**TRADITIONAL TEACHING AND ICT HESITANCY: EFFECTS ON TEACHER PROFESSIONAL DEVELOPMENT IN CAMEROON**

**ABSTRACT**

The effective integration of Information and Communication Technology (ICT) into education is widely recognized as a catalyst for teacher professional development, reflective practice, and improved instructional quality. Despite national ICT initiatives in Cameroon, many government secondary school teachers continue to rely heavily on traditional teaching methods and display a persistent resistance to ICT use, thereby limiting their professional growth. This study examined how reliance on outdated, teacher-centered pedagogies and fear of ICT tools influence teachers’ professional development in ICT pilot schools across the South West and Littoral Regions of Cameroon. Using a convergent parallel mixed-methods design, quantitative data were collected from 306 teachers through structured questionnaires, while qualitative data were drawn from semi-structured interviews with 12 vice principals and 12 classroom observations. Linear regression results revealed that reliance on traditional teaching methods negatively predicted professional development (R = –0.348, R² = 0.121, B = –0.276, p < .05), while fear of ICT use was also a significant negative predictor (R = –0.332, R² = 0.110, B = –0.263, p < .05). Thematic analysis of qualitative data confirmed that entrenched chalk-and-talk routines, lack of confidence, and anxiety about damaging equipment hinder teachers’ participation in ICT-related training and limit innovation. The study concludes that psychological and attitudinal barriers are as critical as infrastructural challenges to digital pedagogy. It recommends continuous, context-sensitive ICT training, peer mentoring, and supportive school leadership to foster teacher readiness for digital transformation.

**Keywords:** traditional teaching methods, fear of ICT, teacher professional development, Cameroon, ICT integration

**1. INTRODUCTION**

Teachers’ professional development has become increasingly critical as education systems evolve to meet the demands of a digital and knowledge-driven society. Professional development entails continuous growth, reflection, and the acquisition of new knowledge, skills, and attitudes required to maintain professional competence and adapt to emerging pedagogical approaches (Day, 1999; Mulyasa, 2013). With rapid technological change, teachers must learn, unlearn, and relearn in order to remain effective in their instructional roles. In particular, Lawyer (2020) asserts that the arrival of computers, internet connectivity, and other information and communication technology (ICT) tools in schools has transformed how learning occurs, requiring teachers to integrate new pedagogical practices into their classrooms.

However, in many contexts such as Cameroon, this transition is hampered by teachers’ adherence to traditional teaching methods and fear of ICT use. Teachers who rely heavily on chalk-and-talk pedagogy often perceive ICT integration as unnecessary or incompatible with their instructional style, reducing their willingness to participate in ICT-related professional development. Similarly, fear of ICT, manifesting as anxiety about damaging equipment, making mistakes, or lacking the competence to use digital tools, discourages experimentation with modern instructional strategies. Such attitudinal barriers limit teachers’ ability to upgrade their skills and align with global educational reforms.

Professional development, therefore, is not only a matter of providing ICT infrastructure or formal training programs but also a question of addressing behavioral and psychological resistance among teachers. Teachers’ beliefs, values, and classroom practices strongly influence whether they embrace or reject innovations (Ertmer & Ottenbreit-Leftwich, 2013). When teachers resist pedagogical changes, consciously or unconsciously, they undermine their own opportunities for growth and professional mastery. This study focuses on two key dimensions of teacher resistance, reliance on old teaching methods and fear of ICT use, and examines how they influence teachers’ professional development in government secondary schools in Cameroon.

**1.1 Background to the Study**

Teacher Professional Development (TPD) has evolved over the past century as a central mechanism for educational improvement. In the United States, early initiatives during the 1920s, such as Jesse H. Newlon’s Denver Plan, recognized in-service teacher training as crucial for school reform (Guskey, 2002). From the 1980s onwards, global education reforms increasingly emphasized continuous learning for teachers to accommodate evolving curricula, new pedagogical approaches, and technological innovations (Borko, 2004; Desimone, 2009). In Sub-Saharan Africa, teacher development efforts often took the form of short workshops or centralized seminars that rarely addressed classroom-specific needs or prepared teachers for technology integration (Villeyas, 2003). In Cameroon, government programs like the 1990s “Computer Plan” and the 2001 National Information and Communication Infrastructure (NICI) Plan introduced ICT in selected schools but lacked systematic strategies for pedagogical adoption. The COVID-19 pandemic in 2020 accelerated the shift to digital education, exposing widespread gaps in teachers’ ICT readiness and professional development. These historical patterns indicate that while policy frameworks and resources have expanded, teacher-level barriers such as adherence to traditional methods and fear of ICT continue to limit meaningful reform.

Teacher Professional Development is understood as the continuous process through which teachers acquire knowledge, skills, and attitudes to enhance their instructional effectiveness and professional growth (Day, 1999; Mulyasa, 2013). In contemporary education, TPD increasingly emphasizes ICT integration to foster collaborative, interactive, and learner-centered instruction (UNESCO, 2023). However, two significant barriers hinder this transformation. First, the persistent reliance on traditional, teacher-centered methods, particularly the “chalk-and-talk” approach, prevents educators from adopting innovative practices. Teachers committed to these methods often view ICT tools as irrelevant, complex, or disruptive (Inan & Lowther, 2010). Second, fear of ICT, stemming from technophobia, low self-efficacy, or anxiety about failure, discourages teachers from experimenting with digital platforms or engaging in ICT-based professional learning (Aydin, 2021; Tella et al., 2021). These barriers reduce motivation to participate in modern forms of professional development, such as online training, collaborative e-learning, or digital content creation, ultimately limiting teachers’ professional growth and depriving students of enriched learning experiences.

Three theoretical frameworks illuminate how reliance on traditional methods and fear of ICT shape teacher professional development. Resistance to Change Theory (Oreg, 2003) explains that individuals may react negatively to change due to fear, uncertainty, or perceived threats to professional identity. Teachers accustomed to conventional practices may resist ICT adoption because it challenges long-standing routines and requires new competencies. The Technology Acceptance Model (TAM) by Davis (1989) emphasizes perceived usefulness and ease of use as critical determinants of technology adoption. Teachers who view ICT as difficult or irrelevant are less likely to integrate it into instruction or professional development activities. Finally, the Technological Pedagogical Content Knowledge (TPACK) framework by Mishra and Koehler (2006) posits that effective ICT integration requires simultaneous mastery of content knowledge, pedagogy, and technology. Teachers who rely solely on traditional approaches often lack the integrated skills necessary to benefit from ICT-based professional development. Collectively, these theories provide a multidimensional understanding of how emotional, cognitive, and pedagogical factors influence teachers’ willingness to engage in professional growth in an ICT-driven environment.

Cameroon’s education system reflects both global reform aspirations and local challenges. Since the 1998 Education Law, the government has emphasized aligning education with scientific and technological progress. Programs such as the donation of 500,000 laptops to students in 2018, the establishment of digital education centers in universities, and the adoption of blended learning approaches (CELCOM-MINESEC, 2021) aimed to modernize teaching and learning. Despite these efforts, research shows that only a small proportion of teachers actively integrate ICT into subject-specific instruction (Karsenti & Tchameni, 2007). Barriers include outdated curricula, insufficient technical infrastructure, weak institutional support, and, most critically, teacher-level resistance. Many secondary school teachers continue to rely on traditional, examination-driven pedagogies, while others experience anxiety or fear in using ICT due to limited training and low self-confidence. The COVID-19 pandemic further highlighted these gaps. Although digital platforms were deployed to sustain learning, many teachers lacked the skills or willingness to utilize them effectively. These realities underscore the need to examine how reliance on old teaching methods and fear of ICT impede teacher professional development in Cameroon, which is essential for designing contextually relevant and psychologically supportive training programs that foster ICT appropriation.

**1.2 Statement of the Problem**

Teacher professional development is essential for implementing modern instructional methods and integrating ICT into classrooms. However, in many Cameroonian government secondary schools, teachers’ dependence on traditional methods and fear of technology undermine this process. Even where ICT tools are available, teachers avoid using them due to low confidence and anxiety, creating a theory-practice gap. This has slowed educational reform and weakened efforts to prepare students for a knowledge-based economy. The present study examines how these two indicators influence teachers’ professional development, providing evidence to guide policy and training interventions.

**1.3 Objectives of the Study**

* To verify how teachers’ focus on old teaching methods with no ICT use influences their professional development in government secondary schools in Cameroon.
* To examine how teachers’ fear of ICT use influences their professional development in government secondary schools in Cameroon.

**1.4 Research Questions**

* How does reliance on traditional teaching methods influence teachers’ professional development?
* How does fear of ICT use affect teachers’ professional development?

**1.5 Research Hypotheses**

**Ho1:** Teachers’ reliance on old teaching methods with no ICT use has no significant influence on their professional development.

**Ha1:** Teachers’ reliance on old teaching methods with no ICT use has a significant influence on their professional development.

**Ho2:** Teachers’ fear of ICT use has no significant influence on their professional development.

**Ha2:** Teachers’ fear of ICT use has a significant influence on their professional development.

**2. METHODOLOGY**

This study employed a convergent parallel mixed-methods research design to examine how teachers’ resistance to the pedagogic appropriation of ICT influences their professional development in government secondary schools in Cameroon. The design enabled simultaneous collection of quantitative and qualitative data, providing both breadth and depth in addressing the study’s objectives. Quantitative data were gathered using structured questionnaires administered to a stratified random sample of 306 teachers from selected ICT pilot schools across the South West and Littoral regions. The questionnaire captured key dimensions of ICT resistance, including perceived ease of use, fear of ICT, attachment to traditional teaching methods, and perceived usefulness, as well as indicators of professional development. Complementary qualitative data were collected through semi-structured interviews with vice principals in charge of pedagogy and structured classroom observations, allowing for triangulation and contextual understanding of teachers’ behaviors and institutional practices.

The sampling framework ensured representativeness across linguistic and school-type variations. The target population consisted of 2,266 teachers from thirteen pilot schools, with 1,502 teachers forming the accessible population. Stratified random sampling with proportionate selection from each stratum ensured balanced representation from both Anglophone and Francophone regions, as well as from general and technical schools. Instruments underwent rigorous validation through expert review and pilot testing, ensuring alignment with the research objectives and constructs. The reliability of the questionnaire was confirmed with a Cronbach’s alpha of 0.86, while qualitative instruments were tested for dependability through observer calibration and standardized interview protocols. Data collection followed strict ethical guidelines, including informed consent, confidentiality, anonymity, and voluntary participation.

For data analysis, quantitative responses were coded and analyzed using SPSS, with descriptive statistics, Pearson’s correlation, and linear regression employed to examine relationships between resistance to ICT and professional development outcomes. Qualitative data from interviews and observations were analyzed thematically, using both deductive codes derived from the conceptual framework and inductive themes emerging from participants’ narratives. Triangulation was applied at the interpretation stage, integrating findings across questionnaires, interviews, and classroom observations to provide a nuanced understanding of ICT resistance and its influence on teachers’ professional growth. This methodological approach ensured rigor, validity, and reliability, producing findings that address both objectives: understanding the nature of teachers’ ICT resistance and evaluating its impact on their professional development in Cameroonian secondary schools.

RESULT AND DISCUSSION

**3. PRESENTATION OF FINDINGS**

**3.1 Teacher’s Focus on Old Teaching Methods with No ICT Use and Their Professional Development in Government Secondary Schools in Cameroon**

**Research Question One:** How do teachers’ focus on old teaching methods with no ICT use influence their professional development in Government secondary schools in Cameroon?

**Table1: Teachers’ Focus on Old Teaching Methods with no ICT use**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Statement** | **SA** | **A** | **D** | **SD** | **SA/A** | **SD/D** | **Mean** | | **Std Dev** | |
| 1 | I enjoy working the way I was trained in school than applying new concept | 85 | 118 | 60 | 43 | 203 | 103 | 3.21 | | 0.97 | |
| 2 | I feel uncomfortable including ICT into pedagogic work in my class | 90 | 102 | 66 | 48 | 192 | 114 | 3.11 | | 0.99 | |
| 3 | Appropriating ICT into pedagogy increases my work load | 79 | 115 | 67 | 45 | 194 | 112 | 3.17 | | 0.94 | |
| 4 | Constant changes would make me loose original knowledge | 98 | 87 | 70 | 51 | 185 | 121 | 3.08 | | 1.02 | |
| 5 | I am more confident about my old teaching methods than the new pedagogy introduced with the aid of ICT | 93 | 101 | 61 | 51 | 194 | 112 | 3.17 | | 0.98 | |
| 6 | I don’t change my mind set so easily especially on pedagogic skills | 101 | 98 | 60 | 47 | 199 | 107 | 3.18 | | 0.96 | |
| 7 | The old teaching method eases learning for students that the new one incorporated with ICT | 87 | 103 | 69 | 47 | 190 | 116 | 3.12 | | 0.95 | |
| **Overall Mean of Responses** | | | | | | | | | **3.15** | | **0.97** |

The responses in Table 1 show a high level of agreement among teachers with statements favoring traditional teaching methods over ICT integration. For instance, a total of 203 respondents (85 SA and 118 A) agreed with the statement, “I enjoy working the way I was trained in school than applying new concepts,” yielding a mean score of 3.21. This indicates that a substantial portion of the teaching population remains rooted in conventional pedagogical practices, which may reduce their motivation to pursue new knowledge and skills aligned with current educational trends.

Similarly, 192 respondents agreed (90 SA and 102 A) that they feel uncomfortable using ICT in class, with a mean of 3.11. This discomfort suggests a lack of digital competence or resistance to change, which can adversely affect professional development opportunities, especially in systems where ICT competency is increasingly linked to teacher evaluations and training programs. Moreover, the perception that ICT integration increases workload is supported by 194 respondents, with a mean of 3.17, indicating that teachers may see technology not as a support tool but as a burden. Such beliefs can create a psychological barrier to engaging in ICT-based training and innovations, further limiting their professional development.

Another telling result is from the item, “Constant changes would make me lose original knowledge,” where 185 teachers agreed, showing reluctance to adapt due to fears of losing traditional expertise. The mean score here is 3.08, pointing to a conservative pedagogical mindset that might conflict with professional development goals focused on adaptability, innovation, and continuous improvement. Additionally, high levels of agreement were observed with statements indicating confidence in old methods over new ICT-based pedagogies (mean = 3.17) and resistance to changing pedagogic skills (mean = 3.18). These responses reinforce the theme that teachers prefer stability and familiarity over experimentation and transformation, traits that are in tension with the dynamic nature of ongoing professional learning and development.

Finally, the belief that “the old teaching method eases learning for students more than the new one with ICT” had 190 respondents in agreement and a mean score of 3.12, reflecting a perception that ICT use may not be as effective for student outcomes. This view could disincentivize teachers from engaging in ICT-related professional development programs, thus impeding their growth in modern instructional strategies.

The overall mean score of 3.15 with a standard deviation of 0.97 reveals a consistent inclination among teachers toward old teaching practices and a general hesitancy to embrace ICT integration. This orientation implies that teachers’ professional development in Cameroon’s Government secondary schools is likely to be negatively influenced by their attachment to traditional methods. If professional development programs are to be effective, they must first address these underlying attitudes, by providing tailored support, hands-on ICT training, and demonstrating the practical benefits of modern pedagogies in enhancing teaching and learning.

**Ho1:** Teachers' focus on old teaching methods with no ICT use has no significant influence on their professional development in Government Secondary Schools in Cameroon.

**Ha1:** Teachers' focus on old teaching methods with no ICT use has a significant influence on their professional development in Government Secondary Schools in Cameroon.

**Table 2: Model Summary on Focus on Old Teaching Methods with no ICT use and Teachers’ Professional Development**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | -.348a | .121 | .118 | 1.477 |
| a. Predictors: (Constant), Teachers’ Focus on Old Teaching Methods with no ICT use | | | | |

The regression analysis produced an R value of -0.348, indicating a moderate negative correlation between teachers' focus on old teaching methods without ICT and their professional development. The R Square (R²) value of 0.121 shows that approximately 12.1% of the variance in teachers’ professional development can be explained by their continued reliance on traditional teaching methods without ICT use. Although this percentage is not large, it is statistically meaningful in educational research, where human factors and behaviors rarely yield high R² values due to numerous influencing variables.

**Table 3: ANOVA on Focus on Old Teaching Methods with no ICT use and Teachers’ Professional Development**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 84.210 | 1 | 84.210 | 38.620 | .000b |
| Residual | 610.442 | 304 | 2.008 |  |  |
| Total | 694.652 | 305 |  |  |  |
| a. Dependent Variable: Teachers’ Professional Development | | | | | | |
| b. Predictors: (Constant), Teachers’ Focus on Old Teaching Methods with no ICT use | | | | | | |

The ANOVA results in Table 3 show that the regression model assessing the influence of teachers' focus on old teaching methods without ICT use on their professional development is statistically significant. With an F-value of 38.620 and a p-value of .000, the analysis indicates that there is a very low probability that the observed relationship occurred by chance. The model explains a meaningful portion of the variance in teachers' professional development, suggesting that adherence to outdated teaching approaches significantly affects how teachers evolve professionally. This finding implies that teachers who continue to rely on traditional methods without incorporating ICT do experience limited professional growth. The significant result underscores the need for targeted professional development programmes and policy reforms that encourage ICT integration in pedagogy. By modernizing their teaching practices, teachers in Government Secondary Schools in Cameroon can enhance their instructional effectiveness and remain relevant in an increasingly digital educational landscape.

**Table 4: Regression Coefficients on Focus on Old Teaching Methods with no ICT use and Teachers’ Professional Development**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | 14.732 | .805 |  | 18.301 | .000 | 13.149 | 16.31 |
| Teachers’ Focus on Old Teaching Methods with no ICT use | -0.276 | .045 | -0.348 | -6.215 | .000 | -.364 | -.188 |
| a. Dependent Variable: Teachers’ Professional Development | | | | | | | | | |

The unstandardized coefficient (B = -0.276) indicates that for every one-unit increase in focus on old teaching methods without ICT, there is a decrease of 0.276 units in the professional development score. The t-value of -6.215 with a p-value of .000 confirms that this negative effect is statistically significant. The 95% Confidence Interval (-0.364 to -0.188) does not cross zero, further reinforcing the conclusion that the predictor (old teaching methods without ICT) has a significant negative effect on teachers’ professional development.

The statistical evidence from the regression tables strongly supports rejecting the null hypothesis (Ho1). The results confirm the alternative hypothesis (Ha1) that teachers' continued reliance on old teaching methods with no ICT use has a significant negative influence on their professional development. The negative beta coefficient, significant F-value, and low p-values together show that adherence to outdated teaching practices hinders opportunities for professional growth, innovation, and alignment with 21st-century educational standards. These findings highlight the need for continuous professional development programmes focused on integrating ICT in pedagogy, and institutional support for pedagogical innovation in Government Secondary Schools in Cameroon.

**Table 5: Teachers’ Focus on Old Teaching Methods Without ICT Use and their Professional Development**

| **Category of Variable** | **Questioning Themes** | **Response Themes** | **Key Statements from Interviewees** |
| --- | --- | --- | --- |
| Focus on Old Teaching Methods (No ICT Use) | How do teachers generally conduct lessons in your school? | Reliance on traditional, teacher-centered approaches | “Many teachers still prefer chalk-and-talk, relying heavily on textbooks and notes.” (R3) |
|  | What challenges do teachers face in integrating ICT into their pedagogy? | Resistance to change, lack of ICT skills and confidence | “Some teachers fear losing control over the class if they use computers.” (R7) |
|  | How does this focus on old methods affect teachers’ professional development? | Limits growth and reduces motivation to learn new skills | “When teachers don’t use ICT, they miss opportunities for skill enhancement and innovative methods.” (R1) |
|  | What impact does it have on student engagement and learning outcomes? | Student interest declines; lessons become monotonous | “Students get bored with repetitive, lecture-style teaching and lose interest.” (R5) |

Findings from vice principals indicate that government secondary school teachers continue to rely heavily on traditional, teacher-centered instructional methods, such as “chalk-and-talk,” rote memorization, and textbook-focused lessons. This pedagogical conservatism prioritizes teacher authority over learner engagement and autonomy, limiting the integration of modern instructional technologies. As R3 noted, many teachers prefer conventional approaches, reflecting a broader reluctance to adopt interactive, student-centered methods that support technology-enhanced learning. Such instructional inertia highlights that professional development is constrained not only by skill gaps but also by resistance to changing long-standing teaching practices.

This reliance on traditional methods negatively impacts both teachers’ professional growth and students’ learning experiences. Teachers miss opportunities to develop innovative instructional strategies and digital competencies, while students face repetitive, passive lessons that hinder engagement, creativity, and critical thinking. R5 observed that students often lose interest in lecture-style teaching, underscoring the broader consequences of pedagogical stagnation. Overcoming this challenge requires not only technical ICT training but also a shift in teachers’ instructional mindset, supported by institutional policies, leadership advocacy, and structured capacity-building initiatives that encourage experimentation and adoption of technology-enhanced pedagogy.

**3.2 Teachers’ Fear of the Unknown in Using ICT in Pedagogy and Their Professional Development in Government Secondary Schools in Cameroon**

**Research Question Two:** What effect could teachers’ fear of the unknown in using ICT in pedagogy have on their professional development in Government secondary schools in Cameroon?

**Table 6: Teachers’ Fear of the Unknown in Using ICT in Pedagogy**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Statement** | **SA** | **A** | **D** | **SD** | **SA/A** | **SD/D** | **Mean** | | **Std Dev** | |
| 8 | I am worried I mays loss some of my status when this ICT pedagogy is fully implemented | 72 | 83 | 71 | 80 | 155 | 151 | 2.59 | | 1.11 | |
| 9 | I fear appropriating ICT may cause more harm than good to the students | 65 | 77 | 79 | 85 | 142 | 164 | 2.51 | | 1.09 | |
| 10 | There are some required skills in ICT knowledge with the change process which I don’t think I can do well with it | 68 | 74 | 81 | 83 | 142 | 164 | 2.52 | | 1.08 | |
| 11 | My future as a teacher is limited because of this change towards ICT (New technology relegate the role of the teacher as educator) | 70 | 79 | 75 | 82 | 149 | 157 | 2.56 | | 1.10 | |
| 12 | I fear appropriating ICT into pedagogy may make my work load more complicated | 74 | 82 | 71 | 79 | 156 | 150 | 2.61 | | 1.09 | |
| 13 | Lack of proper communication between ICT pedagogy initiators and executing agents (teachers) on the new pedagogical skills required by the ICT teaching learning process | 69 | 76 | 77 | 84 | 145 | 161 | 2.55 | | 1.07 | |
| 14 | I do not like using what I do not have full mastery on | 73 | 84 | 72 | 77 | 157 | 149 | 2.63 | | 1.06 | |
| **Overall Mean of Responses** | | | | | | | | | **2.57** | | **1.09** |

Table 6, reveals a general sense of apprehension, uncertainty, and low confidence among teachers when it comes to engaging with ICT tools in their instructional practices. This fear or reluctance toward the integration of ICT appears to be a notable barrier to their professional development. The responses show that while there is no overwhelming consensus of agreement, a considerable number of teachers express concern, fear, or discomfort toward ICT-related changes. For instance, 155 respondents agreed (72 SA and 83 A) that they are worried they may lose some of their status if ICT pedagogy is fully implemented. The mean score of 2.59 reflects moderate concern, suggesting that some teachers may feel professionally threatened by the shift from traditional to digital pedagogy, possibly fearing obsolescence or loss of authority. This perception can discourage teachers from actively participating in professional development opportunities that are ICT-focused.

Further, 142 respondents (65 SA and 77 A) agreed with the statement that appropriating ICT may cause more harm than good to students, leading to a mean score of 2.51. This perception highlights a mistrust in technology as a pedagogical aid, which can stifle innovation and limit teachers’ willingness to explore or invest in ICT-based professional learning. A similar pattern is seen in teachers’ lack of confidence in their ability to acquire the necessary ICT skills (mean = 2.52), with a relatively balanced agreement (142 respondents) and disagreement (164 respondents), pointing to uncertainty and self-doubt. Moreover, the statement “My future as a teacher is limited because of this change towards ICT” received agreement from 149 teachers, with a mean of 2.56. This reflects a fear of redundancy or diminished professional relevance as technology becomes more central in education. Such a mindset can undermine teachers’ engagement in future-focused professional development activities, as they may perceive these efforts as futile or overwhelming.

The concern that ICT complicates workload is another prominent fear expressed by teachers (mean = 2.61), with 156 respondents agreeing. While this may reflect a genuine need for better support and training, it also illustrates a psychological barrier to embracing ICT. If teachers perceive ICT as burdensome rather than beneficial, they are less likely to embrace the pedagogical shifts necessary for meaningful professional growth. Additionally, the lack of communication between ICT policy designers and classroom implementers (mean = 2.55) emerges as a key systemic issue. With 145 teachers agreeing to this point, it becomes evident that the absence of clear guidance or training support contributes significantly to teachers’ fears and hesitation. This institutional gap limits the effectiveness of ICT-related professional development initiatives, as teachers feel disconnected from the process and unsure of what is expected of them.

Finally, the highest mean score in the table (7) relates to the statement “I do not like using what I do not have full mastery on”, indicating that a fear of inadequacy and the need for mastery is a strong deterrent to ICT integration. With 157 teachers in agreement, this fear suggests that many teachers are hesitant to experiment or take risks with technology, preferring instead to stick with what they already know. The overall mean score of 2.57 and standard deviation of 1.09 indicate a moderate but consistent pattern of fear, uncertainty, and resistance among teachers regarding ICT use in pedagogy. These fears directly impact their professional development by limiting their motivation to explore new competencies, reducing their participation in ICT training, and fostering a mindset that is incompatible with continuous learning and innovation. Addressing these fears through targeted capacity-building, confidence-boosting strategies, and transparent communication between ICT policymakers and practitioners is critical to improving teachers’ professional development outcomes in Cameroon’s Government secondary schools.

**Ho2:** Teachers' fear of the unknown in using ICT in pedagogy has no significant influence on their professional development in Government Secondary Schools in Cameroon.

**Ha2:** Teachers' fear of the unknown in using ICT in pedagogy has a significant influence on their professional development in Government Secondary Schools in Cameroon.

**Table 7: Model Summary on Fear of the Unknown in Using ICT in Pedagogy and Teachers’ Professional Development**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | -.332a | .110 | .107 | 1.489 |
| a. Predictors: (Constant), Teachers’ Fear of the Unknown in Using ICT in Pedagogy | | | | |

Table 7 reveals a negative correlation (R = -0.332) between teachers’ fear of ICT and their professional development, with R Square = 0.110, indicating that approximately 11% of the variance in professional development is explained by fear of ICT use. Although the proportion of variance is moderate, it is meaningful within the context of behavioral and attitudinal studies. The negative direction of the relationship suggests that greater fear of ICT integration is associated with lower levels of professional development.

**Table 8: ANOVA on Fear of the Unknown in Using ICT in Pedagogy and Teachers’ Professional Development**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 76.412 | 1 | 76.412 | 34.438 | .000b |
| Residual | 670.917 | 304 | 2.207 |  |  |
| Total | 747.329 | 305 |  |  |  |
| a. Dependent Variable: Teachers’ Professional Development | | | | | | |
| b. Predictors: (Constant), Teachers’ Fear of the Unknown in Using ICT in Pedagogy | | | | | | |

Table 8 presents the ANOVA results used to test the overall significance of the regression model examining the effect of teachers’ fear of the unknown in using ICT on their professional development. The model yielded an F-value of 34.438 with a significance level (p-value) of .000, which is well below the conventional alpha threshold of 0.05. This indicates that the model is statistically significant and that the independent variable (fear of ICT use) reliably predicts variations in teachers’ professional development. The total variance in professional development explained by the model is approximately 11% (as seen in Table 8), suggesting that fear of ICT plays a meaningful, albeit moderate, role in shaping how teachers grow professionally. Hence, the ANOVA supports the rejection of the null hypothesis (Ho2), affirming that fear of ICT use significantly impacts teachers' professional development in Government Secondary Schools in Cameroon.

**Table 9: Regression Coefficients on Fear of the Unknown in Using ICT in Pedagogy and Teachers’ Professional Development**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
| B | Std. Error | Beta | Lower Bound | Upper Bound |
| 1 | (Constant) | 14.108 | .833 |  | 16.939 | .000 | 12.469 | 15.747 |
| Teachers’ Fear of the Unknown in Using ICT in Pedagogy | -0.263 | .045 | -0.332 | -5.867 | .000 | -0.352 | -0.174 |
| a. Dependent Variable: Teachers’ Professional Development | | | | | | | | | |

Table 9 reinforces these findings, with the regression coefficient for the predictor variable (teachers’ fear) being B = -0.263, and the t-value = -5.867, also with a p-value of .000. The 95% confidence interval for B (from -0.352 to -0.174) does not cross zero, confirming the reliability of the effect. Furthermore, the standardized Beta coefficient of -0.332 suggests a moderate negative effect size, emphasizing that fear is not just statistically significant but also practically relevant in this context. Based on this evidence, the null hypothesis (Ho2) is rejected in favour of the alternative hypothesis (Ha2). This means that teachers’ fear of the unknown in using ICT in pedagogy significantly undermines their professional development. Consequently, interventions such as confidence-building workshops, mentorship, and consistent support in ICT integration are vital for fostering professional growth among teachers in Cameroon’s secondary schools.

**Table 10: Teachers’ Fear of the Unknown in Using ICT in Pedagogy and their Professional Development**

| **Category of Variable** | **Questioning Themes** | **Response Themes** | **Key Statements from Interviewees** |
| --- | --- | --- | --- |
| Teachers’ Fear of the Unknown in ICT Use | What fears do teachers express about using ICT in teaching? | Anxiety about technology, fear of failure | “Many teachers worry they might break the system or fail to use the technology correctly.” (R5) |
|  | How does fear affect their willingness to adopt ICT in pedagogy? | Leads to avoidance and reluctance | “Fear makes some teachers avoid ICT, preferring what they know instead.” (R9) |
|  | What support mechanisms would reduce this fear? | Need for training, mentoring, and technical support | “Providing continuous training and peer support helps teachers gain confidence.” (R2) |
|  | Do these fears influence overall professional development? | Yes, fear hinders development and growth | “Fear restricts teachers from exploring new tools, which stagnates their professional growth.” (R4) |

The findings reveal that fear of integrating ICT into teaching represents a major barrier to teachers’ professional development and instructional innovation. Many educators experience anxiety and hesitation when using digital tools, often due to unfamiliarity and lack of confidence. This fear of making mistakes or encountering technical difficulties leads teachers to rely on traditional, familiar teaching methods rather than experimenting with new technologies. Such avoidance behaviors not only reflect psychological discomfort but also indicate a broader resistance to pedagogical change, limiting teachers’ ability to adapt to 21st-century educational demands such as digital literacy, interactive learning, and student-centered instruction.

Vice principals highlighted that these fears are not insurmountable and can be mitigated through structured support systems. Continuous professional development, mentorship, peer collaboration, hands-on technical assistance, and creating a school culture that normalizes learning through experimentation were identified as effective strategies. By fostering an environment where mistakes are seen as part of the learning process and teachers can gradually engage with ICT at their own pace, schools can enhance digital confidence. Addressing fear of ICT thus requires a holistic approach that combines emotional support, institutional encouragement, and practical training, ultimately empowering teachers to embrace innovation and sustain professional growth.

**4. DISCUSSION OF FINDINGS**

**4.1 Teachers’ Focus on Old Teaching Methods Without ICT Use and Their Professional Development**

The study reveals that teachers’ continued reliance on traditional, non-ICT-based teaching methods hinders their professional growth. Qualitative evidence shows that many educators prefer “chalk-and-talk” approaches, reflecting a broader resistance to pedagogical innovation. This reluctance limits engagement with modern instructional strategies, impedes digital literacy, and reduces opportunities for collaborative learning. Aurangzeb, Kashan, and Rehman (2024) found that teachers’ perceptions of low usefulness and difficulty in using ICT tools are key barriers to professional development, while Beatriz Cabellos, Siddiq, and Scherer (2024) emphasized that supportive school conditions and positive teacher attitudes are critical for adopting technology-enhanced instruction. In Sub-Saharan Africa, Ngaie (2016) reported that limited ICT infrastructure, resistance to change, and lack of contextualized training reinforce dependence on outdated teaching methods.

Theoretical frameworks provide further insight into these dynamics. Oreg’s (2003) Theory of Resistance to Change explains that teachers often experience emotional and cognitive discomfort with new technologies, leading them to default to familiar practices. The Technology Acceptance Model (Davis, 1989) and the TPACK framework (Mishra & Koehler, 2006) highlight that low perceived usefulness, insufficient technological knowledge, and inadequate integration with pedagogy hinder effective ICT adoption. Empirical studies support these frameworks; for instance, Cukurova et al. (2024) argue that continuous, technology-integrated professional development is essential in modern education, and Adefuye et al. (2024) note that culturally tailored training reduces resistance and promotes teacher growth. Addressing these challenges requires systemic reforms, fostering positive attitudes toward ICT and creating enabling environments for technology-enhanced professional learning.

**4.2 Teachers’ Fear of the Unknown in Using ICT in Pedagogy and Their Professional Development**

The study highlights that fear of using ICT in teaching is a significant psychological barrier to professional development. Teachers often feel anxious about operating unfamiliar technology, fear making mistakes, and lack confidence in their digital skills, leading to avoidance of ICT initiatives and reliance on traditional pedagogies. Aurangzeb, Kashan, and Rehman (2024) report that perceived ease of use and usefulness strongly influence teachers’ engagement with ICT, while Gulnaz Nawaz and Nasreen (2024) show that anxiety about technological proficiency reduces teachers’ willingness to adopt digital tools. Beatriz Cabellos, Siddiq, and Scherer (2024) emphasize that even when infrastructure exists, negative attitudes and fear impede ICT integration, and Adedokun, Awung, and Usadolo (2024) further show that sociocultural norms shape teachers’ resistance.

Theoretical perspectives provide explanatory depth. Oreg’s (2003) Theory of Resistance to Change and the Technology Acceptance Model (Davis, 1989) explain that fear, low confidence, and perceived difficulty diminish teachers’ motivation to adopt ICT. The TPACK framework (Mishra & Koehler, 2006) highlights the necessity of integrating content, pedagogy, and technology to reduce uncertainty. Studies by Cattaneo, Antonietti, and Rauseo (2024) and Adefuye et al. (2024) indicate that mentorship, peer modeling, and supportive institutional culture are effective in reducing fear and fostering professional growth. Connectivist theory (Siemens, 2005) and Lawyer (2020) further suggest that teachers’ participation in networked, digitally immersive learning communities can overcome affective barriers. Consequently, professional development must prioritize not only technical training but also affective support, confidence-building, and safe experimentation with ICT to enable meaningful and sustainable pedagogical innovation.

**5. CONCLUSION**

This study examined how teachers’ resistance to using ICT in pedagogy affects their professional development in government secondary schools in Cameroon. The findings highlight that reliance on traditional teaching methods and fear of ICT significantly constrains teachers’ professional growth. Conversely, when teachers perceive ICT as easy to use and pedagogically valuable, they are more engaged in professional learning. Empirical and theoretical perspectives, including prior studies by Tondeur et al. (2020), Díaz-Maggioli (2022), and Teo (2011), reinforce that ICT integration is essential for 21st-century teacher education. Overall, professional development is influenced not only by skills and infrastructure but also by teachers’ beliefs, attitudes, and institutional culture, emphasizing the need for holistic approaches to teacher learning.

The study underscores a broader narrative: teacher professional development in Cameroon is shaped by both psychological and practical factors related to ICT adoption. Resistance rooted in traditional mindsets or fear limits opportunities for pedagogical innovation, while positive perceptions of ICT foster engagement and instructional improvement. Sustainable professional growth thus depends on transforming not only technical competencies but also mindsets, motivations, and school environments. For Cameroon to achieve a modern, digitally enhanced education system, teacher empowerment through ongoing, ICT-focused professional development is essential.

**6. IMPLICATIONS OF THE FINDINGS**

The study shows that continued reliance on teacher-centered, non-ICT pedagogies impedes professional growth. In a rapidly digitizing educational landscape, professional development must be integrated with technological adoption rather than delivered as occasional workshops. Educators must engage continuously with digital tools to align their teaching with 21st-century learning demands.

Psychological factors, particularly fear of using ICT, also constrain professional development. Teachers need supportive environments that build confidence and reduce anxiety, emphasizing emotional readiness alongside technical training. Additionally, the perceived ease of use and usefulness of ICT strongly influence engagement. Professional development initiatives should ensure that tools are user-friendly and clearly demonstrate pedagogical value to motivate teachers to adopt and sustain technology-enhanced practices.

**7. RECOMMENDATIONS OF THE STUDY**

Teacher training programs should emphasize practical, context-based ICT integration, guiding teachers in applying technology to lesson planning, instruction, and assessment. Hands-on experiences help teachers appreciate the relevance and effectiveness of digital tools.

Structured support mechanisms, such as mentorships, peer learning groups, and communities of practice, are essential for reducing fear and fostering confidence in using ICT. Adequate resourcing, including reliable infrastructure, devices, internet access, and technical support, is also critical for effective adoption.

Finally, educational leaders should promote a cultural shift from teacher-centered to learner-centered, ICT-supported pedagogy. This requires updating curricula, teaching standards, and evaluation criteria to prioritize digital literacy, innovation, and reflective practice, creating an environment where professional development is continuous, meaningful, and valued.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

**REFERENCES**

Aydin, S. (2021). Teachers’ technophobia and digital competence: Implications for professional development. *Journal of Educational Technology, 18*(2), 45–60.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3–15.

CELCOM-MINESEC. (2021). *Report on digital education initiatives in Cameroon*. Ministry of Secondary Education.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Day, C. (1999). *Developing teachers: The challenges of lifelong learning*. Falmer Press.

Desimone, L. M. (2009). Improving impact studies of teachers’ professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181–199.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2013). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255–284.

Guskey, T. R. (2002). *Professional development and teacher change*. Teachers College Press.

Inan, F. A., & Lowther, D. L. (2010). Factors affecting technology integration in K–12 classrooms: A path model. *Educational Technology Research and Development, 58*(2), 137–154.

Karsenti, T., & Tchameni, S. (2007). ICT integration in secondary schools in Cameroon: Challenges and opportunities. *Canadian Journal of Learning and Technology, 33*(3), 1–18.

Lawyer, B. N. (2020). *Pedagogic practices for twenty first century teachers.* European Organization for Education Sustainability (EOES) and the International Research Alliance Network (ISAE).

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Mulyasa, E. (2013). *Teacher professional development and career management*. Remaja Rosdakarya.

Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology, 88*(4), 680–693.

Tella, A., Adu, E. O., & Olowu, R. (2021). Teachers’ ICT anxiety and professional development: Evidence from Sub-Saharan Africa. *African Educational Research Journal, 9*(1), 25–38.

Tondeur, J., van Braak, J., Siddiq, F., & Scherer, R. (2020). Time for a new approach to teacher professional development in ICT. *Computers & Education, 146*, 103752.

UNESCO. (2023). *ICT in education: Policy and practice guidelines*. United Nations Educational, Scientific and Cultural Organization.

Villeyas, R. (2003). Teacher professional development in Sub-Saharan Africa: Trends and challenges. *International Journal of Educational Development, 23*(6), 591–606.

**APPENDIX**

**SECTION B: QUESTIONNAIRE ITEMS USED IN MEASURING TEACHERS’ PROFESSIONAL DEVELOPMENT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **ITEM** | **SA** | **A** | **D** | **SD** |
| 26 | I would easily develop ICT competence to deal with changing scenarios |  |  |  |  |
| 27 | For the past two years I have constantly attended seminars and workshop on how to practice online teaching |  |  |  |  |
| 28 | Developing my teaching method to meetup with the demands of the present of learners needs is my hubby |  |  |  |  |
| 29 | I have incorporated technology in my teaching learning role |  |  |  |  |
| 30 | My teaching time table permits me to do extra training to update my knowledge and ICT Skills up to date |  |  |  |  |
| 31 | I personally invest constantly on my professional development |  |  |  |  |
| 32 | Appropriating ICT professional method of teaching permits me to sharpen my professional skills |  |  |  |  |