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**SELF-EFFICACY AS PREDICTED BY TECHNOLOGICAL  
COMPETENCE, EXPECTANCY BELIEF, AND ATTITUDE OF  
SENIOR HIGH SCHOOL TEACHERS**

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**ABSTRACT**

This quantitative study examined the levels of self-efficacy, technological competence, expectancy belief, and attitudes of senior high school teachers, and determined the relationships and influences among these variables. Using a descriptive-correlational design, data were gathered from 325 public senior high school teachers across five municipalities in the 2nd Congressional District of North Cotabato, Philippines, through total population sampling. Findings revealed that teachers possess generally high levels of self-efficacy ( $M=4.17$ ), technological competence ( $M=4.17$ ), and expectancy belief ( $M=4.16$ ), all rated as Agree on a five-point Likert scale. Teachers' attitudes in terms of curiosity, compassion, and openness to new ideas were similarly rated as Agree ( $M=4.13$ ). Spearman Rho correlation analysis revealed significant positive relationships between self-efficacy ( $r=0.75$ ,  $p=0.000$ ), technological competence ( $r=0.77$ ,  $p=0.000$ ), and expectancy belief ( $r=0.71$ ,  $p=0.000$ ) with teachers' attitudes. Multiple regression analysis further confirmed that imaginal experience and physical-emotional state significantly influenced curiosity ( $R^2=0.556$ ) and compassion ( $R^2=0.808$ ), while social persuasion and physical-emotional state predicted openness to new ideas ( $R^2=0.481$ ). These findings underscore the multidimensional nature of teacher attitude formation and highlight the critical roles of internal cognitive processes, emotional well-being, and professional confidence in shaping positive teaching dispositions.

**KEYWORDS:** self-efficacy, technological competence, expectancy belief, teachers' attitude, senior high school, Philippines

## INTRODUCTION

The rapid advancement of technology has fundamentally transformed educational landscapes, necessitating significant shifts in teacher attitudes and competencies. In senior high schools—where academic rigor intersects with preparation for higher education and workforce demands—the integration of technology into teaching has become indispensable. The effectiveness of this integration, however, largely depends on teachers' individual beliefs, confidence, and perceived capabilities, all of which shape their openness and commitment to adopting new instructional methods.

At the global level, teachers play a decisive role in shaping societal progress, and their capacity to properly integrate technology into instruction is directly influenced by their self-efficacy (Ertmer, 2020). Research indicates that limited technical expertise remains a primary constraint on teachers' confidence in technology-enhanced classroom practices (Lee & Cho, 2022). In the Philippine context, factors such as technical competence, expectancy beliefs, and technology attitudes collectively influence teachers' self-efficacy, with persistent challenges including resistance to change, inadequate support systems, and student resistance further impeding effective integration (Tschannen-Moran & Hoy, 2022).

Locally, in North Cotabato, these challenges are compounded by limited infrastructure, inadequate teacher support, and insufficient exposure to technology, all of which affect classroom integration and student learning outcomes (Mouza & Lavigne, 2021). Despite a growing body of literature, significant gaps remain regarding the specific relationships and predictive influence of self-efficacy, technological competence, and expectancy belief on teacher attitudes in the Philippine rural context.

The present study addresses these gaps by examining the predictive relationships among self-efficacy, technological competence, and expectancy belief on the attitudes of senior high school teachers in the 2nd Congressional District of North Cotabato, Philippines. Guided by Bandura's (1997) Social Cognitive Theory, Vroom's (1964) Expectancy Theory, and Rogers' (1962) Diffusion of Innovation Theory, this study provides empirical evidence to inform policy and instructional development programs in similar rural and diverse educational contexts.

## MATERIALS AND METHODS

**Research Design.** This study employed a descriptive-correlational research design. The descriptive component determined the current levels of self-efficacy, technological competence, expectancy belief, and teachers' attitudes, while the correlational component examined the relationships and predictive influence of the independent variables on the dependent variable. Quantitative data were collected using validated Likert-scale survey instruments and analyzed using inferential statistical tools.

**Research Locale and Respondents.** The study was conducted in all public senior high schools within the five municipalities of the 2nd Congressional District of North Cotabato—Antipas, Arakan, Magpet, Makilala, and President Roxas—under the Division of Cotabato during School Year 2025–2026. A total of 325 senior high school teachers participated through total population sampling, ensuring comprehensive representation across all twenty schools in the district. Respondents were currently active teaching personnel with continuous service from the start of their careers in their respective institutions.

**Research Instruments.** Four validated Likert-scale questionnaires were utilized: (a) Teacher Self-Efficacy Scale measuring social persuasion, imaginal experience, and physical-emotional state; (b) Technological Competence Scale covering technological skills, adaptability, and innovative ideas; (c) Expectancy Belief Scale assessing efforts, instrumentality, and valence; and (d) Teachers' Attitude Scale evaluating curiosity, compassion, and openness to new ideas. All instruments were rated on a five-point scale (1=Strongly Disagree to 5=Strongly Agree), with interpretation ranges established for each level.

**Statistical Analysis.** Descriptive statistics (mean and standard deviation) were computed to determine the level of each variable. Spearman Rho correlation analysis was used to determine the significance of relationships between the predictors and teachers' attitudes. Multiple regression analysis was employed to determine the degree of influence of each dimension of the independent variables on the three aspects of teachers' attitudes (curiosity, compassion, and openness to new ideas). The level of significance was set at  $\alpha = 0.05$ .

## RESULTS AND DISCUSSION

### Level of Self-Efficacy of Senior High School Teachers

Table 1 presents the consolidated results of teachers' self-efficacy across three dimensions. The overall grand mean of 4.17 (Agree) indicates that teachers generally maintain a high level of self-efficacy. Social persuasion obtained the highest mean of 4.23 (Strongly Agree), underscoring the critical role of peer feedback and administrative affirmation in reinforcing teachers' instructional confidence. Imaginal experience (M=4.10) and physical-emotional state (M=4.18), both rated Agree, further indicate that mental rehearsal and emotional well-being significantly contribute to teaching confidence.

**Table 1. Level of Self-Efficacy of Senior High School Teachers.**

Dimension	Grand Mean	Description
Social Persuasion	4.23	Strongly Agree
Imaginal Experience	4.10	Agree
Physical and Emotional State	4.18	Agree
<b>Overall Grand Mean</b>	4.17	Agree

These findings align with Bandura's (1997) self-efficacy theory, which posits that social persuasion, vicarious experiences, and physiological states are primary sources of efficacy beliefs. Furthermore, Hoy and Miskel (2020) confirmed that a supportive school climate characterized by constructive feedback substantially enhances teacher motivation and instructional competence.

### Level of Technological Competence of Senior High School Teachers

Table 2 shows the technological competence levels of respondents. The overall grand mean of 4.17 (Agree) suggests that teachers are functionally proficient in technology use. Adaptability registered the highest mean of 4.34 (Strongly Agree), reflecting teachers' strong commitment to continuous technological learning. Technological skills (M=4.17) and innovative ideas (M=4.00), both rated Agree, indicate adequate but improvable integration of creative digital pedagogies.

**Table 2. Level of Technological Competence of Senior High School Teachers.**

<b>Dimension</b>	<b>Grand Mean</b>	<b>Description</b>
Technological Skills	4.17	Agree
Adaptability	4.34	Strongly Agree
Innovative Ideas	4.00	Agree
<b>Overall Grand Mean</b>	4.17	Agree

This finding corroborates Dalisay (2020), who emphasized the growing indispensability of technological competence in Philippine education, particularly in the post-pandemic era where hybrid and digital learning have become normative practices. Teachers' openness to professional development was evidenced by the highest sub-indicator mean of 4.88 for "seeking professional development to improve tech skills."

### **Level of Expectancy Belief of Senior High School Teachers**

Table 3 presents the expectancy belief levels. With an overall grand mean of 4.16 (Agree), teachers generally hold strong beliefs about the role of effort, instrumentality, and valence in professional outcomes. Efforts received the highest rating (M=4.19), followed by instrumentality (M=4.17) and valence (M=4.13), all rated Agree. These results suggest that teachers are highly motivated when they perceive clear connections between their effort, instructional application, and teaching effectiveness.

**Table 3. Level of Expectancy Belief of Senior High School Teachers.**

<b>Dimension</b>	<b>Grand Mean</b>	<b>Description</b>
Efforts	4.19	Agree
Instrumentality	4.17	Agree
Valence	4.13	Agree
<b>Overall Grand Mean</b>	4.16	Agree

Consistent with Vroom's (1964) Expectancy Theory, these findings affirm that motivation is sustained when teachers believe their effort leads to performance (expectancy), that performance leads to valued outcomes (instrumentality and valence). Caspersen (2020) similarly emphasized that positive expectancy beliefs directly influence study behavior, persistence, and professional performance.

### Level of Attitudes of Senior High School Teachers

Table 4 presents the attitude levels of respondents. The overall grand mean of 4.13 (Agree) indicates generally positive teaching attitudes. Openness to new ideas registered the highest mean ( $M=4.18$ ), suggesting teachers' receptiveness to change and innovation. Curiosity ( $M=4.11$ ) and compassion ( $M=4.10$ ), both rated Agree, reflect teachers' inquisitive and empathetic dispositions toward their learners.

**Table 4. Level of Attitudes of Senior High School Teachers.**

Dimension	Grand Mean	Description
Curiosity	4.11	Agree
Compassion	4.10	Agree
Openness to New Ideas	4.18	Agree
<b>Overall Grand Mean</b>	4.13	Agree

These findings support Wu, Yu, and Weng (2022), who underscored that teacher attitudes—including curiosity and empathy—significantly influence classroom engagement and the overall quality of instructional delivery. Teachers with positive attitudes create welcoming, inclusive environments conducive to deeper student learning.

### Relationships Among Variables and Teachers' Attitudes

Table 5 presents the Spearman Rho correlation results among the three predictors and teachers' attitudes. All three independent variables demonstrated significant positive relationships with teachers' attitudes at the 0.01 level. Technological competence showed the strongest association ( $r=0.77$ ,  $p=0.000$ ), followed by self-efficacy ( $r=0.75$ ,  $p=0.000$ ) and expectancy belief ( $r=0.71$ ,  $p=0.000$ ). These findings confirm that increases in teachers' confidence, technological proficiency, and positive expectancy beliefs are associated with more favorable teaching dispositions.

**Table 5. Summary of Correlation Results: Predictors and Teachers' Attitudes.**

Predictor	Variable	r	p-value	Decision	Interpretation
Self-Efficacy	Teachers' Attitude	0.75	0.000	Reject $H_0$	Significant
Technological Competence	Teachers' Attitude	0.77	0.000	Reject $H_0$	Significant
Expectancy Belief	Teachers' Attitude	0.71	0.000	Reject $H_0$	Significant

Tschannen-Moran and Hoy (2001) supported these findings, asserting that teachers' self-efficacy shapes not only their instructional behaviors but also their beliefs and attitudes toward teaching, ultimately affecting job satisfaction and student outcomes. Similarly, Vroom's (1964) Expectancy Theory predicts that perceived connections between effort, performance, and valued outcomes positively influence work-related attitudes.

### **Influence of Predictors on Teachers' Attitudes**

Multiple regression analysis revealed significant influence of all three predictors on teachers' attitudes, with varying explanatory power across attitude dimensions. Table 6 summarizes selected regression results for self-efficacy as a predictor of teachers' attitudes.

**Table 6. Summary of Regression Analysis: Self-Efficacy on Teachers' Attitudes.**

<b>Model</b>	<b><math>\beta</math></b>	<b>Std. Error</b>	<b>t-value</b>	<b>p-value</b>	<b>Significance</b>
<b>Self-Efficacy → Curiosity</b>					
Social Persuasion	-0.044	0.049	-0.902	0.368	Not Significant
Imaginal Experience	0.355	0.063	5.668	0.000	Significant**
Physical & Emotional State	0.519	0.066	7.825	0.000	Significant**
R <sup>2</sup> = 0.556, F = 124.160, p = 0.000					
<b>Self-Efficacy → Compassion</b>					
Social Persuasion	-0.077	0.029	-2.654	0.008	Significant**
Imaginal Experience	0.674	0.038	17.924	0.000	Significant**
Physical & Emotional State	0.254	0.040	6.380	0.000	Significant**
R <sup>2</sup> = 0.808, F = 416.176, p = 0.000					
<b>Self-Efficacy → Openness</b>					
Social Persuasion	0.229	0.055	4.149	0.000	Significant**
Imaginal Experience	0.102	0.071	1.435	0.152	Not Significant
Physical & Emotional State	0.531	0.075	7.055	0.000	Significant**
R <sup>2</sup> = 0.481, F = 91.618, p = 0.000					

Self-efficacy accounted for 55.6% of variance in curiosity (R<sup>2</sup>=0.556), 80.8% in compassion (R<sup>2</sup>=0.808), and 48.1% in openness to new ideas (R<sup>2</sup>=0.481). Imaginal experience and physical-emotional state were the strongest predictors of curiosity and compassion, while social persuasion and physical-emotional state predicted openness to new ideas. Technological competence similarly yielded very high explanatory power for compassion (R<sup>2</sup>=0.799), with adaptability emerging as the most consistent predictor across all attitude dimensions. Expectancy belief explained 42.7% of variance in curiosity (R<sup>2</sup>=0.427), 57.1% in

compassion ( $R^2=0.571$ ), and 28.8% in openness to new ideas ( $R^2=0.288$ ), with efforts and valence consistently emerging as significant predictors across all models, while instrumentality showed no significant influence.

Skaalvik and Skaalvik (2021) corroborated these results, finding that teachers with higher self-efficacy demonstrate greater engagement, openness to new instructional strategies, and stronger inclinations toward professional growth. The dominance of internal cognitive and emotional processes over social persuasion in predicting curiosity and compassion aligns with Bandura's (1997) assertion that personal capabilities and emotional states exert the most direct influence on self-regulatory behavior.

## **CONCLUSION**

This study confirms that senior high school teachers in the 2nd Congressional District of North Cotabato generally exhibit high levels of self-efficacy, technological competence, and expectancy belief, which collectively contribute to positive teaching attitudes characterized by curiosity, compassion, and openness to new ideas. Significant positive relationships were established among all predictors and teachers' attitudes, with regression analyses revealing that imaginal experience, physical-emotional state, adaptability, efforts, and valence are the most influential predictors of positive teaching dispositions. These findings underscore the importance of addressing teachers' internal cognitive and emotional dimensions, alongside building technological competence, to cultivate more effective and innovative teaching practices. School administrators are encouraged to design targeted professional development programs that simultaneously strengthen technological skills, foster emotional well-being, and reinforce positive expectancy beliefs to sustain teachers' motivational and attitudinal orientations in instruction.

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