OPEN ACCESS

Manuscript ID:
EDU-2024-12047970

Volume: 12

Issue: 4

Month: September

Year: 2024

P-ISSN: 2320-2653

E-ISSN: 2582-1334

Received: 26.07.2024

Accepted: 27.08.2024

Published: 01.09.2024

Citation:
Sricharoen, Y., & Adipat, S. (2024). Exploring Perceptions of 21st Century Skills among Thai Grade 9 Students: A Focus on the 4Cs. *Shanlax International Journal of Education, 12*(4), 1-7.

DOI:
https://doi.org/10.34293/education.v12i4.7970

Exploring Perceptions of 21st Century Skills among Thai Grade 9 Students: A Focus on the 4Cs

Yaovaluck Sricharoen
Ramkhamhaeng University, Thailand

Surattana Adipat
Ramkhamhaeng University, Thailand
https://orcid.org/0000-0002-2433-1547

Abstract
This study investigated the perceptions of Thai secondary school students regarding the importance of 21st-century skills, specifically focusing on the 4Cs: creativity, critical thinking, communication, and collaboration. The study employed survey research using a 68-item online questionnaire via Google Form, which was distributed to 146 ninth-grade students at a school in Thailand during the 2024 academic year. Data were analyzed using descriptive statistics, including percentages, means, and standard deviations. The findings reveal a strong positive perception of all four 4Cs skills, with over 72% of students recognizing their importance. Communication skills emerged as particularly significant, receiving the highest agreement rating among the 4Cs (M=3.62). This emphasis on communication suggests a potential focus on these skills within secondary education, highlighting the need for continuous development throughout a student's academic journey. Although creativity and critical thinking also received a mean of 3.61, collaboration skills, while still viewed favorably, had a slightly lower agreement mean (M=3.60). This suggests a potential need for further exploration of collaborative learning environments within the school setting. These insights from the findings can inform targeted improvements in educational practices, particularly by developing curricula directed at promoting communication-focused activities and more effective collaborative strategies, to better prepare students for future academic and professional challenges.
Keywords: 21st century skills, 4Cs (Creativity, Critical thinking, Communication, Collaboration), Student perceptions, Secondary education

Introduction

As suggested by the Office of the Education Council (2017), education in Thailand must be enhanced to equip learners for global economic participation and national development. Emphasizing 21st-century learning skills as a strategic guideline, the focus is on expanding learners' knowledge, skills, expertise, and competencies, all essential for navigating a dynamic world. The 21st century has brought rapid changes impacting every facet of life, demanding new competencies for success. These '21st Century Skills' include Learning and Innovation, Literacy, and Life Skills, essential for navigating today's globalized world (Pacific Policy Research Center, 2010; Pardede, 2020). This research focuses on four crucial Learning and Innovation Skills known as the 4Cs: critical thinking, communication, collaboration, and creativity, which are considered key differentiators for success in the modern workplace.

Lapcharoen's (2021) study examined the perceptions of 21st-century competencies among student teachers at a university in Thailand. A questionnaire was distributed to 250 teacher candidates in 13 different majors. Findings indicated that while these candidates recognized the significant role of 21st-century competencies in various areas such as facilitation learning

management, technology and media literacy, moral and professional ethics, assessment and evaluation, knowledge of social contexts, communication, and research skills, there remains a gap in effectively imparting these skills within the Thai education system. It was found that Thai students achieved basic literacy; however, their higher-order cognitive abilities and independent learning skills failed to meet expectations (Penrattanahiran, 2022). This suggests that there is an urgent need for educators to have a better understanding of 21st-century skills and students' perceptions, as they directly influence the successful integration and development of these skills.

Based on the principles of the P21 Framework for 21st Century Learning, in which 'Learning and Innovation Skills: 4Cs' is one of the key dimensions (Battelle for Kids, 2019), these skills are considered essential and should be prioritized in school curricula and the implementation of pedagogical approaches focused on student-centered learning. This approach emphasizes active knowledge seeking, critical thinking, and problem-solving through experiential learning.

1. Creativity: This encompasses generating original ideas and innovative solutions. Creative thinking is increasingly recognized as a critical proficiency for success, involving a multifaceted process of scrutinizing and refining concepts to foster innovation (National Education Association, 2010). Students are encouraged to think divergently, envision possibilities, evaluate potential outcomes, and generate original solutions.

2. Critical Thinking: Involves objective analysis and evaluation of information for informed decision-making, encompassing cognitive processes such as remembering, understanding, applying, analyzing, evaluating, and creating, as outlined in Bloom's Taxonomy (Sushant University, 2022). Students are encouraged to analyze information objectively, evaluate evidence, and form reasoned judgments.

3. Communication: Focuses on clear and effective information exchange across various platforms. Strong communication skills are essential for negotiation and conflict resolution, promoting individual and societal well-being (Rios et al., 2020). Students are encouraged to convey ideas clearly and effectively through written, oral, and visual mediums.

4. Collaboration: Emphasizes teamwork, trusting relationships, shared responsibility, and the value of diverse perspectives in achieving common goals. In today's interconnected workforce and society, where global literacy, problem-solving, innovation, and creativity are in high demand, collaboration skills are essential for workforce readiness and success (Laal et al., 2012; Sahoo, 2022).

With the efforts Thailand is making to align with the demands of a job market shaped by technological advancements, globalization, and information abundance, it is crucial for its secondary students to be equipped with essential 21st-century skills for their future success. To prepare Thai citizens for the improvement of these skills, starting with students at a critical transitional stage in educational and cognitive development could be a reasonable and effective approach. Early adolescent engagement could enable them to prepare for higher education and professional careers. Therefore, this study aimed to examine the perceptions of 21st-century skills, specifically focusing on the 4Cs: communication, collaboration, critical thinking, and creativity, among ninth-grade students at a school in Thailand.

This study is significant in two aspects. First, educators' understanding of students' perceptions of the 4Cs could help them gain insights into the students' readiness to succeed in a 21st-century environment and identify potential gaps between current perceptions and the skills demanded by universities, workplaces, and a rapidly changing global society. Second, the study could shed light on the development and selection of teaching content and pedagogical approaches based on student perceptions and needs, creating engaging and relevant learning experiences that foster the development of the 4Cs. Additionally, this study could benefit policymakers by enhancing Thailand's education system to better equip students with the competencies necessary to succeed in the 21st century.

Research Question

What are ninth-grade students' perceptions of 21st-century skills (4Cs), including creativity, critical thinking, communication, and collaboration?

Methodology

In this study, survey-based research was employed to examine the perceptions of 21st-century skills, with emphasis on the 4Cs: communication, collaboration, critical thinking, and creativity, among ninth-grade students at a school in Thailand.

Participants

Out of a total population of 433 ninth-grade students at a school in Thailand, the sample consisted of 146 students selected through a simple random sampling technique.

Research Instrument

The research instrument was a 68-item online questionnaire with a five-point Likert scale (strongly agree-5, agree-4, neither agree nor disagree-3, disagree-2, strongly disagree-1), to measure student perceptions. The questionnaire was divided into two parts: the first part gathered personal information (gender, academic year, and number of years studying English), and the second part assessed perceptions of 21st-century skills, with 68 questions across the 4Cs: creativity (15 items), critical thinking (18 items), communication (16 items),and collaboration (19 items). The following intervals were used in the study: strongly disagree (1.00-1.80), disagree (1.81-2.60), neither agree nor disagree (2.61-3.40), agree (3.41-4.20), strongly agree (4.21-5.00) (Kan, 2009).

Prior to implementation, the questionnaire was validated through an IOC review by three experts in the English Language Teaching field, ensuring the relevance and clarity of the items, which achieved a validity result of 1.00. To assess its reliability, a pilot study conducted with 38 students on May 16, 2024, yielded a Cronbach's Alpha coefficient exceeding 0.9, indicating strong internal consistency among the questionnaire items.

Data Collection and Analysis

After obtaining permission from the school director, the researcher sent a QR code of the online questionnaire to teachers, facilitating convenient access for students to participate. Students were informed about anonymity and data confidentiality, ensuring participants' confidence in providing information. The main study commenced shortly after the completion of the pilot study, taking place from May 20 to May 25. All 146 students willingly completed the questionnaire, resulting in a response rate of 100%.

The data collected from the survey were entered and analyzed using SPSS software. Descriptive statistical methods were utilized to offer a comprehensive overview of the dataset. The analysis of categorical variables involved the use of frequencies and percentages, while the distribution of the 4Cs was assessed by means of means and standard deviations.

Results

The results of the study show students' perceptions of 4Cs as illustrated in Figure 1 and Table 1.

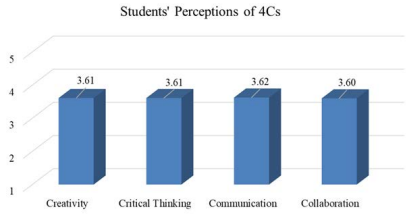

Figure 1 Overall Average of Perception Levels on the Importance of 4Cs

Table 1 Summary of Participants' Perception Level on 4Cs (n=146)

21st-Century Skills (4Cs)	Percentage (%)	Mean Scores (x)	SD	Level of Agreement
Creativity	72.36	3.61	.651	Agree
Critical Thinking	72.39	3.61	.651	Agree
Communication	72.48	3.62	.665	Agree
Collaboration	72.13	3.60	.698	Agree
Total	72.33	3.61	.634	Agree

Data reveal that participants hold a strong positive perception of 21st-century skills, particularly the 4Cs. Over 72% agreed on the importance of creativity, critical thinking, communication, and

collaboration. Communication skills stood out as particularly crucial, with nearly 73% agreeing on their significance. While creativity skills and critical thinking skills were close (72.36 and 72.39 respectively), collaboration skills were also viewed favorably, but with slightly lower scores compared to the other 4Cs.

The following figures 2, 3, 4, and 5 present each 21st-century skill individually, allowing for a more nuanced understanding of student perceptions of creativity, critical thinking, communication, and collaboration, respectively.

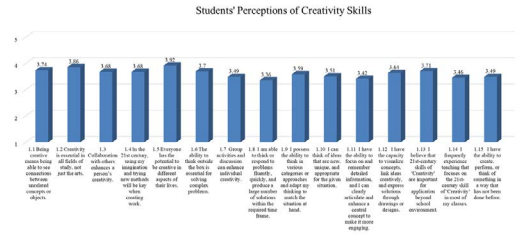

Figure 2 Students' Perceptions of Creativity Skills

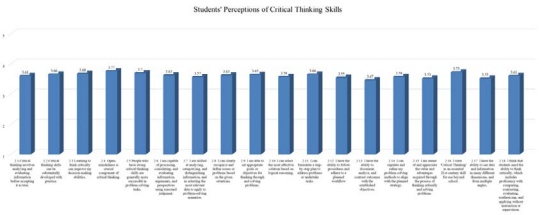

Figure 3 Students' Perceptions of Critical Thinking Skills

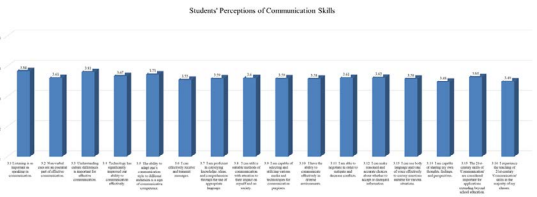

Figure 4 Students' Perceptions of Communication Skills

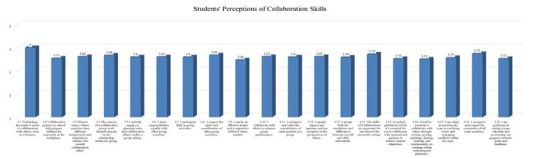

Figure 5 Students' Perceptions of Collaboration Skills

Figure 2 presents high perceptions of creative thinking among students, with a majority expressing its significance. Students perceived that everyone had the potential to be creative in different aspects of their lives, achieving the highest mean of 3.92. This was followed by the perception that creativity is essential across all fields of study, not just the arts (M=3.86). The ability to see connections between unrelated concepts or objects also received a high mean of 3.74, and creativity skills were seen as important for applications beyond the academic setting (M=3.71). Thinking outside the box was regarded as essential for solving complex problems (M=3.7). The use of imagination and collaborative efforts to enhance personal creativity were equally perceived (M=3.68). Visualizing concepts, linking ideas, and expressing solutions creatively were also perceived at a high level (M=3.64). Other creative aspects, such as the ability to think in various categories or approaches and to adapt thinking to the situation at hand, and to think in new, unique, and appropriate ways, received means of 3.59 and 3.51, respectively. The benefits of group activities and discussion, as well as the ability to create or perform something novel, were rated at 3.49. Additionally, students experienced teaching that focuses on 'Creativity' in most classes (M=3.46). They felt somewhat confident in more routinely applicable skills, such as focusing on detailed information to articulate and enhance a central concept to make it more engaging, and responding quickly to problems, with means of 3.42 and 3.36, respectively.

Similarly, students recognized the importance of critical thinking skills as illustrated in Figure 3, particularly valuing open-mindedness (M=3.77). The data in Figure 3 also present the ability to see connections between unrelated concepts or objects (M=3.74), closely followed by perceptions of critical thinking as an essential and valuable skill for life beyond academic settings (M=3.73). Students also highly rated the ability to think in new and unique ways and to evaluate information before accepting it as true (M=3.68). The development of critical thinking skills through practice and their application in analyzing situations for decision-making both received a mean of 3.66. Logical reasoning in problem-solving was also perceived at a high level

(M=3.65), closely followed by the capabilities to process and evaluate information and the skills in analyzing and categorizing information (M=3.63). Lastly, the ability to think critically without supervision, while still rated positively, received the lowest score at 3.61.

Figure 4 presents students' perceptions of communication, with the highest mean of 3.84 given to the importance of listening, which they regarded as essential for effective communication. This was closely followed by the value placed on understanding cultural differences, crucial for effective communication (M=3.81). Adapting communication styles to different audiences as a communicative competence was also highly rated (M=3.73). Students highly rated their ability to use body language and tone of voice effectively to convey emotions in various situations (M=3.62), closely followed by their capability to make accurate choices about whether to accept or disregard information (M=3.61). They also valued their ability to select and utilize various media and technological platforms for communication purposes (M=3.60). Proficiency in conveying knowledge and ideas through appropriate language was slightly lower rated (M=3.59). The capacity to negotiate effectively in diverse environments and the ability to share personal thoughts and feelings both received a mean of 3.58. In addition, they rated their experience of learning communication skills in the majority of their classes at 3.49. Lastly, the perception of the significance of 21st-century communication skills for applications beyond school education received the lowest mean, at 3.48.

Figure 5 reveals that the use of technology made collaboration with others easier, even at a distance was the most important (M=4.00). Furthermore, recognizing and respecting the viewpoints of all team members was perceived at a high level (M=3.75), closely followed by perceptions of collaboration as an important skill for life beyond academic settings (M=3.72). The respect for other group members' rights and contributions and the perception of strong relationship among group members influencing success of a collaborative group work were rated highly at 3.69 and 3.68, respectively. Students equally valued the importance of diverse teams, where members from different backgrounds enhance the overall collaborative effort, the ability to openly express opinions and be receptive to the perspectives of others, and collaborating with others to enhance group performance, each receiving a mean score of 3.62. Slightly lower, with a mean of 3.61, was the value placed on sharing responsibilities equally among group members. This was closely followed by actively engaging in planning tasks and collaborative efforts within a group setting, participating fully in group activities, and valuing the contributions of each member in a group, each with a mean of 3.60. Students valued the acceptance of both similarities and differences between individuals (M=3.59), closely followed by the ability to assist in resolving issues and managing conflicts within the team (M=3.57). Collaborative projects in school settings, which prepare students for teamwork in the workplace, were slightly less valued at 3.55. Collaboration in a globalized world and proficiency in setting a team schedule and monitoring progress toward goals and deadlines were both perceived as essential, each with a mean of 3.53. The least valued skill, yet still considered important, was the ability to be both an effective leader and a supportive follower when needed (M=3.40).

Discussions and Conclusions

Across four skillsets - creativity, critical thinking, communication, and collaboration - students demonstrated a firm grasp of their importance, agreeing that these skills are valuable assets, with means of 3.61, 3.61, 3.62, and 3.60, respectively. They acknowledged the potential for creativity, with means ranging from the highest of 3.92 to the lowest of 3.42, the crucial role of critical thinking, from 3.77 to 3.61, the significance of communication, from 3.84 to 3.48, and the importance of respecting diverse viewpoints in collaboration, from 4.00 to 3.40. This range suggests that while students understand the value of the 4Cs, they may not feel fully equipped to consistently apply this knowledge, potentially due to factors like lack of confidence, limited practical exposure, or viewing these skills as innate rather than developable. Furthermore, the slightly lower perception of collaboration skills among students may be influenced by their view of creativity, critical

thinking, and communication as more directly applicable and beneficial for academic success and career readiness. Therefore, the importance of collaboration might be perceived as less critical in contexts focused on personal achievement.

Furthermore, the findings have significant implications for educational practices in Thailand, echoing concerns by Sanguanngarm (2020) and the Office of Educational Standards and Quality Assessment about deficiencies in equipping students with 21st-century skills. The need for a more application-focused curriculum that provides opportunities for real-world practice is clear (Penrattanahiran, 2022).

These findings offer valuable direction for educators and policymakers aiming to align educational practices with the demands of the 21st century. It provides insights for creating a future-ready education system through a deeper understanding of Thai secondary students' perspectives. While additional research is necessary, the findings highlight the urgency of adopting innovative teaching methods that foster effective communication, collaboration, critical thinking, and creativity. Investing in 21st-century skills transcends mere career preparation; it is about fostering empowered citizens capable of shaping a better world.

Recommendations for Future Research

This study provides valuable insights into student perceptions of 21st-century skills; however, it is essential to acknowledge its limitations. Future research could employ mixed methods approaches, incorporating face-to-face interviews or focus group discussions alongside surveys. This would allow for richer qualitative data, capturing in-depth perspectives and experiences related to 21st-century skill development. By understanding their perceptions and identifying areas for improvement, targeted interventions and curriculum adjustments can be developed (e.g., workshops, training programs, curricula) designed to enhance specific 4Cs and measure their impact on student confidence and application. Further research could involve the longitudinal impact of these perceptions, tracking how they evolve as students' progress through different educational stages. Additionally, investigating potential contextual variations in perceptions across diverse school types, geographical locations, and socioeconomic backgrounds would provide a more nuanced understanding.

References

Battelle for Kids. (2019). Partnership for 21st Century Learning Frameworks & Resources. *Battelle for Kids*.

Kan, A. (2009). Statistical procedures on measurement results. In H. Atilgan (Ed.), *Assessment and Evaluation in Education* (pp. 397-456). Ani Publications.

Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia - Social and Behavioral Sciences*, *31*, 2012, 486-490.

Lapcharoen, S. (2021). Twenty-first century competencies: How can teacher education programs prepare teacher candidates for successful teaching career paths?. *FWU Journal of Social Sciences*, *15*(4), 20-33.

National Education Association. (2010). *Preparing 21st Century Students for a Global Society: An Educator's Guide to the Four Cs*.

Office of the Education Council. (2017). *National Education Plan 2017-2036*. Prikwarn Graphic Co., Ltd.

Pacific Policy Research Center. (2010). *21st Century Skills for Students and Teachers*. Kamehameha Schools, Research & Evaluation Division.

Pardede, P. (2020). Integrating the 4Cs into EFL integrated skills learning. *Journal of English Teaching*, *6*(1), 71-85.

Penrattanahiran, R. (2022). An analysis of problems and guidelines for enhance 4Cs skills of primary school students under Chiang Mai primary educational service area office 3. *Journal of MCU Peace Studies*, *10*(2), 675-692.

Rios, J. A., Ling, G., Pugh, R., Becker, D. M., & Bacall, A. N. (2020). Identifying critical 21st century for workplace success: A content analysis of job advertisements. *Educational Researcher*, *49*(2), 80-89.

Sahoo, M. (2022). 28 best educational collaboration quotes for students. *Medium*.

Sanguanngarm, N. (2020). Factors affecting the failure of Thai education to equip Thai students with 21st century skills. *Rajabhat Chiang Mai Research Journal*, *21*(2), 1-19.

Sushant University. (2022). Bloom's Taxonomy and Critical Thinking. *Sushant University*.

Wongthong, P., & Noiwong, W. (2021). Indicators of super 4Cs skills for learners in the 21st century: A concise literature review. *Journal of Humanities and Social Sciences Thonburi University*, *15*(2), 176-186.

Author Details

Yaovaluck Sricharoen, *Ramkhamhaeng University, Thailand,* ***Email ID****: 6512590001@rumail.ru.ac.th*

Surattana Adipat, *Ramkhamhaeng University, Thailand,* ***Email ID****: ajsurattana@gmail.com*