LEVEL OF 21ST CENTURY TEACHING SKILLS OF PRIVATE JUNIOR HIGH SCHOOL TEACHERS IN BAYAMBANG, PANGASINAN

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Abstract

This study sought to determine the level of 21st century teaching skills of the private junior high school teachers in Bayambang, Pangasinan during the School Year 2026-2027 through a quantitative-descriptive-correlational research design. The data used in this study came from the 30 private junior high school teachers and three school heads which were subjected to frequency count, percentage, weighted mean, the chi-square test of independence, and the t-test. Results showed that: majority of the private junior high school teachers have no post graduate degrees, have been teaching one to ten years, and have not attended any training related with 21st century teaching skills; in general, the private junior high school teachers perceived that the level of their 21st century teaching skills is proficient as evidenced by the computed overall weighted mean of 3.98 while the school heads perceived that the level of 21st century teaching skills of the private junior high school teachers is only moderately proficient as evidenced by the computed overall weighted mean of 3.00; there is a significant relationship between the highest educational attainment, the length of teaching experience, and the number of relevant trainings attended of the private junior high school teachers and the level of their 21st century teaching skills; and, there is a significant difference between the perceptions of the private junior high school teachers and their schools on the level of 21st century teaching skills of the private junior high school teachers. Based from the findings, the following conclusions were drawn: a typical private junior high school teacher in Bayambang, Pangasinan has no post-graduate degree, has been teaching for one to ten years, and has not attended any training related with 21st century teaching skills for the past five years; the level of 21st century teaching skills of the private junior high school teachers may still be enhanced; the level of 21st century teaching skills of the private junior high school teachers is influenced by their educational attainment, length of teaching experience, and the number of relevant trainings attended; and, the perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers are significantly different from each other.

Keywords: *Professional Development Program, school heads, junior high school teachers, teaching skills*

Introduction

The stability of the global economy and the prospects for future growth depend largely on the capacity of education systems to equip learners with the competencies needed for employment and to help them attain greater success. Education serves as a vital instrument for promoting

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sustainable development by enabling individuals to work toward societal goals. This perspective supports the promotion of education for sustainability, which focuses on cultivating skills necessary for building sustainable communities at both local and global levels. It also advocates for equitable access to quality education and encourages the adoption of values, behaviors, and lifestyles that foster social advancement and a sustainable future (UNESCO, 2016).

In the Philippines, advancements in literacy and the improvement of quality education for sustainable development are influenced by several interconnected factors. These include efforts to alleviate poverty, promote peace and development, preserve past accomplishments founded on respect and shared values, recognize and value cultural diversity, ensure access to sufficient food for healthy and productive lives, safeguard and restore the health of the planet, and strive for a safer, fairer, and more equitable society that encourages active participation in local, national, and global communities. Despite these efforts, the country continues to encounter substantial challenges in implementing lifelong learning initiatives that align with the demands of 21st-century education, as evidenced by existing programs, future directions, and persistent limitations (Jiao, 2024).

Meanwhile, the increasing complexity of modern society and the rapid growth of a technology-driven economy have introduced new and substantial challenges for schools and communities alike. Consequently, educational systems across the globe are being encouraged to develop frameworks that prioritize the cultivation of the knowledge, skills, and dispositions necessary for success in the 21st century. Employers and policymakers worldwide have raised concerns that many schools are not sufficiently preparing graduates to compete and prosper in an increasingly interconnected and complex global environment beyond the classroom (Martinez, 2022).

To address these educational challenges, the Philippine government enacted Republic Act No. 10533, or the Enhanced Basic Education Act of 2013. Under Section 2 of the Act, the state is mandated to develop, sustain, and enhance an integrated and responsive education system capable of meeting the needs of learners, the country, and society as a whole. The legislation seeks to establish a functional basic education program that nurtures productive and accountable citizens equipped with the competencies, values, and skills required for lifelong learning and professional growth. In pursuing these goals, the government aims to provide all learners with access to quality education supported by a curriculum that adheres to sound pedagogical principles and international

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standards. Furthermore, the Act expands the scope of secondary education to prepare students for college, technical and vocational pathways, entrepreneurship, sports, and the arts, reflecting the realities of a rapidly changing global environment. It likewise promotes learner-centered education that adapts to the diverse needs, capacities, cultural backgrounds, and contexts of learners and communities, while utilizing suitable languages of instruction, including the mother tongue, to enhance learning outcomes (Tan, 2022).

Notwithstanding these initiatives, enhancing student achievement and responding effectively to the challenges of the global economy necessitate strengthening the teaching workforce through the provision of educators who demonstrate both extensive content knowledge and sound instructional practices that relate classroom learning to real-life contexts. According to Darling-Hammond and Oakes (2019), education systems that aim to foster deep and relevant learning geared toward the requirements of 21st-century work, citizenship, and everyday life depend heavily on the development of strong human capital. In this regard, students must be equipped with 21st-century skills, and schools play a central role in ensuring their acquisition. The Partnership for 21st Century Skills (2017) identified these competencies as vital for achieving economic advancement in an increasingly dynamic economy. Similarly, Martinez (2022) maintained that 21st-century skills are essential for learners to succeed in the future, underscoring the importance of integrating these competencies into educational practice. Rogayan et al. (2021) added that the contemporary global environment increasingly values conceptual thinking, creativity, and innovation as key determinants of success. Furthermore, higher levels of educational attainment are progressively becoming a crucial means of achieving security and resilience in this rapidly changing world.

In addition, the advancement of 21st-century skills has prompted educational systems to embed technology more extensively within teaching and learning processes. According to Chen (2021), the use of technology in education contributes to improved academic performance, supports the development of competencies required in the 21st century, and equips educators with valuable tools to facilitate and reinforce these skills. It also expands learners' capacities for exploration, analytical thinking, and self-expression.

Furthermore, while efforts to build 21st-century capacities continue to be accompanied by uncertainties and unresolved questions concerning the impact of technology on sectors such as healthcare and finance, the importance of critical thinking remains undeniable. Therefore, students

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should be equipped with the ability to think critically by developing mental processes and dispositions that enable them to use evidence in planning, organizing, and achieving goals; search for meaning and explanations; reflect on their own thought processes; and apply logical reasoning to question assumptions and make well-informed decisions (Pa-alisbo, 2017).

Based on the preceding discussion, it can be inferred that schools have the responsibility not only to prepare students to adapt to future challenges but also to empower them to shape the future proactively. As institutions that contribute significantly to the development of society's workforce, schools must uphold both educational excellence and sustainable practices. Consequently, they should equip learners with the competencies necessary to utilize digital technologies effectively while fostering critical thinking, problem-solving abilities, and other essential 21st-century skills.

Because the work of schools is carried out through teachers, the responsibility of fulfilling these educational goals ultimately rests with educators. Therefore, teachers are challenged to identify and employ appropriate technological tools that facilitate the integration of 21st-century skills into classroom instruction. Educators in the 21st century must adopt a forward-looking perspective by remaining informed about emerging technological developments and understanding their implications for education. They should also stay aware of evolving career opportunities available to learners and continuously advocate for innovative practices that promote inclusive education. Ultimately, teachers must implement instructional approaches that prepare students to thrive in the future environments they are likely to encounter (Tan, 2022).

Based on the foregoing discussion, this study sought to determine the level of 21st-century teaching skills of private junior high school teachers in Bayambang, Pangasinan.

Theoretical and Conceptual Framework

This study was guided by the network learning theory, the constructivist theory, problem-based learning theory, the social learning theory, and the cognitive flexibility theory. The network learning theory maintains that learning takes place through developing and maintaining connections with people, information, and resources, and communicating in such a way so as to support one another's learning. (Ryberg, Dohn, & De Laat, 2025). The constructivist theory asserts that learners actively construct knowledge through their experiences and interactions with their environment. Within this perspective, education should emphasize critical thinking and problem-

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solving by encouraging students to relate new information to their existing knowledge and experiences (McLeod, 2025). The problem-based learning (PBL) theory shares several underlying principles with constructivism; however, it places stronger emphasis on learners' active engagement with specific and complex problems or real-world challenges. In contrast to broader constructivist approaches, this theory requires students to investigate and resolve clearly defined, multifaceted issues through a structured process of inquiry. This instructional approach highlights the importance of deliberate planning and continuous assessment over an extended period to facilitate the development of authentic, high-quality products and presentations (Yew & Goh, 2016). Meanwhile, the social learning theory posits that learning occurs through observation, imitation, and modeling. According to this perspective, individuals acquire knowledge and behaviors by watching others, identifying both effective and ineffective actions, and adopting those that result in favorable outcomes. The learning process is influenced by the dynamic interaction among cognitive processes, environmental factors, and the behaviors observed in others (Cherry, 2025). Lastly, cognitive flexibility theory highlights the significance of learning within complex domains by promoting adaptive thinking and the capacity to apply knowledge and skills across diverse situations. The theory advocates for the use of varied instructional methods to represent information from multiple perspectives, thereby enabling learners to actively construct meaning and develop their own understanding (Cheng & Koszalka, 2020). All these theories foster effective learning by providing students with multiple opportunities for interaction and engagement. Effective learning occurs when learners understand and derive meaning from their experiences while recognizing the purpose of goals, practices, explanations, interpretations, and feedback that contribute to the learning process.

Related literature further enriches this framework. 21st-century skills, said Kelley et al. (2019) are collections of essential competencies that individuals need to develop in order to adapt successfully to the rapidly changing demands of the contemporary world. Likewise, Studycorgi.com (2023) characterized these skills as an extensive set of knowledge, habits, and personal attributes that educators, employers, and other stakeholders regard as critical for achieving success in modern society. Similarly, Buckle (2024) described 21st-century skills as an integration of knowledge, life skills, dispositions, and character traits that support students' successful transition to higher education, employment, and adulthood. Meanwhile, the Partnership for 21st Century Skills (2017) opined that 21st-century skills comprise a broad range of competencies essential for success in

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contemporary society. These include accountability and adaptability, effective communication, creativity and intellectual curiosity, critical and systems thinking, information and media literacy, problem identification and resolution, self-direction, and social responsibility. To provide a clearer framework, the Partnership for 21st Century Skills (2017) organized these competencies into three major categories: learning skills, life skills, and literacy skills. Learning skills include critical thinking, which focuses on analyzing situations and solving problems; communication, or the ability to convey ideas clearly and effectively; collaboration, which involves working constructively with others; and creativity, defined as the capacity to generate innovative ideas and approaches. Life skills encompass flexibility, or the ability to adapt to changing circumstances; initiative, which refers to taking independent action and pursuing goals proactively; social skills, involving the development of productive relationships and networks; productivity, or the ability to remain efficient and focused despite challenges and distractions; and leadership, which entails inspiring and guiding others toward the achievement of common objectives. Meanwhile, literacy skills consist of information literacy, or the ability to understand and evaluate facts, statistics, and data; media literacy, which involves recognizing how information is created, interpreted, and distributed; and technology literacy, referring to an understanding of the tools and systems that characterize the digital age.

This study was anchored in the positivist paradigm, which holds that reality exists as an objective and consistent entity that can be understood through systematic observation and measurement. Consequently, the positivist perspective emphasizes objectivity, empirical evidence, and the use of quantitative research methods in the investigation of phenomena (Keong, Husin, & Kamarudin, 2023). Guided by the positivist paradigm, this study looked into the profile of the private junior high school teachers in Bayambang, Pangasinan, the level of their 21st century teaching skills as perceived by themselves and the school heads, if there is a significant relationship between the profile variables of the private junior high school teachers and the level of their 21st century teaching skills, and if there is a significant difference between the perceptions or assessments of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers. The data gathered were analyzed, examined and interpreted. Thereafter, a school-based professional development program was crafted to enhance the level of 21st century teaching skills of the private junior high school teachers in Bayambang, Pangasinan.

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Statement of the Problem

This study aimed to propose a school-based professional development program to enhance the 21st century teaching skills of the private junior high school teachers in Bayambang, Pangasinan. Specifically, it found answers to the following problems:

1. What is the profile of the private junior high school teachers in terms of (a) highest educational attainment, (b) length of teaching experience, and (c) number of trainings attended related with 21st century teaching skills for the past 5 years?

2. What is the level of the 21st century teaching skills of the private junior high school teacher as perceived by themselves and the school heads?

3. Is there a significant relationship between the profile variables of the private junior high school teachers and the level of their 21st century teaching skills?

4. Is there a significant difference between the perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers?

5. Based on the findings, what school-based professional development program may be proposed to enhance the 21st century teaching skills of the private junior high school teachers in Bayambang, Pangasinan?

Correspondingly, the study tested the following hypotheses at the .05 level of significance: (1) there is a significant relationship between the profile variables of the private junior high school teachers and the level of their 21st century teaching skills; and (2) there is a significant difference between the perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers.

Methods

Research Design

This study utilized the quantitative-descriptive method of research to describe the private junior high school teachers in Bayambang, Pangasinan in terms of highest educational attainment, length of teaching experience, and number of relevant seminars/trainings attended as well as will

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determined the level of their 21st century teaching skills as perceived by themselves and the school heads. The study was also correlational for it determined if there is a significant relationship between the profile variables of the private junior high school teachers and the level of their 21st century teaching skills and if there is a significant difference between the perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers. Moreover, the developmental method of research was also employed for the study will come up with a school-based professional development program to enhance the 21st century teaching skills of the private junior high school teachers.

Participants and Sampling

This study was conducted in the different private junior high schools in Bayambang, Pangasinan during the School Year 2026-2027. There were two groups of respondents in this study, namely, the private junior high school teachers and the school heads. All the 30 teachers and three school heads of the private junior high schools in Bayambang, Pangasinan were made as respondents of the study. Hence, there was no sampling done. The private junior high school teachers provided data relative to their highest educational attainment, length of teaching experience, number of relevant trainings attended, and the level of their 21st century teaching skills. Table 1 presents the distribution of the teachers per the different private junior high schools.

Table 1
Distribution of the Teachers per Private Junior High School

Private Junior High Schools	Total Number of Teachers	Percentage (%)
St. Vincent's Catholic School of Bayambang, Inc.	15	30
St. Alexander M. Sauli Catholic School, Inc.	10	33
Asiana Learning Institute	5	17
Total	30	**100**

Meanwhile, the school heads provided data relative to the level of 21st century teaching skills of the private junior high school teachers.

Instrumentation and Data Collection

Data were gathered using two researcher-administered survey questionnaires — one for the teachers and one for the school heads. The teachers' questionnaire had two parts: profile (highest educational attainment, length of teaching experience, and number of relevant seminars/trainings

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attended) and the level of their 21st century teaching skills. The school heads' questionnaire focused solely on their assessment of the teachers' level of 21st century teaching skills. The items here were the same with the second part of the survey-questionnaire for the private junior high school teachers. The items in the first part of the survey-questionnaire which is about the profile of the private junior high school teachers is common in researches. Hence, no validation is required. In relation to the second part of the survey-questionnaire which is about the level of 21st century teaching skills of the private junior high school teachers, the items were based on the survey-questionnaire of Jiao (2024) in his study entitled "Assessment of the 21st Century Teaching Skills of the Intermediate Teachers of Public Elementary Schools in Calasiao I District." The survey-questionnaire was validated by the researcher. Accordingly, the survey-questionnaire is considered valid and reliable.

The researcher personally administered the questionnaires to the teachers and school heads, allowing three weeks for completion before retrieval. Permission to conduct the study was first secured from the school heads of the different private junior high schools in Bayambang, Pangasinan. Thereafter, informed consent was taken from the private junior high school teachers and the school heads. Data were treated with utmost confidentiality and used solely to answer the research questions, in accordance with the Data Privacy Act of the Philippines. All authors of works used in the study were cited, properly acknowledged and documented.

Data Analysis

Frequency count and percentage were used to describe the profile of the teachers. The weighted mean was used to determine the level of their 21st century teaching skills, with the following scales of interpretation — not proficient (1.00–1.49), slightly proficient (1.50–2.49), moderately proficient (2.50–3.49), proficient (3.50–4.49), and highly proficient (4.50–5.00). The chi-square test of independence was used to determine the significance of the relationship between the profile variables of the private junior high school teachers and the level of their 21st century teaching skills, while the t-test was used to determine the significant difference between the perceptions of the private junior high school teachers and the school heads. All tests were computed at the .05 level of significance.

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Results

Profile of the Private Junior High School Teachers

Of the 30 teacher-respondents, twenty (67%) were bachelor's degree holders, seven (23%) had completed academic requirements for the master's degree, three (10%) were master's degree holders, none had completed academic requirements for the doctorate degree, and none were doctorate degree holders — indicating that the majority of the teachers have no post-graduate degree. In terms of teaching experience, 8 (27%) had taught for one to five years, 12 (40%) for six to ten years, 7 (23%) for 11 to 15 years, 3 (10%) for 16 to 20 years, and none for more than 20 years, showing that the majority have been teaching for six to ten years. With respect to trainings/seminars related with 21st century teaching skills, 22 (73%) of the teachers had attended no training at all; 8 (27%) had attended not more than three trainings/seminars related with 21st century teaching skills in the past five years, while none had attended more than three, indicating that most teachers would greatly benefit from further training.

Table 2
Profile of the Teachers (N = 30)

Profile Variable	f	%
Highest Educational Attainment		
Bachelor's degree holder	20	67%
Completed academic requirements, master's degree	7	23%
Master's degree holder	3	10%
Completed academic requirements, doctorate degree	0	0%
Doctorate degree holder	0	0%
Length of Teaching Experience		
1 to 5 years	8	27%
6 to 10 years	12	40%
11 to 15 years	7	23%
16 to 20 years	3	10%
More than 20 years	0	0%
Number of Relevant Trainings Attended (past 5 years)		
None	22	73%
Not more than three trainings	8	27%
More than three trainings	0	0%

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Level of 21st Century Teaching Skills of the Private Junior High School Teachers

The level of the 21st century teaching skills of private junior high school teachers was assessed by the teachers themselves and by their school heads across eight categories: Critical Thinking Skills, Collaboration Skills, Communication Skills, Creativity & Innovation Skills, Self-Direction Skills, Global Connection Skills, Local Connection Skills, and Technology Skills. Table 3 summarizes the results.

Under Critical Thinking Skills, the private junior high school teachers rated themselves highest (WM = 4.09) on their ability to allow pupils to analyze competing arguments, perspectives, or solutions to a problem, as well as on developing their pupils' critical thinking skills. Conversely, they rated themselves lowest (WM = 3.93) on their ability to let pupils compare information from different sources before completing a task or assignment, draw their own conclusions based on the analysis of numbers, facts, or relevant information, summarize or create their own interpretations of what they have read or been taught, and effectively assess pupils' critical thinking skills. Overall, this section yielded an area weighted mean (AWM) of 3.97, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.11, described as moderately proficient. The lowest-rated items among school heads were the teachers' ability to encourage pupils to analyze competing arguments, perspectives, or solutions to a problem, and to effectively assess pupils' critical thinking skills, both receiving a WM of 2.67.

Under Collaboration Skills, the private junior high school teachers rated themselves highest (WM = 4.00) on their ability to allow pupils to present their group work to the class, teacher, or others, encourage pupils to work as a team to incorporate feedback on group tasks or products, develop pupils' collaboration skills, and help most pupils learn collaboration skills while in their class. Conversely, they rated themselves lowest (WM = 3.93) on their ability to encourage pupils to give feedback to peers or assess another pupils' work, as well as to effectively assess pupils' collaboration skills. Overall, this section yielded an area weighted mean (AWM) of 3.97, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 2.96, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' ability to encourage pupils to work in pairs or small groups to complete a task together, let pupils create joint products using contributions from each

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of them, help pupils give feedback to peers or assess another pupils' work, and develop pupils' collaboration skills.

Under Communication Skills, the private junior high school teachers rated themselves highest (WM = 4.00) on their ability to allow pupils to convey their ideas using media other than a written paper (e.g., posters, videos, blogs), require pupils to structure data for use in written products or oral presentations (e.g., creating charts, tables, or graphs), help pupils learn communication skills while in class, and effectively assess pupils' communication skills. Conversely, they rated themselves lowest (WM = 3.93) on their ability to encourage pupils to answer questions in front of an audience. Overall, this section yielded an area weighted mean (AWM) of 3.98, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.04, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to require pupils to structure data for use in written products or oral presentations (e.g., creating charts, tables, or graphs), develop pupils' communication skills, and help pupils learn communication skills while in class.

Under Creativity and Innovation Skills, the private junior high school teachers rated themselves highest (WM = 4.03) on their ability to encourage pupils to use idea creation techniques such as brainstorming or concept mapping, as well as on helping them develop pupils' creativity and innovation skills. Conversely, they rated themselves lowest (WM = 3.93) on their ability to allow pupils to invent a solution to a complex, open-ended question or problem. Overall, this section yielded an area weighted mean (AWM) of 4.00, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.00, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to allow pupils to test out different ideas and work to improve them, guide them to invent a solution to a complex open-ended question or problem, and enable pupils to create an original product or performance to express their ideas.

Under Self-Direction Skills, the private junior high school teachers rated themselves highest (WM = 4.03) on their ability to allow pupils to choose for themselves what examples to study or resources to use, guide them to monitor their own progress toward completing a complex task and modify their work accordingly, develop pupils' self-direction skills, and help most pupils learn self-direction skills while in class. Conversely, they rated themselves lowest (WM = 3.93) on their

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ability to allow pupils to choose their own learning topics or questions to pursue, as well as guide them to plan the steps needed to accomplish a complex task. Overall, this section yielded an area weighted mean (AWM) of 3.99, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.03, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to encourage pupils to take initiative when confronted with a difficult problem or question, allow pupils to choose their own learning topics or questions to pursue, and guide pupils to plan the steps needed to accomplish a complex task.

Under Global Connection Skills, the private junior high school teachers rated themselves highest (WM = 4.03) on their ability to guide pupils to study information about other countries or cultures, develop pupils' skills in making global connections, and help most pupils learn to make global connections while in class. Conversely, they rated themselves lowest (WM = 3.93) on their ability to encourage pupils to discuss issues related to global interdependency (e.g., global environmental trends, global market economy). Overall, this section yielded an area weighted mean (AWM) of 3.99, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.03, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to guide pupils to study information about other countries or cultures, enable pupils to use information or ideas from people in other countries or cultures, encourage pupils to discuss issues related to global interdependency (e.g., global environmental trends, global market economy), and foster pupils' understanding of the life experiences of people from cultures other than their own.

Under Local Connection Skills, the private junior high school teachers rated themselves highest (WM = 4.03) on their ability to guide pupils to respond to a question or task in a way that weighs the concerns of different community members or groups, develop pupils' skills in making local connections, and effectively assess pupils' skills in making local connections. Conversely, they rated themselves lowest (WM = 3.97) on their ability to allow pupils to investigate topics or issues relevant to their family or community, enable pupils to apply what they are learning to local situations, issues, or problems, encourage pupils to talk to one or more members of the community about a class project or activity, and guide pupils to analyze how different stakeholder groups or community members view an issue. Overall, this section yielded an area weighted mean (AWM)

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of 3.99, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.00, yielding an AWM of 2.83, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to allow pupils to investigate topics or issues relevant to their family or community, enable pupils to apply what they are learning to local situations, issues, or problems, encourage pupils to talk to one or more members of the community about a class project or activity, and guide pupils to respond to a question or task in a way that weighs the concerns of different community members or groups.

Under Technology Skills, the private junior high school teachers rated themselves highest (WM = 4.03) on their ability to allow students to use technology or the Internet for self-instruction, guide students to use technology to share information (e.g., multimedia presentations with audio or video, presentation software, blogs, podcasts), enable students to use technology to interact directly with experts or members of local and global communities, and help students use technology to track their work on extended tasks or assignments. Conversely, they rated themselves lowest (WM = 3.93) on their ability to guide students to use technology to analyze information (e.g., databases, spreadsheets, graphics programs) and develop students' skills in using technology as a learning tool. Overall, this section yielded an area weighted mean (AWM) of 3.98, described as proficient. In contrast, the school heads' ratings across the same items ranged from 2.67 to 3.33, yielding an AWM of 3.03, described as moderately proficient. The lowest-rated items (WM = 2.67) among school heads were the teachers' abilities to allow students to use technology or the Internet for self-instruction, guide students to select appropriate technology tools or resources to complete a task, and train students to evaluate the credibility and relevance of online resources.

Table 3
The Level of 21st Century Teaching Skills of the Private Junior High School Teachers

Assessment Areas	Teachers		School Heads	
	AWM	DE	AWM	DE
Critical Thinking Skills	3.97	PR	3.11	MP
Collaboration Skills	3.97	PR	2.96	MP
Communication Skills	3.98	PR	3.04	MP
Creativity and Innovation Skills	4.00	PR	3.00	MP
Self-Direction Skills	3.99	PR	3.03	MP

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Global Connection Skills	3.99	PR	3.03	MP
Local Connection Skills	3.99	PR	2.83	MP
Technology Skills	3.98	PR	3.03	MP
Overall Weighted Mean (OWM)	**3.98**	**PR**	**3.00**	**MP**

Note. PR = proficient (3.50–4.49); MP = moderately proficient (2.50–3.49); AWM = area weighted mean.

As shown in Table 3, the private junior high school teachers perceived their overall level of 21st century teaching skills to be proficient (OWM = 3.98) across all eight categories, while the school heads perceived the teachers' overall level of 21st century teaching skills to be only moderately proficient (OWM = 3.00), with the local connection skills receiving the lowest rating (AWM = 2.83) among them and the critical thinking skills the highest (AWM = 3.11).

Relationship between the Profile Variables of the Private Junior High School Teachers and the Level of Their 21st Century Teaching Skills

The profile variables of the private junior high school teachers were correlated with the level of their 21st century teaching skills using the chi-square test of independence at the 0.05 level of significance. As shown in Table 4, all three profile variables — highest educational attainment ($\chi^2 = 8.44$, $p = 0.00$), length of teaching experience ($\chi^2 = 6.14$, $p = 0.01$), and number of relevant trainings attended ($\chi^2 = 6.14$, $p = 0.01$) — yielded computed chi-square values greater than the critical value of 3.84 and p-values below 0.05. The null hypothesis was therefore rejected for all three variables, indicating that the level of 21st century teaching skills of the private junior high school teachers is significantly influenced by their highest educational attainment, length of teaching experience, and number of relevant trainings attended.

Table 4
Relationship between the Profile Variables of the Private Junior High School Teachers and the Level of Their 21st Century Teaching Skills

Profile Variable	p-value (0.05 LS)	Computed χ^2	Critical χ^2	Remarks
Highest Educational Attainment	0.00	8.44	3.84	Significant
Length of Teaching Experience	0.01	6.14	3.84	Significant
Number of Relevant Trainings Attended	0.01	6.14	3.84	Significant

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Difference between the Perceptions of the Private Junior High School Teachers and the School Heads on the Level of 21st Century Teaching Skills of the Private Junior High School Teachers

The perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers were compared using the t-test at the 0.05 level of significance. As shown in Table 5, the computed p-value of 0.00 is lower than the 0.05 level of significance; hence, the null hypothesis was rejected. There is a significant difference between the perceptions of the private junior high school teachers and the school heads on the level of 21st century teaching skills of the private junior high school teachers, consistent with the pattern observed in Table 3, where teachers consistently rated their own level of 21st century teaching skills considerably higher than their school heads did across all eight categories.

Table 5
Difference between the Perceptions of the Private Junior High School Teachers and the School Heads on the Level of 21st Century Teaching Skills of the Private Junior High School Teachers

Variable	Computed p-value	Level of Significance	Remarks
Level of 21st Century Teaching Skills of the Private Junior High School Teachers	0.00	0.05	Significant

Discussion

The findings that the majority of teachers hold no post-graduate degree, have taught for six to ten years, and have not attended any training related with 21st century teaching skills points to a workforce that, while seasoned, remains under-resourced in technology integration. These results echo Jiao (2024), who noted that despite continuous efforts to promote quality education for sustainable development, there remains an urgent need for enhanced structural support, motivation, and professional opportunities tailored to the educational demands of the society in 21st century.

The consistently higher self-ratings of teachers relative to the ratings given by their school heads across all eight categories of 21st century teaching skills — resulting in an overall proficient self-perception (OWM = 3.98) against a moderately proficient external perception (OWM = 3.00) — corroborates established literature regarding self-observer rating discrepancies. This variance can be attributed to distinct observational lenses: self-ratings measure perceived familiarity and intent, whereas administrator ratings assess tangible classroom execution. This pattern aligns with the findings of Martinez (2022), who reported that while beginning teachers display basic

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technological fluency, their skills often fall short of advanced pedagogical integration. External evaluators are positioned to identify these nuances, reinforcing the critical imperative for educational systems to build robust frameworks that systematically cultivate 21st century competencies in response to modern economic and technological demands.

The significant relationships found between the private junior high school teachers' profile variables — highest educational attainment, length of teaching experience, and number of relevant trainings attended — and the level of their 21st century teaching skills reinforce the idea that teaching competency is dynamic and continually shaped by ongoing education and targeted professional growth. These results align with Martinez (2022), who observed that advanced educational qualifications significantly impact teachers' 21st-century teaching skills, as well as Tilbury (2016), who identified specialized seminars and training as key drivers of teacher competence, despite demographic factors like age, gender, and job position showing no effect. Considering that 73% of teacher-respondents had not attended a single training or seminar related with 21st-century teaching skills in five years, the strong link between professional development and skill mastery highlights training programs as one of the most practical and high-impact interventions school leaders can leverage to enhance teacher performance.

The significant difference between private junior high school teachers' and school heads' perceptions demonstrates a clear gap in perception. While private junior high school teachers rated their overall 21st century teaching skills as proficient (OWM = 3.98), their school heads evaluated them as only moderately proficient (OWM = 3.00), further highlighting the underlying deficiencies in actual classroom execution or skill application.

Taken together, these findings point to the value of a structured, school-based professional development program. Anchored on the eight categories of 21st century teaching skills — Critical Thinking Skills, Collaboration Skills, Communication Skills, Creativity & Innovation Skills, Self-Direction Skills, Global Connection Skills, Local Connection Skills, and Technology Skills — such a program, delivered through an interactive and participative eight-session, district-based approach, would directly address the training gap identified in the teachers' profile while reinforcing the specific competency areas rated lowest by school heads, particularly within the Local Connection Skills and Collaboration Skills.

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Conclusion and Recommendations

Conclusion

Based on the findings, it is concluded that a typical teacher of a private junior high school in the Municipality of Bayambang, Pangasinan is a bachelor's degree holder who has been teaching for six to ten years and has not attended any trainings/seminars related with 21st century teaching skills in the past five years. The teachers perceive their level of 21st century teaching skills to be proficient, while their school heads perceive it to be only at moderately proficient — a statistically significant difference. The level of 21st century teaching skills is significantly influenced by their highest educational attainment, length of teaching experience, and number of relevant trainings attended. A school-based professional development program, anchored on the eight categories of 21st century education, is likely to improve the level of 21st century teaching skills teachers of private junior high schools in the Municipality of Bayambang, Pangasinan.

Recommendations

1. The proposed school-based professional development program be approved for implementation in the private junior high schools in Bayambang, Pangasinan to enhance the level of 21st century teaching skills of teachers.

2. The implementation of the proposed school-based professional development program in the private junior high schools in Bayambang, Pangasinan to enhance the level of 21st century teaching skills of teachers should be monitored and evaluated.

3. Similar study may be conducted by other researchers to validate the findings of the study.

References

Buckle, Jenna. (2026). A comprehensive guide to 21st century skills. Retrieved on July 10, 2026 at https://www.panoramaed.com/blog/comprehensive-guide-21st-century-skills

Chen, Dandan. (2021). Towards an understanding of 21st-century skills: From a systematic review. International Journal for Educational and Vocational Guidance.

Cheng, J., & Koszalka, T. (2020). Cognitive flexibility theory and its application to learning resources. Posted on November 2020 and accessed on July 10, 2026 at https://ridlr.syr.edu/wp-content/uploads/2020/11/ConceptPaper2016-CFT.pdf

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Cherry, Kendra. (2025). How social learning theory works. Posted on December 21, 2025 and accessed on July 10, 2026 at https://www.verywellmind.com/social-learning-theory-2795074

Darling-Hammond, L., & Oakes, M.W. (2019). Policies that support professional development in an era of reform. Phi Delta Kappan, 92(6)

Jiao, Luisito. (2024). Assessment of the 21st century teaching skills of the intermediate teachers of public elementary schools in Calasiao I District. Thesis (Master of Arts in Education): Lyceum Northwestern University.

Kelley T.R. et al. (2019). Creating a 21st century skills survey instrument for high school students. American Journal of Educational Research, 7(8).

Keong, Y.W., Husin, M.M., & Kamarudin, S. (2023). Understanding research paradigms: A scientific guide. Journal of Contemporary Issues in Business and Government, 27(2).

Martinez, Corinne. (2022). Developing 21st century teaching skills: A case study of teaching and learning through project-based curriculum. Cogent Education, 9

McLeod, Saul. (2025). Constructivism learning theory and philosophy of education. Posted on March 31, 2025 and retrieved on July 10, 2026 at https://www.simplypsychology.org/constructivism.html

Modi, Priyanka. (2023). The importance of 21st century skills in today's world. Posted on June 12 2023 and accessed on January 5, 2026 at https://www.educationnext.in/posts/the-importance-of-21st-century-skills-in-todays-world

Pa-alisbo, Mark Anthony. (2021). The 21st century skills and job performance of teachers. Journal of Education and Practice, 8(32).

Partnership for 21st Century Skills. (2017). Framework for 21st century learning. Posted on November 10, 2017 and accessed on July 10, 2026 at http://www.21stcenturyskills.org

Peralta, Ma. Ronalyn. (2026). 21ST century teaching skills of public elementary school teachers in Malasiqui I District. Thesis (Master of Arts in Education): Lyceum Northwestern University.

Rogayan, Danilo, Jr. et al. (2021). 21st century skills of social studies students: Basis for a proposed training program. International Journal of Multidisciplinary: Applied Business and Education Research, 2(2).

Ryberg, T., Dohn, N.B., & De Laat, M. (2025). Networked learning. In: Jandrić, P. (eds) Encyclopedia of Post-digital Science and Education. Springer, Cham. Accessed on July 10, 2026 at https://doi.org/10.1007/978-3-031-35469-4_86-1

Studycorgi.com. (2023). 21st century skills that every learner needs. Posted on December 27, 2023 and retrieved on July 10, 2026 at https://studycorgi.com/blog/21st-century-skills-that-every-learner-needs/

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Tilbury, W. (2016). What is education for sustainable development? Posted on October 8, 2016 and accessed on July 10, 2026 at scenariothinking.org/.

Tan, Rochelle. (2022). A proposed training module on 21st century teaching skills for public elementary school intermediate teachers in Dagupan City. Dissertation (Doctor of Education): University of Pangasinan.

UNESCO. (2016). The UN decade of education for sustainable development (DESD). Posted in 2016 and accessed on July 10, 2026 at unesdoc.unesco.org/images/0014/001486/ 148654e.pdf

Vivekanandan, Ramya. (2019). Integrating 21st century skills into education systems: From rhetoric to reality. Posted on February 14, 2019 and accessed on July 10, 2026 at https://www.brookings.edu/articles/integrating-21st-century-skills-into-education-systems-from-rhetoric-to-reality/

Yew, E., & Goh, K. (2016). Problem-based learning: An overview of its process and impact on learning. Health Professions Education, 2(2).Bingimlas, K.A. (2021). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. Eurasia Journal of Mathematics, Science and Technology Education, 5(3).

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com