The Mediating Role of Administrative Assistance on the Influence of Digital Competency and ICT Practice on Online Teaching Performance

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Abstract The COVID-19 pandemic forced a rapid transition to online learning, exposing challenges in teacher readiness and institutional support systems. This study examined the mediating role of administrative assistance in the relationship between digital competency, ICT practices, and online teaching performance among private secondary school teachers in the Philippines. Using a quantitative design and Structural Equation Modeling (SEM), data were collected from 318 teachers across Luzon, Visayas, and Mindanao. Results showed that while teachers demonstrated high digital competency and ICT practices, their performance was significantly enhanced when supported by administrative assistance, which included managerial, logistical, and emotional support that reduced non-teaching burdens and facilitated effective technology integration. Mediation analysis confirmed that administrative assistance partially mediated the effects of digital competency and ICT practices on performance, while demographic factors such as age, sex, and years of teaching experience moderated these relationships. The findings emphasize that digital skills alone are insufficient; institutional support, particularly administrative assistance, is a critical enabler of effective online instruction, with implications for policy, professional development, and future educational reforms.

Keywords: Administrative assistance, digital competency, ICT practices, online teaching performance.

I.   INTRODUCTION

The COVID-19 pandemic triggered an abrupt shift in global education, forcing over 1.2 billion learners and teachers to rely on online modalities (Li & Lalani, 2020; UN, 2020). In the Philippines, this transition revealed serious gaps in institutional readiness and teacher preparedness, particularly in adapting Education 4.0 technologies for effective instruction (Toquero, 2020). While teachers were compelled to develop digital competency and adopt ICT Practice 4.0 tools such as video conferencing platforms and collaborative apps, many still struggled to maintain teaching quality due to limited institutional support, heavier workloads, and heightened professional stress. This underscores a crucial gap: digital skills alone do not guarantee successful online teaching without parallel administrative assistance—the managerial, logistical, and emotional support provided by school leadership. Despite its importance, the role of administrative assistance remains underexplored in existing literature, as most studies have centered on student access and outcomes rather than institutional support for teachers. This study is unique because it empirically examines administrative assistance as a mediating factor between teachers' digital competency, ICT practices, and their online teaching performance. Specifically, it seeks to: (1) assess the levels of digital competency, ICT practice, administrative assistance, and online teaching performance among private secondary school

teachers in the Philippines; (2) determine whether significant differences exist based on demographic profiles; (3) evaluate the relationships among these variables; and (4) test the mediating role of administrative assistance in strengthening online teaching performance.

II.   LITERATURE REVIEW

The integration of digital technologies in education, especially during the COVID-19 pandemic, highlighted the critical role of teachers' digital competency and ICT practices in sustaining effective online teaching performance. Digital competency, defined as the ability to access, analyze, create, and communicate information through digital tools (He & Li, 2019), equips teachers with the foundational skills needed to design lessons, manage content, and facilitate learner engagement in technology-mediated environments. Hatlevik et al. (2015) emphasize that digital competency spans multiple domains—such as internet, media, and software literacy—that directly affect teachers' pedagogical adaptability. Teachers proficient in digital tools demonstrate stronger judgment in selecting resources and foster higher student engagement (Erkmann, 2015).

However, as Hodges et al. (2020) caution, emergency remote teaching during the pandemic differed from well-prepared online learning, often leaving teachers to improvise without structured training or sufficient support. In the Philippine context, the abrupt shift exposed deficiencies in readiness, leaving teachers to balance technical, emotional, and instructional demands (Perera, 2020). This aligns with Caluza (2018), who noted that while ICT use is central to online and blended instruction, teachers frequently lack adequate preparation. ICT practice, which involves the application of digital tools in instruction, enhances interactivity, access to resources, and collaborative opportunities (Compton, 2009; Silva et al., 2019). Yet barriers such as insufficient time, technical setbacks, and lack of training hinder its effective integration (Hadija & Shalawati, 2017).

At this juncture, administrative assistance emerges as a pivotal mediating mechanism that strengthens the link between teacher competencies and performance outcomes. Administrative assistance—defined as managerial, logistical, and emotional support from school leaders—has been shown to reduce professional stress, balance workloads, and provide the infrastructure necessary for technology-enhanced instruction (Tickle, Chang, & Kim, 2011; McGee et al., 2017). Bao (2020) further highlights that institutional support, such as guidance, vision, and technical services, is indispensable in sustaining online learning initiatives. Kin et al. (2018) underscore the role of school principals as change agents who provide leadership during shifts to new modalities, directly shaping teacher adaptability and resilience.

Taken together, this framework posits that digital competency equips teachers with the skills to use technology, and ICT practice reflects the application of these skills in instruction. However, their combined impact on online teaching performance is not maximized without administrative assistance, which mediates the relationship by reducing external barriers and amplifying the effectiveness of digital teaching. Thus, teacher performance in online learning environments depends not only on individual proficiency but also on the systemic support structures that enable and sustain their instructional efforts.

III.   MATERIALS AND METHODS

Research Design: This study employed a quantitative research design, specifically utilizing mediation analysis to investigate the mediating role of administrative assistance in the relationship between digital competency, ICT Practice, and online teaching performance. Mediation analysis, as

defined by MacKinnon (2019), is a statistical technique that identifies how an independent variable influences a dependent variable through a mediating variable. The analytical model focuses on examining the relationships among the independent variables (digital competency and ICT Practice), the mediator (administrative assistance), and the dependent variable (online teaching performance). To analyze the hypothesized model, Structural Equation Modeling (SEM) was used. SEM integrates multiple regression, confirmatory factor analysis, and path analysis, allowing for a comprehensive examination of the direct and indirect effects among the study variables (Salkind, 2010). This design enabled the researcher to quantify the mediation effects of administrative assistance and evaluate its significance in the causal pathways between teacher-related digital practices and performance outcomes.

Participants/Data Sources: The study targeted teachers from private secondary schools in the Philippines offering online instruction during the academic year 2021–2022. A non-probability sampling technique was adopted due to the constraints imposed by the COVID-19 pandemic. The sampling involved a combination of purposive and convenience sampling. Private schools were selected from Luzon, Visayas, and Mindanao, with school heads and academic officials serving as liaisons to disseminate the online survey via Google Forms. The inclusion criteria covered teachers actively engaged in online instruction. Teachers holding administrative positions (e.g., principal, assistant principal) and educators from public schools or institutions temporarily closed were excluded. Using Taro Yamane's formula (1973) with a 95% confidence level, the required sample size was computed to be 286 out of an estimated population of 1,000 teachers. However, a total of 318 valid responses were obtained, surpassing the target and enhancing the reliability of the findings.

Tools and Instruments: The primary instrument used in this study was a structured, self-administered questionnaire composed of five sections. This paper focused on three specific constructs: digital competency, ICT Practice, administrative assistance (as a subdimension of school technological support), and online teaching performance. Digital Competency was measured using a 7-item subscale assessing teachers' self-reported proficiency in using digital platforms and tools. ICT Practice was evaluated using a 9-item subscale assessing frequency and quality of applying digital skills in teaching tasks. Administrative Assistance was measured with a 5-item subscale reflecting the level of managerial and logistical support provided to teachers. Online Teaching Performance was assessed through 25 items covering teaching presence, social presence, and cognitive presence. Each item was rated on a five-point Likert scale ranging from 1 (Strongly Disagree/Never) to 5 (Strongly Agree/Always). To ensure construct validity and internal consistency, items were adapted from established instruments and validated by educational experts. Reliability testing using Cronbach's Alpha yielded values ranging from .861 to .939 for the key variables, indicating high reliability.

Procedures: After obtaining ethical clearance and institutional approvals, the researcher distributed the questionnaire link to designated school officials, who served as facilitators. Respondents provided informed consent online and were assured of data privacy and anonymity, in compliance with the Data Privacy Act of 2012 (RA 10173). Data collection occurred from April 19 to June 29, 2022. Research assistants were trained to guide participants and address any concerns related to the survey.

Analysis Techniques: Descriptive statistics were used to analyze the demographic characteristics of the respondents. SEM was conducted using SmartPLS software to assess the mediation model. Mediation analysis was used to determine whether administrative assistance significantly mediated the relationship between digital competency and online teaching performance, as well as between ICT Practice and online teaching performance. Additionally, t-tests and regression analyses were performed to examine the relationships between variables and the significance of predictors.

IV. RESULTS AND DISCUSSION

The findings confirm that teachers possessed high levels of digital competency (M = 3.95, SD = 0.57) and ICT practice (M = 4.06, SD = 0.65), while administrative assistance was also rated highly (M = 4.10, SD = 0.63). These results suggest that private secondary school teachers not only had the skills and practices needed for digital instruction but were also supported by strong institutional mechanisms. The integration of digital competency, ICT practice, and administrative assistance resonates with Tondeur et al. (2017) and Bazphe (2018), who emphasized that both individual and institutional capacities must align to sustain effective technology-enhanced teaching.

Table 1. *Teachers' Digital Competency, ICT Practice, and Administrative Assistance*

Variable	Mean	SD	Adjectival Rating	Verbal Interpretation
Digital Competency	3.95	0.57	Agree	High
ICT Practice	4.06	0.65	Good	Adequate
Administrative Assistance	4.10	0.63	Agree	High

Online teaching performance was also notably high (grand mean = 4.24, SD = 0.46). Among its dimensions, social presence scored the highest (M = 4.30), followed by teaching presence (M = 4.30) and cognitive presence (M = 4.14). These results underscore the importance of relational dynamics in online classrooms, echoing Richardson et al. (2019) and Daskoran et al. (2019), who stressed the role of social connectedness in sustaining student engagement.

Table 2. *Online Teaching Performance*

Dimension	Mean	SD	Adjectival Rating	Verbal Interpretation
Teaching Presence	4.30	0.54	Agree	High
Social Presence	4.30	0.56	Agree	High
Cognitive Presence	4.14	0.49	Agree	High
Grand Mean	4.24	0.46	Agree	High

Demographic analysis revealed that age, sex, and years of teaching influenced results to varying degrees. Teachers aged 37–47 scored highest in digital competency, while younger teachers (25 and below) demonstrated stronger ICT practice, consistent with Popli and Rizvi (2016). Interestingly, sex differences emerged only in administrative assistance, with female teachers reporting greater support, reinforcing Omoren's (2021) conclusion that gender minimally affects digital skill levels. Years of teaching experience were positively associated with administrative support and instructional depth, aligning with Gamoldo (2017).

Correlation analysis further established strong relationships between digital competency and ICT practice ($r = 0.709$, $p < .001$), as well as between digital competency and online teaching performance ($r = 0.658$, $p < .001$). Regression analysis indicated that digital competency ($\beta = .33$), ICT practice ($\beta = .21$), and administrative assistance ($\beta = .32$) were significant predictors of online teaching performance, accounting for 67% of the variance. This highlights that both personal competence and institutional support interact to explain teacher performance in digital environments, consistent with Ifinedo et al. (2020).

Mediation analysis confirmed the critical role of administrative assistance, which partially mediated the effects of both digital competency ($\beta = 0.126$, $p < .001$) and ICT practice ($\beta = 0.192$, $p < .001$) on online teaching performance. This suggests that while teachers' skills and practices are essential, their full impact is realized only when supported by strong administrative backing. These findings validate theories of teacher self-efficacy (Artino, 2017) and technology integration models (Bradth, 2016), which emphasize the interaction of personal capability and external support.

Moderation analysis revealed that age significantly moderated the relationship between digital competency and performance, while sex and years of teaching moderated both digital competency and ICT practice effects. This implies that demographic characteristics shape how teachers' skills translate into performance, supporting Fernandez-Batanero et al. (2019).

Overall, these results highlight that digital proficiency and ICT practice are necessary but insufficient without institutional support. Administrative assistance emerged as a key mediating and enabling factor that amplifies teacher performance, while demographic profiles moderate these dynamics. Theoretically, this study strengthens the argument that both self-efficacy and systemic support frameworks must be integrated to fully explain online teaching effectiveness.

V.   CONCLUSION

This study concludes that while digital competency and ICT practices are essential for teachers to adapt to online learning, they are not sufficient on their own to ensure high-quality teaching performance. The findings revealed that administrative assistance—through managerial, logistical, and emotional support—serves as a critical enabling factor that amplifies the positive effects of teachers' digital skills and ICT practices. By establishing administrative assistance as a partial mediator, this study contributes significantly to the discourse on online education, demonstrating that institutional support plays a decisive role in transforming teacher readiness into effective instructional outcomes.

Moreover, the study contributes new insights by identifying how demographic characteristics such as age, sex, and years of teaching experience moderate the relationships between digital competency, ICT practices, and teaching performance. This highlights the need for targeted and

differentiated institutional strategies that recognize the diverse profiles of teachers rather than adopting a one-size-fits-all approach.

In practice, the contribution of this study lies in showing that access to technology and digital training must be paired with continuous administrative support, clear guidance, and responsive school leadership to sustain online education quality. The context-specific focus on private secondary school teachers in the Philippines also enriches global discussions on digital education by providing localized evidence on how institutions can strengthen resilience and instructional effectiveness during crises.

Overall, the study underscores that administrative assistance is not merely supplementary but foundational to maximizing the benefits of digital competency and ICT practices, making it an indispensable component of effective online teaching performance.

AUTHORS' CONTRIBUTIONS

The researcher affirm sole authorship and full responsibility for all phases of this research, from conceptualization to reporting, carried out independently under my academic and ethical

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