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Learning mindset, technology utilization practices and self-efficacy of high school learners: Basis for learning empowerment program

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ABSTRACT

This study aimed to determine the levels of learning mindset, technology utilization practices, and self-efficacy among high school learners in the Province of Capiz during the School Year 2025–2026 as a basis for developing a Learning Empowerment Program. A mixed-methods research design was employed, integrating a quantitative survey-correlational approach with qualitative focus group discussions for data triangulation. The study involved 390 high school learners selected from a population of 74,591 students in the Capiz and Roxas City Divisions through stratified proportional random sampling. Data were gathered using researcher-developed Learning Mindset, Technology Utilization Practices, and Self-Efficacy Questionnaires, which underwent expert validation and reliability testing. The instruments obtained Cronbach's alpha coefficients of 0.960, 0.952, and 0.948, respectively. Descriptive statistics, including frequency count, percentage, mean, and standard deviation, were employed, while one-way analysis of variance (ANOVA) and Pearson correlation coefficient (Pearson r) were used for inferential analysis at a 0.05 level of significance. The findings revealed very high levels of learning mindset ($M = 4.51$, $SD = 0.21$), technology utilization practices ($M = 4.39$, $SD = 0.17$), and self-efficacy ($M = 4.38$, $SD = 0.31$). No significant differences in self-efficacy were observed across levels of learning mindset ($F = 1.012$, $p = 0.315$) and technology utilization practices ($F = 3.746$, $p = 0.054$). Furthermore, no significant relationship was found between learning mindset and technology utilization practices ($r = 0.040$, $p = 0.430$). However, significant but weak positive relationships were established between learning mindset and self-efficacy ($r = 0.163$, $p = 0.001$) and between technology utilization practices and self-efficacy ($r = 0.128$, $p = 0.011$). The qualitative findings provided additional perspectives on students' learning attitudes, digital engagement, and confidence in accomplishing academic tasks. These findings indicate that although high school learners demonstrate strong learning mindsets, extensive technology utilization, and high self-efficacy, the relationships among these variables differ in strength and statistical significance. Consequently, Project LEARN+ (Leveraging Empowerment for Adaptive, Resilient, and Networked Learners) was developed as a proposed Learning Empowerment Program to sustain positive learning mindsets, promote responsible and purposeful technology utilization, and strengthen students' self-efficacy through structured, collaborative, and technology-integrated learning activities.

Keywords: Learning mindset, technology utilization practices, self-efficacy.

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INTRODUCTION

High school education represents a critical stage in learners' academic and personal development, during which students establish beliefs, attitudes, and competencies that influence their academic performance, motivation, and capacity to overcome challenges. At this developmental stage, learning mindset, technology utilization practices, and self-efficacy are important factors that shape students' engagement with educational experiences. A constructive learning mindset encourages students to approach academic responsibilities with confidence, demonstrate persistence when encountering difficulties, and develop a sustained interest in learning. However, increasing academic demands, performance expectations, and exposure to various educational pressures may contribute to stress, disengagement, diminished motivation, and mechanical participation in classroom activities. These circumstances underscore the importance of examining the psychological and behavioral factors associated with students' learning experiences to identify appropriate interventions that strengthen academic resilience and promote meaningful educational development.

The significance of cultivating a positive learning mindset is further emphasized by the challenges encountered in classroom instruction. Based on the researcher's teaching experiences, students who demonstrate limited motivation and interest in academic activities may experience difficulties maintaining attention, participating meaningfully in lessons, and achieving expected learning outcomes. Their disengagement may also affect classroom dynamics and the learning experiences of their peers. These observations highlight the responsibility of educators to establish supportive learning environments that encourage students to recognize their capabilities, respond constructively to academic challenges, and develop enthusiasm for acquiring knowledge. Consequently, understanding the relationship between learning mindset, technology utilization practices, and self-efficacy becomes essential in identifying educational strategies that address motivational concerns while supporting students' academic and personal growth.

Learning mindset encompasses students' beliefs and perceptions concerning learning, intelligence, academic ability, and their experiences within educational environments. According to Quay and Romero (2020), these beliefs influence students' motivation, willingness to undertake challenging academic tasks, persistence despite setbacks, and overall educational achievement. Learning mindsets function as interpretive frameworks through which students understand classroom experiences, particularly those involving uncertainty, difficulty, and perceived failure. Students who question their academic belonging, perceive limited relevance in their schoolwork, or believe that intelligence cannot be improved may interpret disappointing academic results as confirmation of their inadequacy. Such interpretations can lead to reduced effort, avoidance of challenging activities, and declining academic engagement. Conversely, students who experience acceptance within the classroom, recognize the personal significance of their learning activities, and believe that intellectual abilities can develop through sustained effort are more likely to regard academic difficulties as temporary challenges that can be overcome through improved understanding and appropriate learning strategies (Quay & Romero, 2020). These contrasting responses demonstrate that students' beliefs about learning can substantially influence their academic behavior even when they encounter similar educational circumstances.

The relationship between students' beliefs and their responses to academic challenges is further explained through the distinction between fixed and growth mindsets. Dweck (2017) maintains that individuals possess underlying beliefs concerning the nature and development

of intelligence, abilities, and personal competencies. These beliefs exist along a continuum ranging from a fixed mindset, characterized by the perception that intelligence and abilities are largely predetermined and unchangeable, to a growth mindset, which recognizes that competencies can be developed through effort, practice, effective strategies, and learning experiences. Individuals with fixed beliefs may interpret mistakes as evidence of limited ability, whereas those with growth beliefs are more inclined to view setbacks as opportunities for improvement. Nevertheless, Dweck (2017) emphasizes that individuals do not necessarily demonstrate a single mindset across all situations. Instead, their beliefs may vary according to particular tasks, learning domains, and experiences, resulting in combinations of fixed and growth orientations. This perspective suggests that learning mindset is a dynamic psychological characteristic that can influence students' academic decisions and their willingness to engage in unfamiliar or demanding learning activities.

The importance of learning mindset extends beyond immediate academic performance because students' beliefs about their capabilities may also influence their emotional adjustment, motivation, and psychological well-being. Yeager et al. (2019) revealed that individuals demonstrating positive mindsets tend to experience higher levels of well-being, including greater life satisfaction and more positive emotional experiences. Similarly, Schleider et al. (2016) found that individuals possessing stronger learning mindsets demonstrate greater willingness to pursue challenges and participate in behaviors directed toward achieving personal goals. These findings suggest that constructive beliefs about learning may contribute to psychological resources that support perseverance, emotional adjustment, and sustained engagement in meaningful activities. When considered within secondary education, these findings reinforce the importance of developing learning environments that encourage students to interpret difficulties as manageable experiences rather than permanent indicators of academic limitations. They also provide a foundation for examining whether students' learning mindsets are associated with their confidence in accomplishing educational responsibilities.

Alongside the psychological dimensions of learning, technological developments have substantially transformed how students access information, communicate, establish relationships, and participate in educational activities. The widespread availability of digital devices, online platforms, and internet resources has expanded learning opportunities beyond conventional classroom environments. Technology utilization practices have consequently become integral to students' academic routines and personal development. Cohen, Soffer, and Henderson (2022) explain that students use technology to accomplish important developmental tasks, including establishing personal identities, exploring social affiliations, and maintaining interpersonal relationships. Through exposure to diverse information, individuals, and activities, digital environments provide opportunities for students to examine their interests, express emerging identities, and participate in communities that reflect their personal aspirations. Technology also facilitates communication with friends and family members despite geographical separation and creates opportunities to establish new relationships through online interactions that may eventually develop into personal encounters (Cohen, Soffer, & Henderson, 2022). These functions demonstrate that technology utilization is not confined to academic purposes but also contributes to the social and developmental experiences that shape students' attitudes and behaviors.

Within educational settings, technology utilization practices have become increasingly relevant as students demonstrate growing familiarity with digital tools for communication, entertainment, information retrieval, and academic work. Cohen, Soffer, and Henderson (2022) observe that students who have encountered technology throughout their formative years

frequently expect digital resources to contribute meaningfully to their educational experiences. In response, educational institutions have expanded their technological infrastructure and encouraged the integration of digital platforms into teaching and learning processes. Learning management systems, video conferencing applications, classroom response tools, polling platforms, podcasts, and supplementary online instructional materials have become increasingly available to support classroom interaction, communication, and independent learning. Educational publishers have likewise developed digital resources to complement traditional instructional materials and respond to evolving educational demands. These developments indicate that technology utilization practices are important considerations in understanding contemporary learning experiences, particularly as students increasingly rely on digital environments to acquire knowledge, complete academic requirements, and participate in collaborative activities.

Despite the educational opportunities associated with technological advancement, existing literature indicates that the effects of technology utilization depend on the nature, frequency, and purpose of engagement. Fardouly et al. (2015) identified associations between intensive digital engagement, particularly smartphone use, and psychological concerns such as anxiety and depression. Related investigations have also suggested that frequent participation in social media environments may encourage social comparison, potentially affecting individuals' psychological well-being and perceptions of personal adequacy. These findings raise concerns regarding the possible consequences of excessive or poorly regulated technology utilization, especially among students who are simultaneously navigating academic pressures and developmental changes. Nevertheless, technological engagement can also produce beneficial outcomes when digital resources are employed for constructive purposes. Research concerning fitness tracking applications has associated their utilization with increased physical activity and improved health outcomes, while Liu et al. (2022) indicated that smart devices can strengthen social connectedness and provide support to individuals experiencing social isolation. Collectively, these findings demonstrate that technology utilization cannot be regarded as uniformly beneficial or detrimental. Rather, its implications depend on how individuals engage with technological resources and the purposes those resources serve.

The contrasting findings concerning technology utilization suggest the need to examine digital engagement in relation to students' beliefs about learning and their confidence in performing academic tasks. Although technological resources can provide access to information and opportunities for independent exploration, their educational value may depend on students' willingness to participate actively, evaluate information, and apply acquired knowledge. Learners who believe that their abilities can improve may be more receptive to using technological tools to overcome academic difficulties, whereas those who perceive their capabilities as fixed may approach unfamiliar digital learning experiences with hesitation. Similarly, students who possess confidence in their academic abilities may demonstrate greater initiative in exploring technological resources and completing technology supported learning activities. These possible relationships highlight the importance of considering learning mindset and technology utilization practices together rather than examining them as isolated influences on students' educational development.

Self-efficacy provides an additional psychological dimension for understanding students' engagement with academic tasks and technological learning opportunities. Originally introduced by Bandura in 1977, self-efficacy refers to individuals' beliefs concerning their capacity to organize and perform the actions necessary to accomplish particular objectives. The concept emphasizes that perceived personal capability influences motivation, behavioral choices, effort, and persistence when individuals encounter difficulties. Bandura's early framework identified successful mastery experiences as important sources of personal change and emphasized that judgments of capability can exert considerable influence on behavior,

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including responses to situations that generate fear or uncertainty. In educational contexts, students with stronger self-efficacy are generally more willing to attempt challenging activities, sustain effort, and develop strategies for accomplishing academic requirements. Trautner and Schwinger (2020) further explain that self-efficacy is closely connected to mindset because individuals who believe that their abilities can improve through effort are more likely to develop confidence in their capacity to achieve desired outcomes. This relationship suggests that beliefs concerning the development of intelligence may contribute to students' judgments of their academic capabilities.

The theoretical foundation of the present study is primarily anchored in Dweck's Mindset Theory, which explains how beliefs concerning the nature of intelligence and ability influence individuals' motivation, learning behavior, and responses to challenges. Dweck (2017) emphasizes that intelligence and personal competencies are not necessarily permanent characteristics but may be strengthened through purposeful effort, effective planning, appropriate strategies, and constructive attitudes toward learning. Within this framework, individuals possessing a growth mindset perceive academic difficulties as opportunities to develop their abilities, whereas those demonstrating a fixed mindset are more likely to avoid challenging situations because they associate failure with personal inadequacy. Nalipay et al. (2021) similarly explain that fixed beliefs may encourage individuals to interpret mistakes as evidence of limited capability, thereby discouraging persistence and participation in demanding tasks. These theoretical propositions establish the relevance of learning mindset in understanding students' willingness to engage with educational challenges and explore opportunities for improvement. They also provide a basis for examining whether students' mindset orientations are associated with their technology utilization practices and self-efficacy.

Complementing Mindset Theory, Constructivist Theory emphasizes the active participation of learners in developing knowledge and understanding through meaningful experiences. Resnick and Glaser (2016) explain that learning involves integrating newly acquired information into existing cognitive structures, enabling individuals to construct concepts, refine understanding, and develop expertise through active engagement. Rather than functioning exclusively as a transmitter of information, the teacher assumes the role of facilitator and collaborator in the construction of knowledge. This perspective recognizes students as active participants who interpret information, connect experiences, and develop understanding through interaction with their learning environments. The increasing availability of internet resources, social media platforms, mobile devices, and other technological tools provides additional opportunities to apply constructivist principles in educational settings. Through appropriately designed technological activities, students may independently investigate concepts, collaborate with peers, evaluate information, and apply knowledge to meaningful situations. These experiences may contribute to the development of constructive learning beliefs while strengthening students' confidence in their ability to accomplish academic tasks.

Constructivist Theory therefore provides an important explanation of how technology utilization practices may contribute to the relationship between learning mindset and self-efficacy. When students actively engage with digital learning resources, they encounter opportunities to test their understanding, address knowledge gaps, and experience progress through independent and collaborative activities. Successful engagement in these experiences may reinforce the belief that learning is achievable through effort and strategic participation. Conversely, students who approach technological activities without adequate guidance, motivation, or confidence may encounter difficulties that discourage further participation. The constructivist perspective consequently emphasizes that the educational benefits of technology

are influenced not merely by the availability of digital resources but also by the quality of students' interactions with those resources. This interpretation supports the importance of examining technology utilization practices as a behavioral dimension associated with students' learning mindset and perceived academic competence.

Bandura's (1986) Social Cognitive Theory provides a complementary explanation of the relationship between personal beliefs, behavior, and learning experiences. Within this theoretical framework, human functioning is understood through the interaction of personal characteristics, behavioral patterns, and environmental influences. Self-efficacy occupies a central position because individuals' beliefs about their capabilities affect the goals they establish, the activities they pursue, and their willingness to persevere when difficulties arise. Bandura's original conceptualization in 1977 emphasized individuals' confidence in their capacity to execute actions required to produce intended outcomes, while his subsequent explanation extended the concept to perceived capabilities for attaining particular performance levels and influencing circumstances affecting personal experiences. Individuals with strong self-efficacy tend to interpret challenging activities as opportunities for development and demonstrate greater intrinsic interest, concentration, and persistence. In contrast, individuals with limited self-efficacy may experience reduced aspirations, diminished effort, and an increased tendency to withdraw when confronted with demanding responsibilities. These propositions demonstrate how confidence in personal capability can influence both academic motivation and observable learning behavior.

Social Cognitive Theory also clarifies the possible connections among learning mindset, technology utilization practices, and self-efficacy. Students' beliefs concerning their ability to learn may influence their decisions to engage with technological resources, while their experiences with digital learning activities may contribute to subsequent judgments of competence. Successful completion of academic tasks through technology may strengthen self-efficacy by providing evidence of personal capability, whereas repeated difficulties without adequate support may weaken confidence and discourage further engagement. From this perspective, self-efficacy represents an important psychological construct through which the associations between learning beliefs and technology related behavior can be understood. The theory also recognizes that educational environments, instructional support, and opportunities for successful participation may shape these relationships. Consequently, the development of self-efficacy should be considered in connection with students' learning experiences and the conditions that facilitate meaningful engagement.

Taken together, Dweck's Mindset Theory, Constructivist Theory, and Bandura's Social Cognitive Theory establish an integrated theoretical foundation for examining the relationships among learning mindset, technology utilization practices, and self-efficacy. Mindset Theory explains how students' beliefs about intelligence and ability influence their willingness to learn, confront challenges, and pursue improvement. Constructivist Theory clarifies how active participation and meaningful interaction with technological resources can support knowledge construction and competence development. Social Cognitive Theory explains how personal beliefs, behavioral experiences, and environmental conditions interact in shaping students' confidence in accomplishing academic tasks. Although these theories emphasize different dimensions of learning, they converge in recognizing that students are active participants whose beliefs, experiences, and behaviors contribute to their educational development. Their integration suggests that learning mindset and technology utilization practices may be associated with self-efficacy through the combined influence of personal perceptions, opportunities for active learning, and experiences of academic accomplishment.

The reviewed literature further reveals important convergences concerning the role of psychological beliefs and learning experiences in promoting student development. Quay and Romero (2020), Dweck (2017), and Nalipay et al. (2021) collectively emphasize that students'

interpretations of their abilities influence their responses to academic challenges. The findings of Yeager et al. (2019) and Schleider et al. (2016) extend this understanding by associating constructive mindsets with positive psychological experiences and behaviors directed toward personal improvement. Meanwhile, Trautner and Schwinger (2020) connect beliefs about personal development with self-efficacy, suggesting that confidence in improvement may support stronger perceptions of capability. These perspectives collectively establish learning mindset as an important psychological consideration in understanding students' motivation, persistence, and academic confidence. However, while the literature provides substantial theoretical and empirical support for the relevance of mindset and self-efficacy, further investigation is necessary to clarify how these constructs are associated within the specific experiences of high school learners.

A similar convergence and contrast emerge from studies concerning technology utilization. Cohen, Soffer, and Henderson (2022) emphasize the developmental and educational functions of digital engagement, particularly its contributions to communication, identity exploration, access to information, and participation in learning activities. Liu et al. (2022) likewise identify the potential of technological resources to strengthen social connectedness and provide meaningful support. In contrast, Fardouly et al. (2015) draw attention to psychological concerns associated with intensive digital engagement, indicating that technology utilization may also produce unfavorable experiences under certain conditions. These findings suggest that the implications of technology utilization are influenced by patterns of engagement and the purposes for which technological resources are employed. Nevertheless, the existing discussions largely emphasize developmental, social, psychological, or educational outcomes independently, leaving a need for further examination of how students' technology utilization practices relate specifically to their learning mindset and self-efficacy within secondary education.

Despite the contributions of previous investigations, the available literature directly examining the combined relationships among learning mindset, technology utilization practices, and self-efficacy remains limited. Existing studies have established important associations between mindset and psychological well-being, technology utilization and social or emotional experiences, and beliefs about personal capability and motivation. However, these findings do not fully explain how learning mindset and technology utilization practices are jointly associated with the self-efficacy of high school learners. This limitation is particularly relevant in contemporary educational environments where students are expected to demonstrate academic independence, adapt to technological developments, and maintain confidence despite increasing learning demands. Examining these variables within a unified framework may therefore contribute to a more comprehensive understanding of the psychological and behavioral conditions associated with students' academic development.

Guided by the integrated theoretical perspectives and the identified research gap, the present study conceptualizes learning mindset and technology utilization practices as the independent variables and self-efficacy as the dependent variable. Learning mindset refers to students' beliefs concerning learning and the development of their abilities, while technology utilization practices encompass their engagement with technological resources in relevant activities. Self-efficacy pertains to students' perceived capability to accomplish tasks and attain desired outcomes. The conceptual framework proposes that variations in learning mindset and technology utilization practices may be associated with differences in students' self-efficacy. These relationships constitute the principal focus of the investigation and provide the foundation for developing a Learning Empowerment Program. The framework further

recognizes that the proposed relationships require empirical examination rather than assuming that theoretical associations necessarily establish causal effects.

The study consequently seeks to examine the learning mindset, technology utilization practices, and self-efficacy of high school learners, with particular emphasis on determining how the independent variables relate to the dependent variable. It aims to generate empirical evidence concerning the relationships among these constructs and provide a basis for evaluating the corresponding research hypothesis. Through systematic investigation, the study intends to identify relevant patterns that may inform educational interventions designed to strengthen students' confidence, encourage constructive learning attitudes, and promote purposeful technology utilization. The findings are expected to contribute to a clearer understanding of the factors associated with students' academic engagement and perceived competence while providing a foundation for evidence based educational planning.

The significance of the investigation extends to students, teachers, school administrators, and other educational stakeholders who participate in creating supportive learning environments. For students, the findings may contribute to the development of strategies that strengthen confidence, persistence, and responsibility in learning. For teachers, the results may provide insights into instructional approaches that cultivate constructive mindsets and encourage appropriate technology utilization. School administrators and educational planners may likewise use the findings to inform programs, policies, and learning support initiatives responsive to students' academic and developmental needs. Furthermore, the investigation may serve as a reference for future researchers interested in examining psychological beliefs, digital learning behavior, and perceived academic capability. By integrating these dimensions, the study seeks to contribute to educational practices that support meaningful, sustainable, and empowering learning experiences.

The investigation is situated within the context of high school education and focuses specifically on learning mindset, technology utilization practices, and self-efficacy as the principal research variables. Its scope is defined by the selected student participants and the research procedures employed to examine the relationships among these constructs. The research design, sampling procedure, data gathering methods, operational definitions of variables and their categories, and statistical tools provide the methodological boundaries for interpreting the findings. Accordingly, the conclusions are intended to reflect the characteristics of the participants, the variables examined, and the evidence generated through the investigation. Other personal, social, institutional, and environmental factors that may influence self-efficacy are acknowledged as potentially relevant but are not included as principal variables in the conceptual framework. These delimitations establish a focused basis for examining the proposed relationships while recognizing the complexity of students' educational experiences.

Ultimately, the present study is founded on the understanding that students' academic development involves the interaction of beliefs about learning, engagement with technological resources, and confidence in personal capabilities. The theoretical perspectives of Dweck (2017), Resnick and Glaser (2016), and Bandura (1986), together with the reviewed empirical literature, provide a coherent foundation for investigating these relationships. By examining learning mindset and technology utilization practices in relation to self-efficacy, the study seeks to address an identified gap in the literature and generate findings that may inform the development of a Learning Empowerment Program. Such a program is envisioned as a means of supporting constructive learning beliefs, responsible and purposeful technology utilization, and stronger confidence in accomplishing academic responsibilities. In this manner, the investigation aims to contribute to the continuing improvement of educational practices that promote academic resilience, meaningful participation, and the holistic development of high school learners.

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Statement of the problem

This study aimed to determine the learning mindset, technology utilization practices, and self-efficacy of high school students in the province of Capiz for the school year 2025-2026.

Specifically, this study sought to answer the following questions:

1. What is the level of learning mindset of high school students in the province of Capiz?
2. What is the level of technology utilization practices of high school students in the province of Capiz?
3. What is the level of self-efficacy of high school students in the province of Capiz?
4. Is there a significant difference in self-efficacy among the levels of learning mindset of high school students in the province of Capiz?
5. Is there a significant difference in self-efficacy among the levels of technology utilization practices of high school students in the province of Capiz?
6. Are there significant relationships among the learning mindset, technology utilization practices, and self-efficacy of high school students in the province of Capiz?

METHODOLOGY

The study aimed to determine the learning mindset, technology utilization practices, and self-efficacy of high school learners in DepEd schools in the province of Capiz for school year 2025-2026. To address this purpose, the study employed a mixed method research design. The quantitative component used a survey-correlational design, while the qualitative component used focus group discussions for the triangulation of data. According to Ruel et al. (2016), survey research is a type of observational research in which respondents are asked a series of questions, and information is collected about the opinions, behaviors, attitudes, and beliefs of a specific group of persons. Correlational research, on the other hand, involves measuring two or more variables and assessing the statistical relationship between them without manipulating any of the variables (Gravetter & Forzano, 2018). The qualitative technique was employed in data gathering to validate the information gathered through the questionnaires. According to Otani (2017), qualitative research uses non-numeric naturalistic data, such as interviews, field notes, images, and documents, to construct rich description and/or explanatory frameworks that can deepen understanding of complex phenomena. Lanshima and Abdulkarim (2021) stated that focus group discussion (FGD) is a qualitative research method in which a small, purposively selected group of individuals (typically 6-12 participants) with shared characteristics engage in a guided discussion, led by a moderator, around a specific topic of interest. The aim is to explore participants' perceptions, attitudes, beliefs, opinions, or experiences through interaction and dialogue among group members rather than through one-on-one interviews. The group dynamic often helps reveal richer and more nuanced insights than individual interviews alone, particularly the "why" and "how" of participants' views. The dependent variable of the investigation was the self-efficacy of high school learners in the province of Capiz, while the independent variables were their learning mindset and technology utilization practices. For descriptive data analysis, frequency count, percentage, mean, and standard deviation were used, while One-Way Analysis of Variance (One-Way ANOVA) and Pearson's r were used for inferential data analyses. The level of significance was set at 0.05 for all inferential tests.

The participants of the study were 390 high school learners from DepEd schools in the Province of Capiz. They were drawn from a total population of 74,591 high school learners from both the Capiz Division and the Roxas City Division. Stratified proportional random sampling was employed in determining the required number of learners, while the total number of respondents was determined using Cochran's formula. The distribution of participants according to division was as follows. The Capiz Division had a population (N) of 63,375, representing 84.96% of the total, from which a sample (n) of 331 was drawn. The Roxas City Division had a population (N) of 11,216, representing 16.04% of the total, from which a sample (n) of 59 was drawn. Together, the two divisions comprised a total population of 74,591, equivalent to 100%, and a total sample of 390.

The study utilized stratified random sampling to determine the number of participants from the Capiz Division and the Roxas City Division. This method involves dividing the population into smaller groups known as strata, which are formed based on members' shared attributes or characteristics. A random sample from each stratum is taken in a number proportional to the stratum's size when compared to the population, and these subsets are then pooled to form a random sample. The respondents were selected at random using stratified proportional sampling by means of a table of random numbers. This means that the population was first divided into meaningful subgroups (division), after which samples were randomly selected within each division using the table. The sample size per division was determined, and respondents from each division were taken proportionately. A number was assigned to each member within each division, and a starting point in the random number table was selected by picking any row or column arbitrarily. The selection continued until the required sample was reached, and the process was repeated separately for each division. The proportional allocation formula was used to obtain the appropriate sample size from the two divisions involved in the study.

The data needed for the study were gathered using the following instruments: a Personal Data Sheet, the Learning Mindset Questionnaire, the Technology Utilization Practices Questionnaire, the Self-Efficacy Questionnaire, and the Focus Group Discussion (FGD) Guide. To measure the learning mindset of the high school learners, the researcher formulated the Learning Mindset Questionnaire (LMQ). The LMQ was a 38-item instrument designed to measure the learning mindset of high school students on their beliefs about learning and intelligence, attitude toward challenges, response to feedback and setbacks, and effort and existence. Responses to the LMQ were presented on a 5-point Likert scale in which 1 denoted Strongly Disagree, 2 denoted Disagree, 3 denoted Uncertain, 4 denoted Agree, and 5 denoted Strongly Agree. Respondents were instructed during the administration of the questionnaires to mark the most suitable answer. To describe the mean responses of the participants, an arbitrary scale was used in which a mean of 4.21 - 5.00 was interpreted as Very High, 3.41 - 4.20 as High, 2.61 - 3.40 as Average, 1.81 - 2.60 as Low, and 1.00 - 1.80 as Very Low.

To identify the technology utilization practices of high school learners, the 35-item researcher-made Technology Utilization Practices Questionnaire (TUPQ) was used. In this study, the technology utilization practices of high school learners were classified into four components: Technology for Academic Tasks, Technology for Communication and Collaboration, Responsible and Safe Use of Technology, and Technology Skills, Confidence and Problem-Solving. Responses to the TUPQ were likewise presented on a 5-point Likert scale in which 1 denoted Strongly Disagree, 2 denoted Disagree, 3 denoted Uncertain, 4 denoted Agree, and 5 denoted Strongly Agree. To describe the mean responses of the participants, the same arbitrary scale was used, in which a mean of 4.21 - 5.00 was interpreted as Very High, 3.41 - 4.20 as High, 2.61 - 3.40 as Average, 1.81 - 2.60 as Low, and 1.00 - 1.80 as Very Low.

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To measure the self-efficacy of the high school learners, the 33-item researcher-made Self-Efficacy Questionnaire (SEQ) was used. The self-efficacy of the high school learners was categorized into four components: Academic Self-Efficacy; Problem-Solving and Task Completion Self-Efficacy; Social and Communication Self-Efficacy; and Motivation, Persistence and Emotional Self-Efficacy. Responses to the SEQ were also presented on a 5-point Likert scale in which 1 denoted Strongly Disagree, 2 denoted Disagree, 3 denoted Uncertain, 4 denoted Agree, and 5 denoted Strongly Agree. To describe the mean responses of the participants, the same arbitrary scale was applied, in which a mean of 4.21 - 5.00 was interpreted as Very High, 3.41 - 4.20 as High, 2.61 - 3.40 as Average, 1.81 - 2.60 as Low, and 1.00 - 1.80 as Very Low.

Before the modified Learning Mindset Questionnaire, Technology Utilization Practices Questionnaire, and Self-Efficacy Questionnaire were distributed, they had to undergo face validation and pilot testing. The instruments were submitted to a jury composed of 3 members purposely assigned to determine the appropriateness of every item in measuring the data needed in the study. Suggestions and recommendations given by the jurors were observed in the modification of the instruments in order to gather valid and reliable information. After face validation, the instruments were pilot-tested for reliability with 30 learners in the province who were not included as respondents of the study. The result of the reliability testing using the Statistical Package for Social Science (SPSS) software served as a basis for whether items were retained, revised, or discarded. A Cronbach's alpha with a reliability index of .70 or higher was considered reliable. After reliability testing, it was determined that the Learning Mindset Questionnaire had a Cronbach's Alpha of 0.960, the Technology Utilization Practices Questionnaire had a Cronbach's Alpha of 0.952, and the Self-Efficacy Questionnaire had a Cronbach's Alpha of 0.948. The Focus Group Discussion Guide was composed of 12 questions, with questions for every variable prepared by the researcher, asking about the discussants' views, concepts, perceptions, beliefs, and practices on the learning mindset, technology utilization practices, and self-efficacy of high school learners. The focus group discussion was held via Google Meet last March 20, 2026.

Prior to the actual conduct of the study, the researcher requested permission, through a formal letter, from the Dean of the Graduate School of Filamer Christian University, Inc., the Schools Division Superintendent of the Division of Roxas City, and the Schools Division Superintendent of the Division of Capiz, to administer the data gathering instruments in DepEd schools in the province. Upon approval, the desired sample size was computed based on the total number of students for the Roxas City Division and the Capiz Division in the province for the school year 2025-2026. The researcher afterward personally distributed the research instruments to the participants. When all the items in the research instruments were answered and retrieved, they were tallied, tabulated, computer-processed, analyzed, and interpreted using the Statistical Package for Social Science software (SPSS). In order to ensure ethical research, the participants were informed about their participation in the research, the benefits derived from the study, and the nature of their participation, which was voluntary, and the procedures to be used would ensure confidentiality.

A Focus Group Discussion (FGD) was scheduled through Google Meet last March 20, 2026, with invited participants from the teachers and students in DepEd schools in the province. The FGD was attended by 12 participants composed of teachers and students. The FGD Guide was prepared and used for the event, and the researcher acted as the moderator. The proceedings of the FGD activities were recorded through audio and video recorders as well as still photos for documentation. All responses during the focus group discussion were recorded and transcribed to derive meaning, interpretation, and information from them. The insights and

data produced by the interaction among discussants enabled the participants to ask questions of each other and to re-examine their own understandings of their specific experiences. The focus groups also elicited information in a way that allowed the researcher to find out why an issue was salient, as well as what was salient about it.

In this research, all the data collected were subjected to computer processing using the Statistical Package for Social Science Software (SPSS). Frequency count and percentage were used to determine the respondents' personal profile. The mean was used to determine the learning mindset, technology utilization practices, and self-efficacy of high school learners in DepEd schools in the province of Capiz. The standard deviation was used to determine the homogeneity and heterogeneity of the scores and responses of the participants in the instruments. One-Way Analysis of Variance (ANOVA), set at the 0.05 alpha level, was used to determine the significance of the difference among three or more compared groups, specifically the significant difference in self-efficacy among the levels of high school students' learning mindset and technology utilization practices. Pearson's r, also set at the 0.05 alpha level of significance, was used to determine the relationships among learning mindset, technology utilization practices, and self-efficacy of high school learners in DepEd schools in the province of Capiz.

RESULTS AND DISCUSSION

This chapter presents and interprets the data gathered from 390 high school learners in DepEd schools in the Province of Capiz for school year 2025-2026, in direct relation to the objectives of the study: to determine the learning mindset, technology utilization practices, and self-efficacy of these learners, to test differences in self-efficacy across the levels of learning mindset and technology utilization practices, and to test the relationships among the three variables. The study employed a mixed method design, combining a survey-correlational approach with focus group discussion (FGD) for triangulation. The participants were drawn from a population of 74,591 high school learners using stratified proportional random sampling, and the sample size was determined using Cochran's formula. Of the 390 participants, 331 came from the Capiz Division (N = 63,375, 84.96%) and 59 from the Roxas City Division (N = 11,216, 16.04%). Data were gathered through the 38-item Learning Mindset Questionnaire (Cronbach's alpha = 0.960), the 35-item Technology Utilization Practices Questionnaire (Cronbach's alpha = 0.952), and the 33-item Self-Efficacy Questionnaire (Cronbach's alpha = 0.948), all rated on a 5-point Likert scale. The FGD, held through Google Meet on March 20, 2026, was attended by 12 participants composed of teachers and students. Mean and standard deviation described the three variables. One-Way Analysis of Variance (One-Way ANOVA) tested differences in self-efficacy, and Pearson's r tested relationships, with the level of significance set at 0.05 for all inferential tests. The discussion is grounded in the data gathered, and every interpretation is tied to the stated objectives.

Learning mindset

The learning mindset of high school students in the Province of Capiz was generally "Very high" (M = 4.51, SD = 0.21), based on the scale where 4.21 to 5.00 is Very high, 3.41 to 4.20 is High, 2.61 to 3.40 is Moderate, 1.81 to 2.60 is Low, and 1.00 to 1.80 is Very low. This implies that most students are open to new ideas, persistent in completing tasks, willing to grow intellectually, and hold positive beliefs about effort and learning. The low standard deviation of 0.21 shows that responses were highly consistent, so the finding is common across the group and not limited to a few students. This may be attributed to teachers who use interactive, student-centered, and engaging methods, to supportive school environments that

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provide emotional, academic, and social support, to encouragement from parents and the community, to students' strong beliefs in their own abilities, and to motivated classmates who positively influence individual attitudes.

The FGD discussants confirmed this finding. Discussant 1 rated herself 4 and agreed that exposure to varied learning opportunities and proper guidance develop a strong mindset, although heavy responsibilities sometimes make consistency difficult. Discussant 2 also rated herself 4, citing her active search for new ideas, acceptance of feedback, and adaptation to changes in science teaching. Discussant 3 rated herself 3.5, describing learning mindset as a positive outlook and willingness to learn that lets one treat failure as a learning experience. Discussant 4 rated herself 5, citing trainings, webinars, and self-study, and linked her agreement to DepEd programs and professional standards. Discussant 5 rated herself 3.5, describing her mindset as above average but undermined by procrastination and inconsistent learning habits. These accounts show that even where self-ratings were below the very high level, discussants still agreed with the finding in general. The result supports Zhao and Wang (2024), who found that strong learning mindsets are associated with higher engagement, grit, and subjective well-being, and Li and Xue (2025), who linked learning mindset to adolescents' psychological well-being and active participation. It also agrees with the OECD (2019) PISA findings of high motivation, sense of belonging, and positive attitudes toward school, with Yeager et al. (2019) on the influence of beliefs about learning and ability on academic outcomes in supportive environments, and with Burnette et al. (2018) on the link between mindset-related beliefs and self-regulation, goal setting, and persistence.

Technology utilization practices

The technology utilization practices of the students were also "Very high" (M = 4.39, SD = 0.17). This implies that students frequently and effectively use technology for research and assignments, online learning platforms, communication and collaboration, and multimedia and interactive tools. The very low standard deviation of 0.17 indicates highly uniform responses, so high technology use is widely observed across the group. The result may be attributed to the availability of smartphones, computers, and stable internet connectivity, to the integration of digital tools into instruction in the post-pandemic era of online and blended learning, and to students' status as digital natives who are naturally inclined to use technology for communication, entertainment, and learning.

The discussants' views were somewhat similar to the finding. Discussant 6 rated herself 5, reporting comfort in using technology for learning, communication, and efficient task completion. Discussant 7 rated herself 4, noting the need for discipline and moderation, particularly with artificial intelligence tools, so that schoolwork still reflects her own ideas and creativity. Discussant 8 also rated herself 4, describing regular and responsible use without over-reliance. Discussant 9, who responded in a mix of English and Hiligaynon, rated herself 5 out of 5 and described using phones and laptops for research, assignments, and communication, responsibly and not only for entertainment. Discussant 10 described using social media for education and communication while cautioning that excessive use can lead to addiction. The finding is parallel to Mulero-Henríquez et al. (2024), who reported high levels of internet use among young people, and to Mensah et al. (2023), who emphasized the essential role of ICT integration in education. It is also consistent with Agol et al. (2024), who found that learners actively participate through digital technology, which enhances cognitive skills and academic performance. Tamayo (2024) noted that the adequacy and functionality of ICT resources vary across schools, which influences the extent of technology use, and the Benesse

Educational Research and Development Institute (2024) found that many students frequently use ICT devices and enjoy technology-integrated classes.

Self-efficacy

The self-efficacy of the students was likewise "Very high" (M = 4.38, SD = 0.31). This implies that students strongly believe in their ability to accomplish academic tasks, feel confident in completing schoolwork even in difficult subjects, and are willing to take on challenging tasks and persist despite obstacles. The standard deviation of 0.31, although slightly higher than for the other variables, is still relatively low, so responses were fairly consistent. The result may be attributed to a supportive classroom climate in which mistakes are treated as learning opportunities, to parental support and encouragement, to peer collaboration, and to the students' very high learning mindset, since a strong growth mindset complements self-efficacy by encouraging students to believe that effort leads to success.

The FGD responses supported the finding. Discussant 1 partly agreed, observing that self-efficacy differs with experiences and support. Discussant 2 generally agreed, noting that her students participate, answer questions, and complete tasks with confidence when the topic is familiar or activities are engaging. Discussants 5 and 6 each rated themselves 5, describing a proactive stance toward difficult tasks and persistence through preparation and hard work. Discussant 9 rated herself 4 or 5 out of 5, with occasional doubt in difficult subjects, and Discussant 12 rated herself 4, admitting occasional self-doubt but continued effort. The finding agrees with Renninger et al. (2026), who identified self-efficacy, interest, and belonging as essential for sustained engagement and achievement, and with Mackenzie et al. (2024), who found that self-efficacy influences intentions to pursue subjects such as science. It is also consistent with Raimondi et al. (2025), who associated self-efficacy with adolescents' well-being, and with Supervía et al. (2023), who found that self-efficacy contributes to life satisfaction with self-esteem as a mediator. Zhang et al. (2024) showed that teacher support and constructive feedback develop confidence, and Marashi et al. (2024) showed that interventions based on self-efficacy theory can improve adolescents' behaviors. At the same time, the finding offers a more nuanced perspective in relation to Liu et al. (2023), who found that school bullying can reduce adolescents' self-efficacy, and to Mulu et al. (2023), who noted variation by gender and individual experience. Together these indicate that high self-efficacy is not universally experienced.

Difference in self-efficacy among the levels of learning mindset

A One-Way ANOVA at the 0.05 level showed no significant difference in self-efficacy among the levels of learning mindset, $F(1,388) = 1.012$, $p = 0.315$, $p > .05$. The between-groups sum of squares was 0.099 (df = 1, MS = 0.099), the within-groups sum of squares was 37.939 (df = 388, MS = 0.098), and the total was 38.038 (df = 389). Students with different levels of learning mindset, such as high and very high, did not differ significantly in self-efficacy, which remained consistently very high regardless of mindset level. Learning mindset, while important, may not be the only or strongest factor shaping students' confidence in their abilities.

The discussants' responses, as recorded, differed from this result. Discussants 1, 6, and 11 agreed with a statement of significant difference, reasoning that students who believe they can improve are more willing to participate, more open to challenges, and more confident. Discussant 8, who has a very high learning mindset, reported that her self-efficacy is not yet very high, showing that motivation and persistence do not automatically produce confidence in handling challenges independently. The statistical result is consistent with Kim (2024), who found that the interaction between learning mindsets and self-efficacy is complex and not

always directly proportional. It is also consistent with Prihandoko et al. (2024) and Zhao et al. (2024), who found that mindset effects are often mediated by variables such as motivation, grit, metacognition, and self-efficacy. Zhang et al. (2024), Madulid et al. (2025), and Wang et al. (2024) emphasized teacher support, learning environment, and social support and teacher-student relationships as key determinants of self-efficacy, which suggests that students in similar social and academic environments may not differ in self-efficacy across mindset levels. The result is challenged by Wang and Zhang (2024), who linked self-efficacy to learning engagement shaped by beliefs and attitudes, and by Liu et al. (2023), who showed that psychological and social experiences affect self-efficacy. The null hypothesis of no significant difference in self-efficacy among the levels of learning mindset is therefore accepted.

Difference in self-efficacy among the levels of technology utilization practices

A One-Way ANOVA at the 0.05 level also showed no significant difference in self-efficacy among the levels of technology utilization practices, $F(1,388) = 3.746$, $p = 0.054$, $p > .05$. The between-groups sum of squares was 0.364 (df = 1, MS = 0.364), the within-groups sum of squares was 37.675 (df = 388, MS = 0.097), and the total was 38.038 (df = 389). Students who use technology more frequently or effectively do not necessarily have higher self-efficacy than those who use it less, so simply increasing access to or use of technology may not directly enhance confidence in learning. The way technology is used, whether meaningful, guided, and purposeful, may matter more than how often it is used.

The discussants' recorded views again differed from the statistical result. Discussants 2, 6, 7, and 12 agreed with a statement of significant difference, reasoning that comfort and skill with simulations, online platforms, and digital tools bring confidence and efficiency. Discussant 8, who uses technology actively and responsibly, noted that her self-efficacy is lower because confidence in making decisions comes from within and not only from using tools. The statistical result is consistent with Zhang et al. (2023), who found that the effect of internet use on self-efficacy is mediated by experience and competence, and with Refugio and Bastida (2024), who found that self-efficacy functions as a mediator between technology use and digital literacy. Xu et al. (2024) showed that perceived trust, support, and security influence ICT use, Getenet et al. (2024) found that the relationship is mediated by perceptions and competencies, and Caeli et al. (2025) found that ICT use and self-efficacy do not always vary consistently across student groups. The null hypothesis of no significant difference in self-efficacy among the levels of technology utilization practices is therefore accepted.

Relationships among learning mindset, technology utilization practices, and self-efficacy

Pearson's r at the 0.05 level showed no significant relationship between learning mindset and technology utilization practices, $r = 0.040$, $p = 0.430$, $p > 0.05$. Significant relationships existed between learning mindset and self-efficacy, $r = 0.163$, $p = 0.001$, $p < 0.05$, and between technology utilization practices and self-efficacy, $r = 0.128$, $p = 0.011$, $p < 0.05$. The absence of a relationship between mindset and technology use implies that students' mindset does not influence how they use technology, and vice versa. This may be due to widespread access that makes technology use common regardless of mindset, and to the different nature of the variables, since learning mindset is an internal psychological factor while technology utilization is an external behavioral practice. The significant relationship between learning mindset and self-efficacy implies that self-efficacy tends to increase as learning mindset increases, but the relationship is weak, so learning mindset contributes only to a small

extent and other variables play a larger role. Improving self-efficacy therefore requires attention to teaching quality, feedback, and learning experiences as well as a positive mindset. The minimal but statistically significant relationship between technology use and self-efficacy implies that greater use is associated with slightly higher self-efficacy. Its weakness indicates that increasing the amount or frequency of use does not automatically boost belief in one's capabilities, and that technology serves more as a mediator or basic condition than as a direct driver of self-efficacy.

The FGD discussants, however, generally described a relationship among the variables. Discussants 1, 2, 5, 7, and 8 agreed that a positive learning mindset makes students more willing to explore technology, that comfort with technology builds confidence, and, in Discussant 5's words, that learning mindset serves as the "engine" and technology utilization as the "output." Discussant 7 added that high self-efficacy encourages mindful technology practices. These qualitative views describe a stronger association than the weak coefficients indicate. The finding of no relationship between mindset and technology use supports Mulero-Henríquez et al. (2024), who attributed ICT and social network use mainly to accessibility, social trends, and digital habits. It also supports Pérez Echeverría et al. (2025), who noted that widespread classroom ICT use since the COVID-19 pandemic requires students to use technology regardless of mindset, Xu et al. (2024) on technological self-efficacy, institutional support, and access, Zhang et al. (2023) on experience and exposure, and Prihandoko et al. (2024) on mindset operating through mediators such as metacognition and self-efficacy. The null hypothesis of no significant relationship between learning mindset and technology utilization practices is therefore accepted, while the null hypotheses of no significant relationship between learning mindset and self-efficacy, and between technology utilization practices and self-efficacy, are rejected.

Synthesis

Taken together, the data from 390 learners show very high levels of learning mindset ($M = 4.51$, $SD = 0.21$), technology utilization practices ($M = 4.39$, $SD = 0.17$), and self-efficacy ($M = 4.38$, $SD = 0.31$), with consistent responses across the sample. Self-efficacy did not differ significantly across the levels of learning mindset ($F(1,388) = 1.012$, $p = 0.315$) or technology utilization practices ($F(1,388) = 3.746$, $p = 0.054$). It was weakly but significantly related to learning mindset ($r = 0.163$, $p = 0.001$) and to technology utilization practices ($r = 0.128$, $p = 0.011$), while learning mindset and technology utilization practices were not significantly related ($r = 0.040$, $p = 0.430$). These results meet the study's objectives by showing that students' strengths are high and uniform but only weakly connected to one another and to self-efficacy. This contributes to the field by supporting the view that self-efficacy is shaped largely by mediating and contextual factors, such as teacher support, learning environment, and the quality of technology use, rather than by mindset or technology use alone. The weak links among the three variables, together with the FGD perspectives, point to the need for deliberate and integrated interventions, which the proposed learning empowerment program, Project LEARN+, addresses in the section that follows.

CONCLUSION

The findings of this study show that high school students in the province of Capiz, for the school year 2025-2026, demonstrate a very high level of learning mindset, a very high level of technology utilization practices, and a very high level of self-efficacy. Taken together, these results indicate that the students are highly receptive to learning, open to challenges, and inclined to persist in the face of academic difficulties. Such a very high level of learning

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mindset reflects that students are not only motivated to learn but also value the learning process itself. They tend to view mistakes as opportunities for improvement and are more likely to engage in reflective and self-directed learning practices. This mindset supports the development of higher-order thinking skills, resilience, and adaptability, which are qualities essential for academic success and lifelong learning.

In a similar vein, the students are highly familiar with and adept at using various forms of technology, such as smartphones, computers, and online resources, to support their educational tasks. The very high level of technology utilization reflects that students are not only frequent users of technology but are also capable of leveraging it for information access, communication, collaboration, and the completion of academic requirements. Technology has become a fundamental component of their learning environment, enabling more flexible, interactive, and self-directed learning experiences. Likewise, the very high level of self-efficacy shows that the students are motivated, resilient, and willing to take initiative in their academic work. They are more likely to set goals, exert effort, and remain committed to completing tasks even when faced with obstacles. This confidence also supports active participation in classroom activities and promotes independent and self-regulated learning behaviors. Furthermore, the students are psychologically prepared to engage in more complex and challenging academic tasks, as they possess the belief that they can succeed.

Beyond these descriptive levels, the inferential analyses revealed that there is no significant difference in self-efficacy among the levels of learning mindset of high school students. This indicates that students' confidence in their ability to perform academic tasks remains relatively consistent regardless of variations in their learning mindset. While learning mindset reflects students' beliefs about learning and improvement, it does not necessarily translate into differing levels of self-efficacy, since students who exhibit higher or lower levels of learning mindset tend to maintain similar levels of confidence in their academic capabilities. It is therefore plausible that self-efficacy is influenced more by other factors, such as prior experiences, teacher support, the learning environment, and access to resources, than by learning mindset alone. The result also suggests that self-efficacy appears to be a relatively stable construct among students within the same educational context, and that shared classroom experiences, instructional practices, and support systems may contribute to this uniformity, thereby minimizing differences in self-efficacy across varying levels of learning mindset.

Similarly, there is no significant difference in self-efficacy among the levels of technology utilization practices of high school students. This implies that students' confidence in their academic abilities remains relatively similar regardless of how frequently or extensively they use technology in learning. Although students may differ in their level of technology utilization, such differences do not necessarily result in variations in their self-efficacy, and students who frequently use technology and those who use it less often may still possess comparable levels of confidence in accomplishing academic tasks.

The correlational analyses further clarified how the variables relate to one another. There is no significant relationship between learning mindset and technology utilization practices, which indicates that students' beliefs about learning and their use of technology operate as relatively independent constructs. Having a positive or high level of learning mindset does not necessarily correspond to higher or more frequent use of technology in learning. Students may utilize technology extensively regardless of whether they possess strong beliefs about their ability to learn and improve, and, likewise, students with a high learning mindset may not always rely heavily on technology, as their learning approaches may be shaped by other preferences or strategies.

In contrast, a significant relationship exists between learning mindset and self-efficacy, which shows that students' beliefs about learning are closely associated with their confidence in performing academic tasks. Students who possess a more positive and growth-oriented learning mindset are more likely to exhibit higher levels of self-efficacy. When students believe that their abilities can be developed through effort and perseverance, they tend to feel more capable of overcoming challenges, completing tasks, and achieving academic goals. In this way, learning mindset serves as an important foundation for building students' confidence in their own abilities. The result also indicates that fostering a positive learning mindset can contribute to the enhancement of self-efficacy, because as students develop constructive beliefs about learning, they become more motivated, resilient, and willing to engage in difficult tasks, which in turn strengthens their sense of competence. This highlights the interconnected nature of cognitive beliefs and motivational factors in shaping students' academic behaviors.

A significant relationship was likewise found between technology utilization practices and self-efficacy, which indicates that students' use of technology is meaningfully associated with their confidence in performing academic tasks. Students who actively and effectively utilize technology in their learning tend to develop higher levels of self-efficacy. Frequent engagement with digital tools may enhance students' ability to access information, complete tasks independently, and solve problems, thereby strengthening their belief in their own capabilities. As students become more competent in using technology, they gain a sense of control and mastery over their learning processes, which contributes to increased confidence. The result also indicates that technology utilization can serve as a supportive mechanism for building self-efficacy, since exposure to interactive platforms, immediate feedback, and diverse learning resources provides students with opportunities to succeed in various academic tasks, reinforcing their sense of achievement and competence.

In light of these conclusions, several recommendations are advanced for the various stakeholders. Since the levels of learning mindset, technology utilization, and self-efficacy are all very high, DepEd officials may design and strengthen policies and programs that sustain and deepen these strengths. This may include integrating mindset-supportive approaches into the curriculum, such as inquiry-based learning, problem-solving tasks, and reflective activities, and providing continuous professional development for teachers so that instructional practices promote resilience, critical thinking, and lifelong learning. Investments in learning resources and student-centered initiatives should also be prioritized to maintain students' engagement and motivation. With respect to technology, officials may continue to invest in infrastructure and digital learning resources while ensuring equitable access across all schools, emphasize the integration of technology into pedagogy not merely as a tool but as a medium for interactive, collaborative, and critical learning, and develop programs that train teachers and students in the safe, responsible, and effective use of technology, including digital literacy, cybersecurity, and online research skills. In support of self-efficacy, they may also promote teacher professional development, inclusive and engaging learning practices, curricula that offer challenging yet achievable tasks, and mentorship programs, peer coaching, and experiential learning that sustain students' confidence in real-world contexts.

School administrators, for their part, may create a supportive and growth-oriented school culture by encouraging innovative teaching practices, recognizing student effort, progress, and achievement, and providing opportunities for academic enrichment such as competitions, research activities, leadership programs, and community initiatives. They may support teachers through mentoring and training programs, ensure functional devices, stable internet access, and educational software, and implement monitoring systems and guidelines for the responsible use of technology while encouraging technology-rich activities that foster creativity, problem-solving, and collaboration. Because no significant difference in self-efficacy was found across levels of learning mindset, administrators may also cultivate a school

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culture that reinforces self-efficacy for all students regardless of their individual mindset levels, by offering varied academic and co-curricular experiences of success, encouraging collaboration and peer support, recognizing both effort and achievement, and equipping teachers with techniques that strengthen student confidence and resilience.

Teachers, who play a critical role in sustaining these outcomes, may continue to implement student-centered and engaging strategies such as collaborative learning, differentiated instruction, formative assessment, collaborative projects, problem-solving tasks, and hands-on activities that foster mastery experiences. Providing constructive and specific feedback, encouraging reflection, emphasizing effort over innate ability, setting achievable challenges, and guiding students to set and track personal learning goals can further strengthen students' mindset and confidence. Teachers may also maximize the pedagogical potential of technology by designing lessons that leverage students' strong technology skills for collaborative projects, research, simulations, and multimedia presentations, while guiding students to evaluate online information critically, use digital tools ethically, and apply technology to enhance higher-order thinking rather than merely to complete tasks.

Students themselves may maintain and further develop their positive learning mindset and high self-efficacy by setting personal academic goals, embracing challenges, engaging in self-reflection, practicing perseverance, seeking feedback, taking responsibility for their own learning, and viewing setbacks as opportunities for growth. They may participate in extracurricular and enrichment activities that broaden their skills and experiences, and continue to use technology responsibly and purposefully by improving digital literacy, avoiding distractions, deepening understanding, conducting research, collaborating with peers, and balancing screen time with offline learning and critical reflection. Because no significant difference in self-efficacy was found across levels of technology utilization, students should recognize that frequent technology use does not automatically increase self-efficacy and that combining effort, practice, reflection, goal-setting, and self-monitoring with the constructive application of digital tools will better strengthen their belief in their own abilities.

Parents may likewise support their children by fostering a positive and encouraging home learning environment that recognizes effort, promotes discipline, and encourages curiosity, independent learning, persistence, and self-reflection. They may collaborate with teachers and schools to monitor students' progress, provide emotional support, offer guidance in problem-solving, and create opportunities for students to apply their skills in meaningful tasks such as enrichment activities and real-life problem-solving, emphasizing effort, progress, and achievement rather than results alone. Parents may also guide the safe and productive use of technology at home by encouraging educational use of digital tools, monitoring online activities, and fostering discussions about responsible use of social media and online resources, so that technology use contributes positively to learning and confidence rather than being merely recreational or superficial.

Finally, given the significant relationships of learning mindset and technology utilization practices with self-efficacy, DepEd officials may promote initiatives that connect technology use to meaningful learning outcomes rather than assuming that technology use alone will enhance mindset or confidence. Schools may support the development of self-efficacy by recognizing effort, progress, and achievements, reinforcing the value of persistence and resilience, and ensuring that technology integration is aligned with pedagogical goals that actively build students' confidence and competence. Parents may collaborate with teachers and schools to ensure that students' technology use and learning mindset are aligned with meaningful academic outcomes. Future researchers are also encouraged to conduct similar studies in order to verify or disprove some of the findings of this study.

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