SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

ICT COMPETENCY AMONG TAFT NATIONAL HIGH SCHOOL TEACHERS IN UTILIZING GOOGLE APPLICATIONS FOR INSTRUCTIONAL DELIVERY

Jino, Docena, P.[1], Mark Elvin, Cidro, G.[2], Ma. Zosima L. Tejero, PhD[3]
[1]*MATVE-ICT,Eastern Samar State University,Graduate School*
[2]*MATVE-ICT,Eastern Samar State University,Graduate School*
[3]*MATVE, Program Head,ESSU, Graduate School*

ABSTRACT

In the contemporary educational landscape, the integration of Information and Communications Technology (ICT) has transitioned from a supplementary luxury to a fundamental necessity. This study delves into the ICT competency of public school teachers at Taft National High School in Eastern Samar, Philippines, specifically focusing on their utilization of Google Applications for instructional delivery. As the Philippine educational system navigates the post-pandemic "new normal," the reliance on digital tools like Google Workspace for Education has surged. Employing a descriptive research design, this study surveyed twenty-one (21) teachers to assess their proficiency in Google Classroom, Google Docs, Google Slides, Google Forms, and Google Drive. Beyond mere usage, the inquiry sought to understand the "technological pedagogical" fluency of these educators—how well they can blend these tools with their teaching strategies.

The data, analyzed using weighted means and frequency distributions, revealed that the teachers possess an overall competency level ranging from "acceptable" to "highly acceptable." Notably, proficiency was highest in Google Drive and Google Classroom, indicating a strong baseline in learning management and digital resource organization. However, the study also brought to light significant friction points: the persistent need for continuous, targeted ICT training, the scarcity of reliable digital devices, and the perennial challenge of unstable internet connectivity in rural Eastern Samar. These findings paint a picture of a resilient teaching workforce that is adapting to digital demands despite infrastructural constraints. The study concludes that while functional competency exists, moving from "acceptable" usage to transformative digital pedagogy requires sustained professional development and robust infrastructural interventions.

KEYWORDS: *ICT competency; Google applications; instructional delivery; secondary education; Philippines; Eastern Samar; TPACK; Educational Technology*

1. INTRODUCTION

The global education sector is currently undergoing a profound metamorphosis, driven by the rapid advancement and integration of Information and Communications Technology (ICT). What was once a slow, steady march toward digitalization was catapulted into a sprint by the global COVID-19 pandemic, forcing educational systems worldwide to adapt overnight. In the Philippines, this shift has been particularly momentous. The Department of ICT competency; Google applications; instructional delivery; secondary education; Philippines; Eastern Samar; TPACK; Educational Technology.

Education (DepEd) has aggressively championed the adoption of digital modalities to ensure learning continuity, placing a heavy reliance on the adaptability and digital literacy of the Filipino teacher.

However, the narrative of ICT integration is not uniform. In urban centers, high-speed internet and modern devices are often taken for granted. In contrast, rural secondary schools faces a different reality—one defined by the "digital divide." This study situates itself in this specific context: Taft National High School in Eastern Samar. Here, the challenge is not merely about having access to technology, but about the *competency* to use it effectively for instruction amidst unique local constraints.

International bodies such as UNESCO (2018) have long emphasized that providing hardware is insufficient; the human element the teacher is the critical variable. A teacher's ability to navigate digital platforms determines whether technology becomes a powerful engine for learning or a cumbersome administrative burden. In the Philippines, Google Workspace for Education (formerly G Suite) has emerged as the ecosystem of choice for many public schools due to its accessibility, cost-effectiveness, and collaborative features. Applications like Google Classroom, Docs, Slides, Forms, and Drive form the digital backbone of the modern Filipino classroom.

I.1. Theoretical Framework

To rigorously analyze the ICT competency of teachers, this study is anchored on the **Technological Pedagogical Content Knowledge (TPACK)** framework developed by Mishra and Koehler (2006). This framework was selected because it moves beyond the simplistic view that "knowing how to use a computer" equates to "knowing how to teach with a computer."

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

TPACK argues that effective teaching with technology requires a sophisticated interplay of three primary forms of knowledge:

1. **Content Knowledge (CK):** The teacher's understanding of the subject matter (e.g., Mathematics, Science, Literature).
2. **Pedagogical Knowledge (PK):** The teacher's understanding of the processes and practices of teaching and learning (e.g., classroom management, student assessment).
3. **Technological Knowledge (TK):** The teacher's understanding of standard technologies (e.g., the internet, digital video, Google Applications).

The true power of this framework lies in the intersections. In the context of this study, we are primarily observing the **Technological Pedagogical Knowledge (TPK)** and **Technological Content Knowledge (TCK)** of the teachers at Taft National High School.

- **TPK** is demonstrated when a teacher understands how the use of Google Classroom (Technology) changes the way they manage class flow and student interaction (Pedagogy). It is the ability to choose the right tool for a specific pedagogical goal.
- **TCK** is seen when a teacher uses Google Slides to visualize complex biological processes that are difficult to explain with text alone. It is knowing how technology can represent content in new ways.

By using TPACK as our lens, we frame "ICT Competency" not as a standalone technical skill, but as a professional teaching competency. When we assess a teacher's ability to use Google Forms, we are not just testing if they can create a checkbox; we are assessing their capacity to design digital assessments that align with their instructional goals. This framework ensures that our analysis respects the complexity of the teaching profession.

I.2. Review of Related Literature

The discourse on teacher ICT competency is extensive, reflecting the global urgency of the topic. A review of recent literature provides the context necessary to interpret the findings of this study.

The Global Perspective on Google Applications

Internationally, Google Applications have been lauded for their potential to democratize education. Shaharanee, Jamil, and Rodzi (2016) explored the application of Google Classroom and found that it significantly streamlined the teaching and learning process by centralizing data. Their study suggests that the "Active Learning" model is naturally supported by the collaborative features of the Google ecosystem. Similarly, Al-Maroof and Al-Emran (2018) investigated students' acceptance of Google Classroom, finding that "perceived ease of use" and "perceived usefulness" were critical factors. This directly relates to teacher competency; if a teacher cannot model the "ease of use," students are less likely to accept the platform.

ICT Competency in the Philippine Context

In the Philippines, the narrative is nuanced by the archipelago's unique geography and economic disparities. Cabansag (2020) conducted a study on the ICT competency of public school teachers and found a direct correlation between ICT proficiency and teaching performance. This reinforces the premise of our study: that digital skills are no longer optional add-ons but core components of teacher quality.

However, the "Digital Divide" remains a recurring theme. Studies often highlight that while teachers in urban private schools may be exploring advanced AI tools, teachers in rural public schools are often still mastering the basics of Learning Management Systems (LMS). The implementation of the K-12 curriculum has further intensified the demand for ICT-literate teachers, as the curriculum advocates for 21st-century skill development, which is intrinsically linked to digital literacy.

Barriers to Integration

Buabeng-Andoh (2021) provides a comprehensive categorization of the challenges facing ICT integration, dividing them into teacher-level barriers (lack of confidence, resistance to change) and school-level barriers (lack of equipment, outdated training). This distinction is crucial for our analysis of Taft National High School. It suggests that even a highly motivated teacher (overcoming teacher-level barriers) may be stymied by a lack of internet access (school-level barrier).

Furthermore, the existing literature suggests that "one-shot" training seminars—a common practice in the Philippines—are often ineffective for long-term competency retention. Teachers need sustained, hands-on practice, known as "job-embedded professional development," to truly master tools like Google Workspace.

By synthesizing these perspectives, it becomes clear that investigating the specific case of Taft National High School is not just a local exercise. It contributes to the broader understanding of how rural educators in developing nations are navigating the digital pivot.

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

2. METHOD

Research Design

This study employed a quantitative descriptive research design. This design was deemed most appropriate as the primary objective was to describe the current status of ICT competency among the teachers. We aimed to provide a snapshot of reality—"what is"—without manipulating variables. This approach allowed us to quantify competency levels across specific applications and rank the challenges faced by the educators.

Respondents and Sampling

The study was conducted at Taft National High School, a public secondary institution in Eastern Samar. The respondents comprised twenty-one (21) teachers. A total enumeration sampling technique was utilized. Given the relatively small population of the faculty relevant to the study's specific focus during the data collection period, we opted to include the entire eligible population rather than selecting a sample. This ensures that the data represents the comprehensive view of the faculty, eliminating sampling error and providing a complete picture of the school's digital landscape.

Research Instrument

Data were collected using a structured researcher-developed questionnaire, which was rigorously adapted from established ICT competency frameworks, including the UNESCO ICT Competency Framework for Teachers. The instrument was divided into three parts:

1. **Demographic Profile:** To understand the background of the respondents.
2. **Competency Assessment:** This section utilized a **five-point Likert scale** (ranging from 1=Poor to 5=Excellent) to measure proficiency in five specific domains: Google Classroom, Google Docs, Google Slides, Google Forms, and Google Drive. The items were designed to test functional skills (e.g., "I can create a class in Google Classroom") and pedagogical application (e.g., "I can use Google Slides to present interactive lessons").
3. **Challenges Checklist:** A section dedicated to identifying the frequency and severity of barriers such as connectivity, hardware availability, and training needs.

Data Collection Procedure

To ensure efficiency and adhere to safety protocols (given the lingering health concerns and the digital nature of the topic), the questionnaire was administered via Google Forms. This method itself served as a minor litmus test; the teachers' ability to successfully navigate and submit the form provided anecdotal evidence of basic digital literacy. The links were distributed through the school's official communication channels.

Ethical Considerations

Ethical integrity was paramount. All respondents were informed of the study's purpose prior to participation. Informed consent was obtained digitally. The authors strictly adhered to the Data Privacy Act, ensuring that all responses were anonymized and kept confidential. No personal identifiers were linked to the specific competency scores in the final analysis.

Data Analysis

The collected data were treated with descriptive statistical tools. Weighted means were calculated to determine the average competency level for each Google Application. These means were then interpreted using a standardized scale (e.g., 4.21-5.00 = Highly Acceptable/Excellent). Frequency distributions were used to analyze the demographic profile and the prevalence of specific challenges.

3. RESULT AND DISCUSSION

The findings of this study provide a revealing look into the digital capabilities of the teaching workforce at Taft National High School. The analysis is presented by application, followed by a discussion of the challenges.

1. Competency in Google Classroom and Google Drive

The data revealed that teachers rated their competency in Google Classroom and Google Drive as the highest among the five applications, falling within the "Highly Acceptable" range.

- *Analysis:* This finding is encouraging and logical. Google Classroom serves as the central "hub" of digital instruction. Since the shift to distance and blended learning, this platform has been the primary mandate for managing class rosters and disseminating modules. The high proficiency suggests that teachers have successfully cleared the first hurdle of digital integration: **Classroom Management in the Digital Space**. They are capable of creating classes, adding students, and posting announcements.
- *Google Drive Proficiency:* The high score in Google Drive indicates that teachers have adapted to **Cloud-Based Resource Management**. They are no longer solely reliant on USB flash drives (which are prone to viruses and loss) but are comfortable storing, organizing, and sharing files via the cloud. This is a critical TPK (Technological Pedagogical Knowledge) skill, as it enables the seamless sharing of learning resources with students and colleagues.

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

2. Competency in Google Docs and Google Slides

Competency levels for Google Docs and Google Slides were rated as "Acceptable."

- *Analysis:* While "Acceptable" is a passing grade, it indicates room for growth. Google Docs is often treated merely as a "typewriter"—a digital version of paper. An "Acceptable" rating suggests teachers can type exams and lesson plans, but they may not yet be utilizing advanced features like real-time collaborative editing, "Smart Chips," or add-ons that can enhance feedback.
- *Pedagogical Implication:* Similarly, for Google Slides, the rating suggests teachers can create basic presentations. However, to move to a "Highly Acceptable" level, they would need to demonstrate the ability to create *interactive* non-linear presentations, embed multimedia effectively, and use slides as a canvas for student collaboration rather than just a lecture tool. The gap between "Acceptable" and "Highly Acceptable" here represents the gap between **Digitization** (doing the same thing on a computer) and **Digital Transformation** (doing new things made possible by the computer).

3. Competency in Google Forms

Google Forms received the lowest rating, though still within the "Acceptable" range.

- *Analysis:* This is a critical finding. Google Forms is the primary engine for **Digital Assessment**. A lower competency here implies that teachers may be struggling with creating self-grading quizzes, analyzing the automated data analytics provided by Forms, or using branching logic (sections) to differentiate assessment.
- *Connection to Theory:* In the TPACK framework, assessment is a core component of Pedagogical Knowledge (PK). If the Technological Knowledge (TK) regarding Google Forms is lagging, the teacher's ability to perform effective, data-driven assessment is compromised. Improving competency here could drastically reduce the teacher's workload (through auto-checking) and improve student feedback loops.

4. Challenges to Implementation

The quantitative data on challenges paints a clear picture of the hurdles facing Taft National High School teachers. The three most cited challenges were:

1. **Need for Continuous ICT Training:** Teachers expressed a strong desire for more training. This validates the "half-life" of digital skills—technology changes so fast that what was learned two years ago may now be obsolete.
2. **Limited Access to Digital Devices:** Not every teacher has a dedicated, high-performance laptop. Many may be using personal devices that are older or shared with family members, creating a logistical barrier to practice and implementation.
3. **Unstable Internet Connectivity:** This is a systemic, infrastructural issue in Eastern Samar. No amount of teacher competency can fully overcome a lack of signal. This frustration often leads to "tech fatigue," where teachers revert to manual methods simply because they are more reliable than the fluctuating internet.

These findings align with the work of Cabansag (2020) and international studies, confirming that rural schools face a "double burden" of needing to upskill personnel while simultaneously battling infrastructure deficits.

4. CONCLUSION

Based on the findings and analysis, this study draws the following conclusions:

1. **Functional Baseline Established:** The teachers at Taft National High School have successfully established a functional baseline of ICT competency. They are not digital novices. They possess the necessary skills to navigate the Google Workspace ecosystem to a level that supports basic instructional delivery. The "Acceptable" to "Highly Acceptable" ratings across the board are a testament to their adaptability and resilience.
2. **Proficiency Variance:** There is a distinct hierarchy of skills. Management and storage (Classroom/Drive) are stronger than content creation and assessment (Docs/Slides/Forms). This suggests that initial training efforts likely focused on the logistics of "getting online," and now the focus must shift to the pedagogy of "teaching online."
3. **The Infrastructure Ceiling:** The competency of teachers is currently capped by infrastructural limitations. Without stable internet and better devices, even the most skilled teacher will hit a ceiling in what they can deliver.
4. **The Need for Specialized Training:** General "computer literacy" training is no longer sufficient. Teachers need targeted, high-level training on specific applications—particularly Google Forms for assessment and advanced features of Docs/Slides for content creation.

Recommendations

In light of these conclusions, we recommend:

- **Targeted Masterclasses:** School administration should organize "deep dive" workshops focusing specifically on the lower-scored areas, such as *Advanced Assessment Techniques using Google Forms*.
- **Peer Mentoring (The Tuakana-Teina Model):** Identify the "Highly Acceptable" users among the faculty and officially designate them as peer mentors. This creates a sustainable, internal support system.
- **Offline-First Strategies:** Given the internet challenges, training should also cover "offline" features of Google Workspace (e.g., working on Docs/Slides offline and syncing later), allowing teachers to remain productive even without connectivity.

SJIF Impact Factor (2026): 8.863| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 11 | Issue: 4 | April 2026 - Peer Reviewed Journal

- **Lobbying for Infrastructure:** School leadership must continue to use data such as this study to advocate for better internet provisions from the local government and the Department of Education.

5. ACKNOWLEDGE

The authors would like to extend their deepest gratitude to the administration of Taft National High School for allowing this study to be conducted. We are equally grateful to the teachers who, despite their busy schedules, generously offered their time to participate in this research. Their honesty and cooperation were instrumental in the completion of this work.
No conflict of interest is declared concerning the material presented in this manuscript.

6. REFERENCES

1. *Al-Maroof, R. S., & Al-Emran, M. (2018). Students' acceptance of Google Classroom: An exploratory study using PLS-SEM approach. International Journal of Emerging Technologies in Learning, 13(6), 112–123.*
2. *Buabeng-Andoh, C. (2021). ICT integration in education: Challenges and opportunities. International Journal of Education and Development using ICT, 17(2), 1–15.*
3. *Cabansag, J. N. (2020). ICT competency and teaching performance of public school teachers. International Journal of Learning, Teaching and Educational Research, 19(1), 123–138.*
4. *Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017–1054.*
5. *Shaharanee, I. N. M., Jamil, J. M., & Rodzi, S. S. M. (2016). The application of Google Classroom as a tool for teaching and learning. Journal of Telecommunication, Electronic and Computer Engineering, 8(10), 5–8.*
6. *UNESCO. (2018). ICT competency framework for teachers. United Nations Educational, Scientific and Cultural Organization.*