

TECHNOLOGICAL LITERACY AND PSYCHOLOGICAL WELL-BEING ON TEACHING COMPETENCE OF PUBLIC SCHOOL TEACHERS

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ABSTRACT

This study aimed to determine the influence of technological literacy and psychological well-being on the teaching competence of public school teachers in the Division of Valencia City, Bukidnon. Specifically, it assessed the levels of the three variables, analyzed their relationships, and identified which dimensions best predict teaching competence. A descriptive correlational research design was employed, involving 250 public school teachers selected through purposive sampling from seven schools in Valencia City. Data were analyzed using weighted mean, Pearson correlation, and multiple linear regression. Findings revealed that teachers demonstrated a high level of technological literacy, indicating adequate knowledge and skills in using digital tools for instruction. Learning environmental planning emerged as the highest dimension within technological literacy. Psychological well-being is high level, with autonomy emerging as the strongest dimension. Teaching competence is described as high, excelling particularly in the teaching-learning process. Correlation analysis showed that technological literacy has a significant moderate positive correlation with teaching competence, while psychological well-being had a significant but low positive correlation. Regression analysis identified learning environmental planning and autonomy as significant predictors of teaching competence. The study concluded that both variables show significant but small correlations with teaching competence, and since the regression model explained only 13.4 percent of the variance, other factors such as school leadership and infrastructure may influence teaching competence. Recommendations were provided for school administrators, policymakers, curriculum designers, teachers, and future researchers.

Keywords: *Technological literacy, psychological well-being, teaching competence, learning environmental planning, autonomy*

1. INTRODUCTION

Education thrives when teachers effectively facilitate learning through structured and interactive methods that develop students' cognitive, emotional, and social capacities. However, succeeding in today's technology-rich and inclusive classrooms requires more than personal dedication; it calls for adaptive competencies that connect professional commitment with practical application (Balabal Canuto, 2025; Ji Yue, 2020). In an era of increasing digital possibilities yet significant teacher burnout, the combination of technological literacy and psychological well-being has become essential for improving the teaching competence of public school educators. This need is especially pressing in resource-limited settings like the Philippines, where outdated tools and emotional exhaustion threaten learning quality.

Teaching competence encompasses pedagogical knowledge, instructional skill, professional mindset, and reflective practice, enabling learner-centered instruction (Pearson, 2026; Balabal Canuto, 2025). It transforms general teaching ideals into adaptable standards, positioning teachers as flexible facilitators, skilled technology users, and continuous learners. Yet, its development faces persistent challenges globally and locally limited resources, insufficient training, poor infrastructure, and gaps in ICT competencies (Lambunao, 2024; Ayunar et al., 2024). In the Philippines, heavy workloads and pandemic disruptions have worsened these difficulties, with teachers in nearby districts showing intermediate ICT proficiency but notable gaps in digital integration (Balabal & Canuto, 2025).

Technological literacy, the ability to use, manage, and create with technology to support learning (Wonacott, 2018) includes designing technology-

rich environments and using tech-supported assessments. Studies show that technological proficiency predicts better teaching performance, particularly in numeracy and literacy instruction (Ampatua & Basmayor, 2025). Psychological well-being, grounded in Ryff's model (autonomy, environmental mastery, personal growth, positive relations, purpose, self-acceptance), supports optimal functioning. Higher teacher well-being correlates with lower burnout, stronger teacher-student relationships, and greater retention (Dreer, 2023). Both variables are interrelated: technological literacy equips teachers to plan effectively, while psychological well-being enhances resilience and motivation.

This study is anchored in Progressivism (Dewey), the Technology Acceptance Model (Davis), Pedagogical Content Knowledge (Shulman), and Ryff's well-being model. Together, these frameworks suggest that technological literacy and psychological well-being influence teaching competence.

Thus, this study aims to examine the influence of technological literacy and psychological well-being on the teaching competence of public school teachers in Valencia City, Bukidnon. Specifically, it seeks to: (1) determine the level of technological literacy (technological concepts, learning environmental planning, assessment); (2) assess psychological well-being (autonomy, environmental mastery, personal growth, positive relations, purpose, self-acceptance); (3) evaluate teaching competence (teaching-learning process, pupils' outcomes, community involvement, professional growth); (4) analyze relationships among the variables; and (5) identify which dimensions best predict teaching competence. The findings aim to provide evidence-based insights for administrators, policymakers, teachers, and future researchers.

2. METHODOLOGY

This section outlines the methodologies that were employed for collecting and analyzing data, encompassing the research design, participant selection, study location, tools used for data collection, procedures for gathering data, ethical considerations, and statistical methods that applied to treat the data.

2.1. Research Design

This study utilized a quantitative correlational research design to determine the relationship and predictive influence of technological literacy and psychological well-being on the teaching competence of public school teachers. A survey method was employed through a structured questionnaire adapted from a quantitative study by researchers from Central Mindanao University. The design allows for the measurement of respondents' technological skills, psychological well-being, and teaching practices, and for the analysis of how the independent variables (technological literacy and psychological well-being) relate to and predict the dependent variable (teaching competence) using statistical tools such as weighted mean, Pearson correlation, and multiple linear regression.

2.2. Locale of the Study

The researcher focused on public elementary and secondary schools in Valencia City, Bukidnon. This area includes both urban and rural schools where teachers face common issues like limited internet access and old classroom facilities. The location matches the target respondents and provides real-world data for the research question.

2.3. Respondents of the Study

250 active DepEd teachers from elementary through senior high were selected through purposive sampling. The sample size ensures strong statistical results for correlations and predictions, directly supporting the research questions about tech skills, emotional states, and teaching efficiency among Bukidnon's public school teachers.

2.4. Research Instrument

The primary research instrument was a structured survey questionnaire divided into three parts: technological literacy, psychological well-being, and teaching competence. Part I measured technological literacy across three dimensions, technological concepts (6 items), learning environmental planning (8 items), and assessment (7 items) adapted from Coklar and Odabasi (2015) as modified by Capin (2023). Part II comprised the Ryff Psychological Well-Being Scale (42 items) measuring six dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-

acceptance. Part III measured teaching competence across four dimensions, teaching-learning process (19 items), pupils' outcomes (9 items), community involvement (3 items), and teaching growth and development (4 items), also adapted from Coklar and Odabasi (2015) as modified by Capin (2023). Responses were measured using a 5-point Likert Scale, with Part I scores ranging from 1 (very poor) to 5 (excellent) interpreted as Very Low to Very High Literacy; Part II scores from 1 (strongly disagree) to 5 (strongly agree) interpreted as Very Low to Very High Proficiency; and Part III scores from 1 (poor) to 5 (outstanding) interpreted as Very Low to Very High Competence. This aimed to determine the influence of technological literacy and psychological well-being on the teaching competence of public school teachers, contributing to educational literature in the Philippine public school context and informing professional development programs, policy formulation, and support initiatives to enhance teachers' instructional effectiveness and well-being. By exploring these dynamics, the research highlights the importance of integrating technological skills and psychological health in fostering teaching competence, leading to improved student learning outcomes and overall educational quality.

2.5. Data Gathering Procedure

The research instrument titled "Technological Literacy and Psychological Well-being on Teaching Competence of Public School Teachers," adapted from a quantitative study conducted by researchers from Central Mindanao University, was distributed to the identified teacher-respondents. The purpose of the study was clearly explained, and informed consent was secured before participation. Respondents were assured that their answers would be treated with confidentiality and used solely for academic purposes.

Questionnaires were administered personally by the researcher and retrieved immediately after completion to ensure a high retrieval rate. In cases where face-to-face distribution was not feasible, an online version of the questionnaire was sent through official communication platforms with proper coordination from school authorities. After all responses were collected, the data were organized, tabulated, and prepared for statistical analysis.

3. RESULTS AND DISCUSSION

3.1 Technological Literacy

The level of technological literacy among teachers is summarized in the first table. Across three indicators, the overall mean is 4.17, which falls within the range of 3.51 to 4.50 and is descriptively rated as "Good" with a qualitative interpretation of "High Literacy." Among the individual indicators, Learning Environmental Planning obtained the highest mean of 4.18, followed closely by Assessment with 4.17, and Technological Concepts with 4.14. All three indicators share the same qualitative description of High Literacy.

Table 1. Mean scores of technological literacy

Indicators	Mean	Qualitative Interpretation
Learning Environmental Planning	4.18	High Literacy
Assessment	4.17	High Literacy
Technological Concepts	4.14	High Literacy
Overall Mean	4.17	High Literacy

These findings indicate that teachers possess a uniformly high level of technological literacy across all measured domains. The slightly elevated score for Learning Environmental Planning suggests that teachers are most confident in designing technology-enhanced learning environments, such as integrating digital tools into lesson plans and classroom setups. Assessment and Technological Concepts also score high, implying that teachers effectively use technology for evaluating student progress and understand foundational technological ideas, though these areas show marginal room for improvement. The consistency of scores across indicators (ranging only from 4.14 to 4.18) points to a well-balanced technological competence rather than isolated strengths.

3.2 Psychological Well-Being

Displayed in the second table is the level of psychological well-being among teachers. Based on the data, teachers generally experience a "High Proficiency" level of psychological well-being across all six indicators. A descriptive rating of "Agree" and a qualitative interpretation of High Proficiency correspond to the overall mean of 3.76.

Among the six dimensions, Autonomy recorded the highest mean at 3.86, followed by Positive Relations at 3.79, Self-Acceptance at 3.77, Environmental Mastery and Personal Growth both at 3.74, and Purpose in Life with the lowest mean of 3.69. All indicators fall within the same high proficiency range.

Table 2. Mean scores of psychological well-Being

Indicators	Mean	Qualitative Interpretation
Autonomy	3.86	High
Positive Relations	3.79	High
Self-Acceptance	3.77	High
Environmental Mastery	3.74	High
Personal Growth	3.74	High
Purpose in Life	3.69	High
Overall Mean	3.76	High

Teachers perceive their psychological well-being positively, with autonomy, the sense of being self-determined and able to resist social pressures to think or act in certain ways emerging as the strongest dimension. A reasonable degree of control over their professional decisions and actions is implied by this finding. Also ranking high are positive relations and self-acceptance, indicating that teachers maintain supportive connections with colleagues and students while holding favorable attitudes toward themselves. The lowest score, albeit still in the high range, is purpose in life. This modest dip suggests that while teachers do find meaning in their work, the daily realities of the profession may occasionally obscure a deeper sense of direction or long-term fulfilment.

3.3 Teaching Competence

The level of teaching competence among teachers is summarized in the table above. Across four indicators, the overall mean is 4.49, which falls within the range of 3.51 to 4.50 and is descriptively rated as "Very Satisfactory" with a qualitative interpretation of "High Competence." Among the individual indicators, the Teaching-Learning Process obtained the highest mean of 4.47, followed by Community Involvement with

4.39, Pupils Outcomes with 4.36, and Teaching Growth and Development with 4.17. The Teaching-Learning Process indicator is qualitatively interpreted as "Very High Competence," while the remaining three indicators share the same qualitative description of "High Competence."

Table 3. Mean scores of teaching competence

Indicators	Mean	Qualitative Interpretation
Teaching-Learning Process	4.47	Very High Competence
Community Involvement	4.39	High Competence
Pupils Outcomes	4.36	High Competence
Teaching Growth and Development	4.17	High Competence
Overall Mean	4.49	High Competence

These findings indicate that teachers are most confident and effective in the actual delivery of instruction, including lesson planning, classroom management, and student engagement. The high mean for Community Involvement reflects that teachers actively engage with parents and stakeholders through regular meetings and collaborative projects. Pupils Outcomes, though slightly lower, still demonstrates that teachers effectively monitor student progress and implement appropriate assessment strategies. The lowest mean among the indicators is Teaching Growth and Development, suggesting that while teachers perform well in classroom instruction, they may devote less attention to continuous professional development activities such as action research, publication, and reflective practice. This gap highlights an opportunity for school administrators to provide structured support for teachers' professional growth to complement their strong instructional competence.

3.4 Correlation of Variables

This provides an overview of the correlation analysis conducted on the relationship between the teaching competence of public school teachers, technological literacy, and psychological well-being. The below statement shows the association coefficients among public school teachers between

technological literacy, psychological well-being, and teaching competence.

Table 4. Correlation coefficient of the Technological Literacy and Psychological Well-being on Teaching Competence of Public Schools Teachers

Variables	CORRELATION COEFFICIENT (r)	P- Value
TECHNOLOGICAL LITERACY	.348	.000**
Technological Concepts	.285	.000**
Learning Environmental Planning	.342	.000**
Assessment	.313	.000**
PSYCHOLOGICAL WELL- BEING	.134	.034*
Autonomy	.168	.008**
Environmental Mastery	.145	.022**
Personal Growth	.088	.166 ^{ns}
Positive Relations	.103	.104ns
Purpose in Life	.096	.128ns
Self- Acceptance	.075	.240ns

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

ns = not significant at $p < 0.05$

Technological literacy has a statistically significant and moderate positive correlation with teaching competence ($r = 0.348, p = 0.000$). The implication is that teachers with high levels of technological literacy will likely have higher teaching competence in public schools. Conversely, technological concepts ($r = 0.285, p = 0.000$) similarly also has a significant but low to moderate correlation, which suggests its significant contribution to the enabling of teaching competence. Learning environmental planning ($r = 0.342, p = 0.000$) and assessment ($r = 0.313, p = 0.000$) are both significant and moderate, which suggests that these dimensions contribute meaningfully to teaching competence in the context of this research.

Regarding psychological well-being, the research shows that psychological well-being has a significant but low positive link to teaching competence ($r = 0.134, p = 0.034$). This suggests that teachers who experience well-being may have slightly better teaching competence. Among its subdomains, autonomy ($r = 0.168, p = 0.008$) and environmental mastery ($r = 0.145, p = 0.022$) have significant but low correlations, pointing out that while a sense of autonomy and control over one's environment might matter, their impact on teaching competence is modest. In contrast, personal growth ($r = 0.088, p = 0.166$), positive relations ($r = 0.103, p = 0.104$), purpose in life ($r = 0.096, p = 0.128$), and self-acceptance ($r = 0.075, p = 0.240$) are non-significant, indicating that these dimensions do not contribute significantly enough to teaching competence in the context of this research.

The findings emphasize the importance of supporting teachers' technological literacy, particularly in learning environmental planning and assessment, as well as fostering psychological well-being in terms of autonomy and environmental mastery, in order to improve teaching competence in public schools.

3.5 Regression of Variables

From the regression results shown in table below, the effects of predictors on teaching competence are seen among teachers of basic education. According to the value of the multiple correlation coefficient, $R = 0.362$, there is a weak to moderate positive correlation between the predictor variables learning environmental planning and autonomy and teaching competence. On the other hand, from the coefficient of determination, $R^2 = 0.134$, about 13.40% of the variations in teaching competence are determined by these variables, implying that the model has limited predictive power, suggesting that a large portion of teaching competence is influenced by other variables not included in the study. Stepwise regression retained only significant predictors, in effect, even though the model contributes to the comprehension of teaching competence, 86.60% of its variation is determined by other factors that have not been taken into account.

Table 5. Regression analysis showing the relationship between teaching competence and technological literacy and psychological well-being.

Model	Unstandardized B	Std. Error	Standardized Coefficients	t	Sig.
(Constant)	3.129	.216		14.477	.000
Learning Environmental Planning	.229	.042	.325	5.438	.000
Autonomy	.080	.039	.124	2.076	.039

Dependent Variable: Teaching Competence

R = .362 R² = .134 F = 18.824

P-value = 0.000

The constant of 3.129 in unstandardized coefficients (B) is the baseline level of teaching competence, which remains constant when all independent variables are zero. Of the independent variables, both learning environmental planning and autonomy were significant predictors of teaching competence. Learning environmental planning (B = 0.229, p = 0.000) was a strong and highly significant predictor. This implies that there exists a direct relationship between learning environmental planning and teaching competence, such that higher levels of planning for the learning environment increase teaching competence. This aligns with the importance of structured, well-organized classrooms and proactive instructional design as key elements of effective teaching. Autonomy (B = 0.080, p = 0.039) was also a significant but relatively weaker predictor, indicating that greater teacher autonomy contributes modestly to higher teaching competence.

This equation demonstrates that, among the predictors, learning environmental planning plays the most substantial role in shaping teaching competence outcomes. Though the F-value (F = 18.824) and p-value (p = 0.000) indicate the overall significance of the regression model, the low R² value suggests that there could be other significant factors affecting teaching competence practices, such as professional development opportunities, school leadership support, collaborative culture, or teacher self-efficacy. In any case, the results underscore the need for creating interventions and programs to improve learning environmental planning among teachers, especially in terms of lesson organization, classroom management, resource allocation, and instructional sequencing. Future studies may

consider examining the effect of other variables on teaching competence in basic education.

4. CONCLUSION

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

1. Teachers demonstrated high technological literacy, with Learning Environmental Planning scoring highest, followed by Assessment and Technological Concepts. This indicates that teachers are proficient in designing technology-supported learning environments, though continued capacity-building efforts could further strengthen their application of advanced technological concepts in instruction.
2. Teachers exhibited high psychological well-being, led by Autonomy, followed by Positive Relations, Self-Acceptance, Environmental Mastery, Personal Growth, and Purpose in Life. This suggests that teachers are self-determined and maintain positive relationships, yet the relatively lower level of purpose in life points to an area where targeted support—such as reflective practice or value-reaffirmation interventions—could enhance overall well-being.
3. Teaching competence proved very high overall, excelling in the Teaching-Learning Process, Community Involvement, Pupil Outcomes, and Teaching Growth and Development. This reflects strong instructional delivery and stakeholder engagement, though the relatively lower emphasis on professional development and action research signals an opportunity for schools to institutionalize more systematic teacher research and continuing education programs.
4. There is a significant moderate positive correlation between technological literacy and teaching competence, and a significant but weak positive correlation between

psychological well-being and teaching competence. Both null hypotheses are rejected, confirming that both variables are significantly related to teaching competence, with technology literacy exerting a stronger influence. Learning Environmental Planning (from technological literacy) and Autonomy (from psychological well-being) emerged as significant predictors of teaching competence, with Learning Environmental Planning as the strongest predictor. This finding rejects the null hypothesis. However, the model explains only a limited portion of the variance, indicating that other factors—such as school leadership, infrastructure, and professional development opportunities—also play critical roles. In essence, teachers who can effectively plan technology-rich learning environments and exercise professional autonomy are more likely to demonstrate high teaching competence, underscoring the need to integrate instructional technology design and teacher empowerment strategies in basic education reforms.

5. RECOMMENDATION

1. School administrators may provide professional development on learning environmental planning and technology-based assessment, organize peer observation cycles, and foster teacher autonomy by reducing excessive administrative mandates.
2. Educational policy makers may enhance technological literacy through targeted programs, ensure adequate infrastructure and internet access in isolated areas, and institutionalize mental health services to support teacher well-being.
3. Curriculum designers can integrate technological literacy and psychological well-being into teacher education programs aligned with PPST, and expand content to include emerging technologies and stress regulation strategies.
4. Teachers may strengthen learning environmental planning skills, enhance autonomy by voicing opinions, and engage actively in action research and reflective practice.
5. Learners are encourage to actively participate in technology-enhanced activities, provide honest feedback to teachers, and take ownership of their learning progress.
6. Future researchers may examine other variables such as school leadership and infrastructure adequacy, and conduct comparative or longitudinal studies to extend the findings.

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