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The 7c's of Modern Pedagogy: Assessing 21st-Century Digital Competencies Among Teacher Education Faculty

Rachel L. Rodriguez[1], Elnora R. Perez[2], Henry R. Tura[3], Wilmina U. Laja[4]

[1,2,3,4]Basilan State College, Doctor of Philosophy in Educational Development Program

ABSTRACT

The rapid digital transformation of the educational landscape necessitates that faculty members transition from traditional instructional methods to technology-enhanced pedagogy centered on the "7C's" (Critical Thinking, Creativity, Collaboration, Communication, Computing, Cross-Cultural Understanding, and Career Self-Reliance). This study assessed the 21st-century digital competencies of the Teacher Education faculty at Basilan State College (BaSC) during the Academic Year 2024-2025. Utilizing a descriptive-correlational research design and total population sampling (N=55), the study employed a validated structured survey to evaluate the relationship between the faculty's professional profiles and their digital proficiency.

Findings revealed that while the faculty is generally "Competent" in 21st-century skills (Grand Mean = 4.08), a significant proficiency gap exists between soft skills and technical application. Faculty demonstrated "High Competency" in Collaboration (4.40) and Communication (4.35), yet scored lowest in Computing and ICT Literacy (3.65) and Creativity and Innovation (3.78). Statistical analysis (ANOVA/T-test) indicated significant differences in competency levels when grouped by age ($p=0.021$) and teaching experience ($p=0.034$), confirming a generational "digital divide." Notably, educational attainment showed no significant difference ($p=0.245$), suggesting that higher academic degrees (e.g., Doctorate) do not inherently guarantee digital literacy; rather, it is generational exposure that dictates efficiency.

The study concludes that the faculty possesses a stable pedagogical foundation but requires targeted technical intervention to move beyond basic administrative tool usage toward transformative digital instruction. To address these gaps, the study proposes the "CLICK" (Continuous Learning & ICT Knowledge) Enhancement Program, which focuses on three pillars: Peer-to-Peer Mentorship, Creative Media Workshops, and Efficiency Audits.

Keywords: 7C's of Modern Pedagogy, 21st Century Skills, Digital Competency, ICT Literacy, Teacher Education, Basilan State College, CLICK Program

I – INTRODUCTION

Background of the Study

The 21st century has ushered in an era of unprecedented technological advancement, fundamentally resha-

ping the global socio-economic landscape and the educational sector. The traditional classroom, once defined by the physical boundaries of "chalkboards," has evolved into a dynamic digital ecosystem of "clicks" and connectivity (Trilling & Fadel, 2009). In this paradigm, the role of education has shifted from the mere transmission of knowledge to the cultivation of high-level competencies known as the 7Cs: Critical Thinking, Creativity, Collaboration, Communication, Computing/ICT Literacy, Cross-Cultural Understanding, and Career & Learning Self-Reliance (P21, 2019).

As primary stakeholders in the academic journey, faculty members in Higher Education, particularly within Teacher Education programs, are now tasked with a dual responsibility: they must not only master these digital competencies themselves but also model them for the next generation of educators (UNESCO, 2018). The success of future classrooms depends heavily on the ability of current faculty to transition from traditional instructional methods to technology-enhanced teaching that fosters these essential 21st-century skills (Falloon, 2020).

In the Philippines, the Department of Education (DepEd) and the Commission on Higher Education (CHED) have aggressively pushed for the integration of Information and Communication Technology (ICT) to align with global standards. However, the implementation of these digital initiatives often faces unique geographical and socio-economic challenges in provincial areas. In Basilan Province, the transition from "chalkboards to clicks" is particularly significant given the region's efforts to enhance educational quality amidst its transition under the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Research conducted at Basilan State College (BaSC) has explored the relationship between the pedagogical competence of pre-service teachers and their academic performance, emphasizing the need for a modernized framework to prepare future educators for the local classroom environment (Rodriguez, R., Dela Cuesta, M., Salain, H., Machutes, E., Macario, J., & Balais, M. (2022), Sali, 2022).

Despite the presence of national ICT programs, studies in similar rural and developing contexts in the Philippines suggest that faculty in provincial state universities often encounter "digital hurdles," including limited infrastructure and the need for more intensive training in 21st-century literacies (DICT-BASULTA, 2024). The Department of Information and Communications Technology (DICT) - BASULTA has recently conducted "Digital Literacy and AI Masterclasses" specifically for licensed professional teachers in Basilan to bridge this gap, highlighting a recognized deficiency in AI and computing literacy within the local teaching workforce.

Furthermore, the unique cultural landscape of Basilan necessitates that faculty possess high levels of Cross-Cultural Understanding (one of the 7Cs) to effectively manage diverse classrooms. Local research suggests that while faculty may be competent in traditional pedagogy, there is a pressing need to assess their efficiency in using digital tools to facilitate Collaboration and Critical Thinking—skills that are essential for the region's socio-economic development. Thus, focusing this study on the faculty within Basilan provides a critical "ground-level" perspective on how digital transformation is actually manifesting in one of the country's most unique educational frontiers.

Statement of the Problem

This study aims to assess the 21st-century digital competencies of Teacher Education Faculty through the lens of the "7C's of Modern Pedagogy" at BaSC during the Academic Year 2024-2025

Specifically, it seeks to answer the following questions:

1. What is the educational profile of the Teacher Education Faculty in terms of:
   1.1. Age;

1.2. Educational Attainment (MA/MS, PhD/EdD);
1.3. Years of Teaching Experience;
1.4. Subject Specialization; and
1.5. Relevant Digital Literacy Training attended?

2. What is the level of 21st-century digital competencies of the faculty as measured by the 7C's of Modern Pedagogy:
   2.1. Critical Thinking and Problem Solving;
   2.2. Creativity and Innovation;
   2.3. Collaboration and Teamwork;
   2.4. Communication, Information, and Media Literacy;
   2.5. Computing and ICT Literacy;
   2.6. Cross-Cultural Understanding; and
   2.7. Career and Learning Self-Reliance?
3. To what extent do the faculty members integrate these 7C's into their actual pedagogical practices?
4. Is there a significant relationship between the faculty members' professional profile and their level of digital competency?
5. Is there a significant difference in the digital competencies of the faculty when grouped according to their subject specialization?

II – METHODS AND DESIGN

This chapter presents the research design, locale of the study, respondents, research instruments, data gathering procedures, and the statistical treatment of data used to analyze the results.

This study employed Descriptive-Correlational research design. It aims to assess and describe the current level of 21st-century digital competencies among the faculty based on the 7C's and sought to determine if a significant relationship exists between the faculty members' professional profiles and their level of digital competency.

The study was conducted at Basilan State College, specifically within the College of Teacher Education. This locale was chosen because it serves as the training ground for future educators, making the digital competencies of its faculty a critical factor in academic excellence.

The respondents consisted of the full-time and part-time faculty members of the College of Teacher Education. A Total Population Sampling technique was used, in this study, 55 faculty of the Teacher education responded to this study.

The primary tool for data collection is a structured Survey Questionnaire, which was divided into three parts: Part I: Educational Profile, Part II: The 7C's Competency Scale, A 5-point Likert scale (5-Expert to 1-Novice) assessing the seven domains: Critical Thinking, Creativity, Collaboration, Communication, Computing/ICT, Cross-Cultural Understanding, and Career Self-Reliance. The instrument was validated by a panel of experts and a Cronbach's Alpha reliability test.

Upon approval from the Ethics Review Committee and the Dean of the College, the researcher requested permission thru a formal letter of intent to the College President and from the Program Chairperson. Next, an orientation was conducted to briefly explain the purpose and confidentiality of the study to the faculty. Followed by the distribution or administration of the survey via printed forms and online platform utilizing Google Forms. Then, collection and encoding of gathered data and ensuring all fields are complete. Finally preparation it for statistical processing.

To answer the Statement of the Problem, the following statistical tools were employed. Frequency and Percentage for the demographic profile (SOP 1). Weighted Mean and Standard Deviation to assess the level of 21st-century digital competencies and pedagogical integration (SOP 2 and 3). Pearson r (or Spearman Rho) to determine the significant relationship between profile and competency (SOP 4). T-test to determine the significant difference in competencies when grouped by specialization (SOP 5).

To uphold the integrity of the research, several ethical protocols were strictly observed throughout the study. First, an Informed Consent was secured from all the faculty of the Teacher Education, ensuring they are fully aware of the study's purpose and their right to Voluntary Participation without risk of reprisal. To protect the privacy of the respondents, Anonymity and Confidentiality was maintained by using coded identifiers instead of names and ensuring that individual responses were not traceable to any specific faculty member. Furthermore, the study was strictly adhered to the provisions of the Data Privacy Act of 2012 (Republic Act No. 10173), where all gathered information were stored in a password-protected digital environment and were permanently deleted or shredded upon the completion of the research and its dissemination. No physical or psychological harm was inflicted, and the findings were reported with complete honesty and transparency to benefit the academic community.

III – RESULTS AND DISCUSSION

Table 1: Demographic Profile of the Respondents (N=55)

Profile Variable	Frequency (f)	Percentage (%)
Age		
21 – 30 years old	12	22%
31 – 45 years old	28	51%
46 years old and above	15	27%
Educational Attainment		
Doctorate Degree Graduate	20	36%
Master's Degree Graduate	32	58%
With Ongoing Post-Graduate Units	3	6%
Years of Teaching Experience		
0 – 5 years	14	26%
6 – 15 years	26	47%
16 years and above	15	27%

Table 1 above shows the data on the demographic profile of the respondents. Data reveals that a majority of the BaSC Teacher Education faculty belong to the 31 to 45 years old age bracket (51%), indicating a predominantly millennial workforce. This demographic is often characterized as "digital immigrants" who transitioned into the digital age during their formative years, suggesting a baseline level of comfort with technology. In terms of Educational Attainment, the highest frequency is found among Master's Degree graduates (58%). This shows that the faculty meets the minimum requirements set by CHED for higher education instruction, though there is still a significant opportunity for growth into doctoral levels to further enhance research and specialized digital pedagogical skills. Regarding Years of Teaching Experience, the largest group consists of faculty with 6 to 15 years of service (47.2%). This suggests a workforce that has moved past the initial adjustment phase of teaching and has established a stable

pedagogical foundation. However, when analyzed alongside the age data, the results imply that while the faculty is experienced, a significant portion (27.3% veteran) may have been trained in traditional "chalkboard" methods. This underscores the necessity of the study in determining if their professional longevity has been supplemented with updated 21st-century digital competencies (the 7C's) to meet the needs of modern learners.

Table 2: Level of Competency in 21st Century Skills (N=55)

The 7C's Skills	Weighted Mean	Verbal Interpretation
Critical Thinking & Problem Solving	4.12	Competent
Communication	4.35	Highly Competent
Collaboration	4.40	Highly Competent
Computing and ICT Literacy	3.65	Competent
Creativity and Innovation	3.78	Competent
Cross-cultural Understanding	4.05	Competent
Career and Learning Self-reliance	4.18	Competent
Grand Mean	4.08	Competent

Table 2 shows the data on the Level of Competency in 21st Century Skills. The grand mean of 4.08 suggests that BaSC faculty are generally Competent in 21st-century skills. The highest scores are in Collaboration (4.40) and Communication (4.35), indicating that the transition from traditional to digital has successfully utilized digital tools for teamwork (e.g., MS Teams, Zoom). However, Computing and ICT Literacy (3.65) garnered the lowest mean. This implies that while faculty can communicate online, they may still struggle with advanced technical integration or software-specific troubleshooting, marking a "bottleneck" in achieving maximum teaching efficiency.

Table 3: Summary of Significant Differences (ANOVA/T-test Results)

Profile Variable	F-value / t-value	p-value	Decision
Age vs. 7C's	4.12	0.021*	Reject Ho
Experience vs. 7C's	3.85	0.034*	Reject Ho
Education vs. 7C's	1.45	0.245	Fail to Reject Ho
*Significant at 0.05 level			

The results in Table 3 show a significant difference in competency levels when grouped by Age (p=0.021). Younger faculty scored significantly higher in Computing and ICT Literacy compared to veteran teachers. This confirms the "digital divide" within the faculty. Interestingly, Educational Attainment showed no significant difference (p=0.245), suggesting that having a Doctorate degree does not automatically equate to higher digital proficiency; rather, it is the "generational exposure" and "years of experience" in the digital era that dictate efficiency.

Based on the findings the "CLICK" Continuous Learning & ICT Knowledge Enhancement Program represents a strategic, multi-faceted approach to advancing educational technology integration within the faculty. Central to this initiative is the Peer-to-Peer Mentorship model, which leverages the demographic diversity of the staff by pairing "Digital Native" younger faculty with "Veteran" teachers. This reciprocal

arrangement not only facilitates hands-on ICT training but also fosters a culture of collaborative professional development, bridging the generational digital divide through organic, localized knowledge transfer.

To address the specific pedagogical gap in high-level technology use, the program introduces Creative Media Workshops. These sessions are strategically designed to elevate faculty competency from basic tool usage—such as standard slide presentations—toward the sophisticated development of interactive LMS content. By focusing on "Creativity and Innovation," which was identified as a critical area for improvement, these workshops ensure that digital tools are used to enhance student engagement and deeper learning rather than simply digitizing traditional methods.

Finally, the program maintains its sustainability and practical utility through regular Efficiency Audits. By conducting quarterly reviews of digital teaching tools, the institution can critically assess whether technology is fulfilling its promise of streamlining educational delivery or inadvertently increasing the administrative burden on faculty. This evaluative component ensures that the "CLICK" program remains responsive to the actual needs of the educators, prioritizing tools that enhance productivity and instructional quality while eliminating those that create unnecessary complexity.

Summary of Findings

1. **Demographic Profile of Faculty:** The study involved 55 faculty members, the majority of whom belong to the 31–45 age bracket (51%) and hold Master's degrees (58%). While the workforce is predominantly composed of "digital immigrants" with stable teaching experience (47% having 6–15 years), a significant nearly 30% are veteran teachers originally trained in traditional pedagogical methods.
2. **Level of 21st-Century Competency:** Faculty members are generally "Competent" in 21st-century skills, yielding a grand mean of 4.08. They demonstrate "High Competency" in soft skills such as Collaboration (4.40) and Communication (4.35). However, technical domains represent a significant bottleneck, with Computing and ICT Literacy (3.65) and Creativity and Innovation (3.78) receiving the lowest scores.
3. **Significant Predictors of Digital Proficiency:** Age ($p=0.021$) and Years of Experience ($p=0.034$) are significant factors in determining ICT competency, confirming a "digital divide" where younger faculty outperform veteran counterparts. Conversely, Educational Attainment ($p=0.245$) showed no significant difference, indicating that higher academic degrees (e.g., Doctorate) do not inherently guarantee higher digital or technical proficiency.
4. **Proposed Intervention:** To bridge the identified gaps, the study proposes the "CLICK: Continuous Learning & ICT Knowledge" Enhancement Program. This strategic framework focuses on three pillars: Peer-to-Peer Mentorship to facilitate generational knowledge transfer, Creative Media Workshops to move beyond basic ICT use, and Efficiency Audits to ensure digital tools reduce rather than increase faculty workload.

V. CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

1. The BaSC Teacher Education faculty is characterized by a mature, experienced workforce with strong academic foundations. However, since the majority are "digital immigrants" or veterans trained in

traditional methods, there is a clear developmental need to align their established pedagogical expertise with evolving 21st-century digital requirements.

2. While the faculty demonstrates excellence in collaborative and communicative dimensions of 21st-century skills, their overall technical integration is lagging. The lower scores in "Computing and ICT Literacy" and "Creativity and Innovation" suggest that digital tools are currently being used primarily for basic administrative or communication tasks rather than for transformative, creative instructional design.
3. Competency in 21st-century skills is significantly influenced by age and years of experience rather than the level of post-graduate education. This concludes that obtaining a Doctorate degree does not naturally confer digital literacy; instead, proficiency is a product of generational exposure and targeted technical experience.
4. The current level of "Competent" is an acceptable baseline, but to reach "Highly Competent" status, the institution requires a structured intervention that specifically addresses the technical "bottlenecks" identified in the study.

RECOMMENDATIONS

In light of the aforementioned conclusions, the following recommendations were made

1. The institution should formally adopt the Continuous Learning & ICT Knowledge (CLICK) Enhancement Program. Special emphasis should be placed on the Peer-to-Peer Mentorship component to capitalize on the strengths of younger faculty and bridge the generational digital gap.
2. Professional development should move away from basic software orientations toward Creative Media Workshops. These should focus on advanced LMS integration, interactive content creation, and digital tools that foster student-led innovation.
3. The administration should conduct bi-annual Efficiency Audits to evaluate the digital workload of faculty. This ensures that new technologies serve to streamline teaching processes rather than contributing to faculty burnout or administrative overreach.
4. Since educational attainment does not guarantee ICT proficiency, the institution should consider institutionalizing "Digital Excellence Awards" or micro-credentials for faculty who demonstrate innovative use of technology in the classroom, regardless of their rank or degree.
5. It is recommended that a follow-up qualitative study be conducted to explore the specific "troubleshooting" challenges faculty face, providing deeper insight into the 3.65 mean score in Computing and ICT Literacy.

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