teachers also identified mental wellness, personality development, work-life balance, and conflict management as important areas for professional development.

Challenges in Technology Integration

The open-ended responses identified internet and network connectivity as a recurring barrier to technology-supported instruction. Teachers mentioned unstable internet connections, weak signals, unavailable classroom Wi-Fi, and dependence on wired connections.

Other reported challenges included malfunctioning audiovisual equipment, outdated laptops and devices, limited access to digital resources, and unequal access to devices and connectivity among students. Some respondents also reported difficulty navigating new applications, limited familiarity with advanced features, insufficient training, and lack of time to learn and prepare technology-supported lessons.

A number of teachers noted that technology-based activities were sometimes viewed by students primarily as entertainment. This created an additional challenge in ensuring that digital tools were used purposefully and remained aligned with learning outcomes.

Institutional Support Requested by Teachers

Teachers requested regular seminars, workshops, INSET activities, mentoring, and coaching. They also expressed interest in participating in external conferences, graduate studies, scholarship programs, and specialized professional development opportunities.

Technology-related support included improved internet connectivity, updated computers and audiovisual equipment, access to premium digital platforms, artificial intelligence tools, learning management systems, and ready-made instructional resources.

Respondents also requested research support, clearer induction programs for newly hired teachers, stronger mentoring systems, more time for instructional preparation and professional tasks, mental health and counseling services, and initiatives that promote work-life balance.

Several responses favored differentiated faculty development programs based on grade level, subject area, teaching experience, and specific professional needs.

Summary of Findings

The faculty reported high self-assessed competence across the six TPACK-informed areas represented in the questionnaire. Content Knowledge and Pedagogical Content Knowledge received the highest mean ratings, while Technological Knowledge obtained the lowest competency-area mean. At the item level, technical troubleshooting and digital assessment design received the lowest ratings.

Descriptive patterns were observed according to faculty development participation, educational attainment, teaching experience, and grade-level assignment. These patterns were interpreted descriptively and used only as planning indicators.

The teachers identified Research and Publication and Technology Integration as their leading development priorities. They generally preferred face-to-face workshops and favored faculty development activities conducted either as needed or quarterly. Their open-ended responses further identified infrastructure limitations, connectivity problems, inadequate equipment, inclusive education, research capability, wellness, and mission-oriented formation as important considerations in the design of a differentiated faculty development program.

Discussion

This institutional needs assessment examined teachers' self-reported competencies across six TPACK-informed areas and identified their professional development priorities, preferred learning formats, instructional challenges, and requested institutional support. The findings show that the faculty generally perceived themselves as highly competent in the technology-, pedagogy-, and content-related areas represented in the questionnaire. At the same time, their responses revealed continuing development needs in research, technology integration, digital assessment, technical troubleshooting, inclusive pedagogy, faculty wellness, and mission-oriented formation. This apparent contrast demonstrates why professional development needs cannot be determined solely by identifying the lowest numerical rating. Teachers may perceive themselves as capable practitioners while still recognizing areas in which they want to deepen, update, or extend their expertise.

Overall TPACK-Informed Competency Profile

The teachers reported high competence across all six TPACK-informed areas, with an overall mean of 4.13. Content Knowledge received the highest mean, followed by Pedagogical Content Knowledge, while Technological Knowledge obtained the lowest competency-area mean. These findings suggest that the faculty's perceived strengths are concentrated in understanding subject matter, explaining concepts, contextualizing content, selecting appropriate instructional approaches, and adapting learning materials to the developmental needs of students.

The high ratings in Content Knowledge and Pedagogical Content Knowledge are consistent with the conceptual foundations of TPACK, which emphasize that effective teaching depends not only on knowing a subject but also on understanding how to represent and transform that subject for particular learners (Mishra & Koehler, 2006; Koehler et al., 2013). Within the context of the Integrated Basic Education Department, these results indicate that teachers generally regard themselves as capable of connecting disciplinary knowledge with appropriate instructional decisions.

The relatively lower mean for Technological Knowledge does not indicate that the teachers lacked technological competence. The domain still received a high rating. Rather, technology-related competencies appeared less strongly developed than content- and pedagogy-related competencies. This pattern is important because TPACK is not simply the possession of separate technological, pedagogical, and content knowledge. It requires teachers to make context-sensitive decisions about how these forms of knowledge interact in actual instructional situations (Mishra & Koehler, 2006; Voogt et al., 2013).

The results also support the view that technological integration is shaped by more than teachers' familiarity with applications. Teachers' knowledge, confidence, beliefs, institutional culture, available resources, and opportunities for professional learning influence whether technologies are meaningfully used in instruction (Ertmer & Ottenbreit-Leftwich, 2010). Thus, the comparatively lower Technological Knowledge score should be interpreted together with the reported problems in internet connectivity, equipment availability, access to software, and student access to devices.

Comparatively Lower Competency Items

At the item level, troubleshooting basic technical issues during classes received the lowest mean, followed by designing digital assessments aligned with subject standards. These findings identify practical areas in which faculty development may provide immediate instructional benefit.

Technical troubleshooting is especially consequential during technology-supported instruction because equipment or connectivity problems can interrupt lessons, reduce instructional time, and discourage teachers from experimenting with digital tools. Training in basic device configuration, internet and network troubleshooting, audiovisual system

operation, file compatibility, platform navigation, and contingency planning may help teachers respond more confidently when technical difficulties arise.

Digital assessment design also requires more than the ability to operate an online quiz or learning platform. Teachers must align assessment tasks with intended learning outcomes, select suitable item formats, provide meaningful feedback, protect academic integrity, interpret learner data, and ensure that assessment remains accessible and equitable. Consequently, professional development should focus not only on digital assessment applications but also on the pedagogical and ethical decisions associated with their use.

The high rating for using artificial intelligence-assisted tools indicates that many teachers were already familiar with or confident in using emerging digital applications. However, operational confidence should not be equated with comprehensive AI competence. The AI Competency Framework for Teachers emphasizes that teachers require human-centered judgment, ethical awareness, pedagogical understanding, and the capacity to evaluate how AI affects teaching, assessment, learner agency, inclusion, and professional responsibility (Miao & Cukurova, 2024). Accordingly, future training should move beyond demonstrations of individual tools and address verification of AI-generated content, bias, privacy, attribution, academic integrity, responsible prompting, and the preservation of teacher judgment. UNESCO's framework likewise positions ethical and effective AI use as a multidimensional professional competence rather than a purely technical skill.

Patterns According to Faculty Development Participation

Teachers who had not previously participated in faculty development activities reported higher mean ratings in most competency areas than those who had participated. Although descriptive variations were observed, the study was not designed to establish statistically verified group differences. The pattern should therefore be interpreted only as a planning indicator and does not demonstrate that faculty development participation was ineffective or that non-participants were objectively more competent.

Several possible explanations should be considered. Teachers who participated in training may have become more aware of the complexity of effective instructional practice and consequently evaluated themselves more critically. Participation may also have been directed toward teachers or areas already identified as needing support. Conversely, non-participants may have had other sources of professional learning or may have rated their abilities more confidently. The original questionnaire did not measure the duration, content, quality, relevance, or recency of the programs attended, making it impossible to evaluate their effectiveness from these data.

Effective professional development is not defined simply by attendance. It is more likely to influence practice when it is content-focused, sustained over time, connected to teachers' work, supported by active learning, and accompanied by collaboration, modeling, feedback, coaching, and reflection (Darling-Hammond et al., 2017). The descriptive pattern therefore reinforces the need to examine the quality and design of professional learning rather than treating participation as a uniform experience.

Patterns According to Educational Attainment

Teachers with master's degrees and those with bachelor's degrees reported nearly identical overall competency means. Master's degree holders had somewhat higher ratings in Content Knowledge and integrated TPACK, while bachelor's degree holders reported slightly higher means in technology-related areas. These variations were interpreted descriptively and do not indicate that one educational-attainment group was more competent than the other.

The findings suggest that highest educational attainment alone did not distinguish teachers' perceived TPACK-related competence within the department. Graduate education may provide opportunities for advanced disciplinary study, research, and theoretical engagement, but technology integration may also develop through classroom experience, peer learning, self-directed exploration, institutional training, and routine use of digital platforms. It would therefore be inappropriate to assume that a higher academic qualification automatically produces greater competence in every TPACK-related area.

For faculty development planning, the results support mixed and collaborative professional learning arrangements rather than separating teachers solely according to degree attainment. Teachers may possess complementary forms of expertise that can be shared through mentoring, lesson study, demonstration teaching, professional learning communities, and collaborative instructional design.

Patterns According to Teaching Experience

Teachers with zero to three years of experience reported the highest overall mean, while those with eight years or more reported the lowest. The clearest descriptive tendency appeared in Technological Knowledge, where early-career teachers reported higher ratings than the most experienced group. This pattern should be interpreted cautiously as a planning indicator and not as evidence that years of teaching experience determine technological competence.

The pattern may reflect differences in exposure to digital technologies, recent preservice preparation, teaching assignments, or confidence. However, the study did not measure age, preservice curriculum, frequency of technology use, access to devices, or actual classroom performance. It is therefore not possible to conclude that less experienced teachers were objectively more technologically competent.

The finding is nevertheless useful for institutional planning. Experienced teachers may benefit from practical, scaffolded, and classroom-relevant opportunities to explore new platforms without disregarding their accumulated pedagogical and content expertise. Early-career teachers, in turn, may be able to contribute technological knowledge while receiving support in classroom management, assessment, curriculum interpretation, institutional practices, and pedagogical judgment.

Such reciprocal learning supports a reverse-mentoring approach in which digitally confident teachers share technological practices while experienced teachers contribute contextual, pedagogical, and institutional knowledge. This approach recognizes that professional expertise is multidimensional and that technological familiarity should not be treated as a substitute for teaching experience.

Patterns According to Grade-Level Assignment

Senior High School teachers obtained the highest overall mean, followed by Preschool and Elementary teachers, while Junior High School teachers reported the lowest overall mean. Junior High School teachers had comparatively lower ratings in Technological Knowledge, Technological Pedagogical Knowledge, and integrated TPACK. Preschool and Elementary teachers reported strong pedagogy- and content-related ratings but a lower Technological Knowledge mean. These differences were treated as descriptive patterns rather than established differences in competence.

The descriptive patterns may reflect the different instructional demands of each level. Senior High School teachers frequently handle specialized subjects, applied learning tasks, research activities, presentations, and technology-mediated outputs. Preschool and Elementary teachers must prioritize developmental appropriateness, foundational learning, interaction, and carefully selected instructional materials. Junior High School teachers work with learners undergoing significant cognitive, social, and emotional transitions while also addressing increasingly complex subject content.

These contextual differences support differentiated professional development. Senior High School teachers may benefit from advanced digital assessment, discipline-specific technologies, research mentoring, and responsible AI integration. Preschool and Elementary teachers may require age-appropriate digital pedagogy, early literacy and numeracy applications, play-based technology use, and guidance on screen-time balance. Junior High School teachers may benefit from focused support in instructional design, classroom engagement, blended learning, and the purposeful use of digital tools for adolescent learners.

TPACK is context-dependent, and its practical expression varies across subjects, learner groups, grade levels, and available technologies (Koehler et al., 2013; Voogt et al., 2013). Consequently, the descriptive similarities and variations across grade-level groups do not mean that all faculty members require identical training. Professional development may still be differentiated on the basis of instructional role and expressed need rather than presumed differences in competence.

Research and Publication as the Leading Development Priority

Research and Publication was the most frequently selected professional development priority, identified by 40.4% of respondents. This finding is significant because it was not directly captured by the TPACK-informed competency domains. It shows that the faculty's development needs extend beyond classroom technology, pedagogy, and content.

The strong demand for research training may reflect teachers' interest in conducting classroom-based inquiry, responding to institutional research expectations, pursuing graduate education, presenting at conferences, or publishing their work. Faculty development may therefore include progressive support in identifying researchable problems, reviewing literature, selecting appropriate methodologies, analyzing data, observing research ethics, writing scholarly reports, and preparing manuscripts for publication.

A single general research seminar would likely be insufficient. A structured pathway may be more effective, beginning with research orientation and problem identification, followed by proposal development, methodology clinics, data-analysis support, writing groups, peer review, and publication mentoring. Research development should also be connected to authentic classroom and institutional concerns so that it contributes to instructional improvement rather than becoming an isolated compliance activity.

Technology Integration as a Continuing Priority

Technology Integration was selected by 35.1% of respondents, making it the second most frequently identified development priority. Together, Research and Publication and Technology Integration accounted for more than three-fourths of all selected priorities.

The demand for technology-related development is consistent with the comparatively lower ratings in technical troubleshooting and digital assessment, as well as the open-ended requests for AI, multimedia, gamification, programming, updated educational applications, and digital instructional materials. It also demonstrates that a high self-reported rating does not eliminate the need for continuing development. In rapidly changing areas such as educational technology and artificial intelligence, competence requires continuous updating.

Current professional expectations increasingly require teachers to evaluate digital resources, protect student data, design inclusive technology-supported activities, interpret learning analytics, and use AI responsibly. The OECD frames teacher professional learning as a career-long process through which teachers build expertise beyond initial preparation and respond to changing professional demands (OECD, 2025).

Technology development should therefore be organized in levels. Foundational sessions may address troubleshooting, platform navigation, file management, cybersecurity, and audiovisual equipment. Intermediate sessions may focus on digital assessment, blended learning, differentiated instruction, and multimedia design. Advanced sessions may cover learning analytics, discipline-specific applications, AI-supported instructional planning, and ethical evaluation of emerging technologies.

Preferred Training Format and Frequency

Two-thirds of respondents preferred face-to-face workshops, while smaller groups preferred blended learning, webinars, or peer mentoring. The preference for face-to-face workshops indicates that teachers value direct interaction, guided practice, immediate feedback, and opportunities to apply new skills in a supported environment.

This preference aligns with evidence that effective professional development involves active learning rather than passive exposure. Teachers are more likely to translate professional learning into practice when they can examine models, create instructional products, rehearse strategies, receive feedback, and collaborate with colleagues (Darling-Hammond et al., 2017).

The low selection of peer mentoring should not necessarily lead the institution to abandon mentoring. Respondents may have interpreted the question as asking for their preferred primary training format rather than all useful support mechanisms. Mentoring can complement workshops by helping teachers apply what they learned, address context-specific problems, and sustain improvement over time.

Regarding frequency, the largest group preferred activities conducted as needed, followed closely by quarterly sessions. These responses suggest that faculty members favor a professional development system that is both responsive and regular. An appropriate model may combine a quarterly core program with shorter needs-based clinics, coaching sessions, professional learning community meetings, and just-in-time support.

Infrastructure and Contextual Barriers

The open-ended responses showed that technology integration was constrained by unstable internet connectivity, unavailable classroom Wi-Fi, malfunctioning audiovisual equipment, outdated devices, limited access to premium platforms, and unequal student access to technology. These barriers are important because they distinguish teachers' knowledge from their capacity to implement that knowledge consistently.

Ertmer and Ottenbreit-Leftwich (2010) distinguish between internal factors, such as knowledge, beliefs, and confidence, and external conditions, such as access, resources, leadership, and institutional culture. The findings indicate that IBED's professional development strategy should address both. Training teachers without improving the environment in which they are expected to apply their learning may produce limited instructional change.

The reported digital divide among students also raises questions of equity. Teachers may be capable of designing technology-supported activities, but such tasks may disadvantage learners who lack reliable devices or connectivity. Faculty development should therefore include inclusive digital design, low-bandwidth alternatives, offline resources, flexible submission options, and contingency planning.

An institutional technology audit would complement the needs assessment. Such an audit could document classroom connectivity, device condition, audiovisual equipment, software access, technical support procedures, and student access. The results could then inform a phased infrastructure plan aligned with instructional priorities.

Inclusive Pedagogy, Wellness, and Mission Formation

The open-ended responses demonstrate that teachers did not view faculty development solely as technical training. They also requested support in inclusive education, differentiated instruction, classroom management, mental wellness, work-life balance, ethics, values formation, and Catholic-Augustinian-Marian identity.

The demand for inclusive education is particularly important because teachers work with increasingly diverse learners, including those with different abilities, learning needs, backgrounds, and levels of access. The Philippine Professional Standards for Teachers identify learner diversity, learning environments, curriculum, assessment, and professional growth as central dimensions of teacher quality (Department of Education–Teacher Education Council [DepEd–TEC], 2017).

Mental wellness and work-life balance should also be treated as legitimate faculty development concerns rather than peripheral benefits. Teachers' ability to engage in professional learning, research, innovation, and reflective practice may be limited by excessive workload, stress, and insufficient preparation time. A holistic development framework should therefore connect professional competence with organizational support, workload management, collegial relationships, and access to wellness services.

The strong rating for integrating Catholic, Augustinian, and Marian values indicates that mission integration is already perceived as a faculty strength. Future formation should therefore move beyond introductory orientation and provide opportunities for teachers to examine how institutional values inform instructional decisions, technology use, inclusion, research ethics, learner relationships, and professional conduct.

Implications for a Differentiated Faculty Development Framework

The combined findings support a faculty development system that is differentiated but not fragmented. The descriptive subgroup patterns suggest that the institution should avoid rigidly labeling groups as competent or deficient. Instead, professional learning pathways may be based on expressed priorities, instructional roles, existing expertise, and readiness for particular forms of development.

The proposed faculty development directions include the following interconnected pathways:

1. **Research and publication:** research design, ethics, data analysis, writing, presentation, and publication mentoring.
2. **Digital foundations:** troubleshooting, platform use, cybersecurity, equipment operation, and resource evaluation.
3. **Digital pedagogy and assessment:** blended learning, digital assessment, learning analytics, multimedia, and instructional design.

4. **Artificial intelligence in education:** responsible use, verification, privacy, bias, academic integrity, and human-centered teaching.
5. **Inclusive and differentiated pedagogy:** learner diversity, special educational needs, classroom management, and accessible design.
6. **Grade-level and subject-specific development:** developmentally appropriate and discipline-responsive training.
7. **Mentoring and professional learning communities:** induction, peer coaching, lesson study, and reverse mentoring.
8. **Mission, ethics, and professional formation:** Catholic-Augustinian-Marian identity, professional conduct, and responsible innovation.
9. **Faculty wellness and organizational support:** mental health, workload, work-life balance, and collegial support.
10. **Infrastructure and resource development:** connectivity, equipment, software access, technical assistance, and equitable student access.

These pathways should not be implemented as disconnected one-time seminars. OECD guidance and professional development research support sustained, coherent, collaborative, and job-embedded learning that develops expertise over the course of a teacher's career (Darling-Hammond et al., 2017; OECD, 2025).

Interpretation in Light of the Study's Scope

The findings should be interpreted within the limitations of an exploratory institutional needs assessment. The competency data were based on self-report and were not verified through classroom observations, performance tasks, interviews, or student outcomes. The questionnaire was originally developed for institutional planning and did not include a distinct Technological Content Knowledge scale. The TPACK framework was therefore used to organize six conceptually related competency areas rather than to claim complete measurement of the framework.

The retrospective reliability coefficients indicate that the reconstructed areas were internally consistent in this dataset, but reliability does not establish that the questionnaire fully or exclusively measured the intended constructs. The small and unequal subgroup sizes also limit the extent to which the descriptive patterns can be generalized or interpreted as meaningful group differences. Moreover, prior faculty development participation was measured as a simple yes-or-no category without information about the type, quality, duration, or recency of training.

Despite these limitations, the convergence of the competency ratings, selected priorities, preferred modalities, and open-ended responses provides a useful institutional foundation for professional development planning. The findings are most valuable when used to identify areas for further inquiry, guide responsive programming, and establish a baseline for future, more systematically designed assessments.

Conclusions

This exploratory institutional needs assessment found that teachers in the Integrated Basic Education Department generally reported high competence across the six TPACK-informed areas represented in the questionnaire. Content Knowledge and Pedagogical Content Knowledge received the highest mean ratings, indicating that the faculty perceived themselves as particularly capable in subject-matter understanding, content contextualization, selection of appropriate teaching strategies, and adaptation of instructional materials to learners' developmental needs. Technological Knowledge received the lowest area mean, although it still fell within the high range. At the item level, technical troubleshooting and digital assessment design emerged as the comparatively least developed areas.

The subgroup analyses showed descriptive variations according to participation in faculty development activities, educational attainment, years of teaching experience, and grade-level assignment. These variations were interpreted cautiously and used only as planning indicators rather than as evidence that one group was objectively more competent than another. In particular, the comparatively lower technology-related ratings among more experienced teachers and Junior High School teachers identify areas that may warrant closer attention, while the strong content- and pedagogy-related ratings across groups provide a solid foundation for advanced professional learning.

The findings also demonstrate that faculty development needs cannot be inferred solely from competency ratings. Although respondents generally rated themselves highly, they still identified Research and Publication and Technology Integration as their leading professional development priorities. They also requested support in inclusive education, classroom management, assessment, content development, artificial intelligence, digital tools, wellness, work-life balance, and mission-oriented formation. These responses show that faculty development should be understood not

as remediation of deficiencies but as the continuous enhancement of existing competence in response to changing instructional, technological, institutional, and professional demands.

The teachers' preference for face-to-face workshops and for activities conducted either as needed or quarterly indicates that professional learning should be practical, recurring, and responsive. One-time seminars are unlikely to address the complexity of the needs identified. A more appropriate approach would combine structured workshops with mentoring, professional learning communities, coaching, research support, and just-in-time technical assistance.

The study further confirms that technological integration is shaped not only by teacher knowledge but also by institutional conditions. Weak internet connectivity, unavailable classroom Wi-Fi, malfunctioning equipment, limited access to digital platforms, and unequal student access to devices constrained the implementation of technology-supported instruction. For this reason, faculty development should be accompanied by improvements in infrastructure, digital resources, technical support, and equitable access.

Overall, the findings support differentiated and mission-responsive faculty development directions for the Integrated Basic Education Department. Such a framework should include research and publication, digital foundations, digital pedagogy and assessment, responsible artificial intelligence use, inclusive and differentiated instruction, grade-level and subject-specific development, mentoring and induction, Catholic-Augustinian-Marian formation, faculty wellness, and institutional infrastructure support.

The conclusions must nevertheless be interpreted within the scope of the assessment. The data were based on self-reported perceptions and were not verified through classroom observation, performance assessment, or student outcomes. The questionnaire was originally administered for internal planning and did not measure the complete seven-domain TPACK framework. Thus, the findings are best treated as an institution-specific baseline for planning, reflection, and future inquiry rather than as a definitive measure of faculty competence.

Despite these limitations, the assessment provides a useful evidence base for strengthening professional development in the department. Its primary contribution lies in showing that the faculty already possess strong perceived competencies but require sustained, differentiated, and context-sensitive opportunities to remain responsive to evolving educational demands.

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