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Content Analysis of Sixth Grade Science Textbooks in the Light of the Twenty-First Century Skills of Jordanian International Students in Public Schools

Najeh Rajeh Alsalhi

*Education Department, College of Arts, Humanities, and Social Sciences,
University of Sharjah, Sharjah, U.A.E
Email: nalsalhi@sharjah.ac.ae*

Abstract

The study sought to determine the level of integration of twenty-first-century skills in the science curriculum for sixth-grade international students attending public schools in Jordan. To accomplish this objective, the study employed a descriptive analytical approach and utilised a content analysis tool that encompassed 46 sub-skills. The study sample was included in 30% of the content of the science book (in its first and second parts) for the sixth grade in Jordan, edition 2021-2022. The data was analysed using frequencies, percentages, and the arithmetic mean. The study findings revealed a decline in the inclusion of science courses for twenty-first century skills, with an average of 30.46% and a total of 533 repetitions. The study suggests reevaluating the science curriculum for sixth graders to incorporate twenty-first century skills in a manner that promotes integration and continuity. This is crucial, as these skills are essential for equipping learners to tackle life's challenges and effectively solve problems.

Keywords: Content Analysis, Science Textbook, Government Schools, International Student Skills.

INTRODUCTION

In the 21st century, advancements in knowledge and technology have brought about significant changes in the educational system. As a result, educational institutions are now striving to adapt to these changes and provide an effective learning environment. The focus is on developing international students' experiences and enhancing their learning by equipping them with the necessary skills for the modern world. This approach aims to foster creativity, prepare learners for various aspects of development, and enable them to compete in the job market (Luqman, 2020; Salama, 2021). The skills required in the modern era are crucial for individuals to navigate society effectively. This includes being proficient in the use of technology and being able to tackle the challenges that arise from the rapid development and progress we are experiencing (Luqman, 2020). In modern times, it is necessary to provide reliable education to international students to improve their skills (Villena-Taranilla et al., 2022). Accordingly, Cooper (2023) reported that science education is necessary for international students. When the international students of any society have appropriate education resources (Hiçde & Aktamış, 2022), their learning and skills are improved.

To address these concerns, it became necessary to develop science curricula that aligned with the demands of the twenty-first century. This would enable the cultivation of a generation equipped with problem-solving abilities, creativity, and innovation (Luqman, 2020). The curriculum development process begins with an evaluation of the curriculum elements, including an analysis of the objectives, study plan, and content of the materials (Boushi, 2018). Analysing academic content with consideration for societal needs is crucial for updating curriculum and enhancing the quality of educational materials (Zawatia, 2021).

Content analysis is a scientific research method that aims to describe and analyse the content of a material objectively and systematically. It involves quantitatively and qualitatively identifying trends in the material being studied (Alsalhi, 2020; Sabti, 2020; Zawatia, 2021). In addition, the sixth-grade science textbook is divided into two parts, both of which have been approved for teaching in Jordanian public schools during the current academic year (2021-2022). As stated by Joynes et al. (2019), it encompasses a wide range of knowledge, skills, and actions that individuals must possess to make meaningful contributions to the knowledge society. According to Salameh (2021), this concept encompasses a range of essential skills required for thriving and excelling in the modern era. These skills include learning and innovation, information and media literacy, technological proficiency, as well as life and work skills.

The rapid advancements in technology, economics, and cognition are driving the need to incorporate new knowledge and experiences into

educational curricula (Saad & Zainudin, 2022; Shabbazova et al., 2022). Therefore, the ongoing importance of assessing and enhancing curricula persists and is reaffirmed (Al-Fuhaid, 2021), considering numerous scholars' suggestions to incorporate twenty-first-century skills into diverse science curricula (Jaafar, 2021). Therefore, an analysis of the content of the sixth-grade science book was conducted to assess the incorporation of twenty-first century skills. The research issue can be pinpointed with the following inquiry: How readily are 21st-century skills incorporated into science textbooks for sixth graders in Jordan's primary education system? The research aims to achieve two primary objectives. The primary aim is to identify the science textbook content for sixth-grade students in Jordan's primary education stage, specifically focusing on twenty-first-century skills. Additionally, this study seeks to determine the presence of various twenty-first-century sub-skills in sixth-grade science textbooks in Jordan.

This study holds importance as it presents a compilation of essential skills for sixth-grade science textbooks in the twenty-first century. These skills are crucial for meeting the demands of knowledge and technological advancements. Further, this study holds significant importance as it can provide valuable insights for science curriculum developers in Jordan. By identifying strengths and weaknesses, it can assist in creating curricula that align with the aspirations of the twenty-first century. The remaining sections of the research consist of a theoretical framework, a literature review that builds upon previous studies, the research methodology, the findings derived from the data, and the research conclusion. Next, the study will explore the implications and potential future directions.

THEORETICAL FRAMEWORK

Content Analysis

The school curriculum is a comprehensive educational plan that encompasses objectives, educational experiences, teaching methods, content, and evaluation. It is developed based on social, psychological, philosophical, and cognitive foundations and is designed to support the growth and development of the learner's personality in various mental, physical, and emotional aspects. To facilitate effective teaching and learning, educators implement the curriculum in both classroom and non-classroom settings (Saadeh & Ibrahim, 2014). Saadeh and Ibrahim (2014) highlight the role of content in the school curriculum, emphasising its ability to effectively fulfil the curriculum's objectives through the inclusion of information, concepts, generalisations, and theories. Saadeh and Ibrahim (2014) and Toamieh (2004) provide a definition of the textbook as the medium that contains the curriculum's content. In its traditional form, the book's

definition may be limited to distributing it among international students and including it in a course.

Simultaneously, it broadens its scope in additional research to encompass the entirety of educational resources utilised by international students for acquiring knowledge and employed by teachers in educational curricula. The textbook is composed of various components that collaborate to accomplish the educational objectives for which the book is designed: introduction, educational objectives, content, educational activities, and exercises (Al-Hashemi & Attia, 2014; Al-Qatawneh et al., 2021). The analysis of textbook content is a crucial process in curriculum development. It serves as a method of scientific research, allowing for a quantitative, qualitative, and objective description of the material. This organised approach helps identify trends within the analysed content (Sabti, 2020; Zawatia, 2021).

Natural Sciences

The natural sciences encompass the systematic study of the universe, including biology, inanimate objects, matter, energy, and the interconnections and transformations that have occurred throughout history. They have acquired this knowledge through rigorous scientific and logical methods (Ismail, 2010). The field is expansive and intricate, encompassing biology, physics, chemistry, and their interconnected branches (Khoja & Lokia, 2019). Biologists, physicists, and chemists dedicate themselves to pursuing knowledge and uncovering fundamental truths, concepts, laws, and theories that help us comprehend the intricacies of the natural world and the universe.

Through this understanding, we can better interpret and predict the various phenomena and events that unfold within them. Applied sciences encompass a wide range of disciplines, such as engineering, medicine, agriculture, and computer science. These fields aim to study and manipulate various phenomena, including observations, cosmic events, the properties of matter, and the art of problem-solving (Ismail, 2010). Studying science allows individuals to acquire a deep understanding of concepts and develop a scientific mindset to achieve results. Moreover, it equips individuals with the ability to effectively solve everyday problems (Abdul Karim Abdul Rahman Ali, 2019).

Twenty-First Century Skills

In the past, individuals needed basic skills such as reading, writing, and numeracy to succeed. While these skills are still important today, the advancements in cognition and technology have led to a broader range of skills being necessary (Abdul Karim Abdul Rahman Ali, 2019; Salama,

2021). According to the Partnership, twenty-first-century skills refers to: "the set of skills needed to succeed and work in the twenty-first century, such as learning and innovation skills, information, media and technological literacy, and life and work skills" (Salama, 2021: 128). It is also defined as: "a comprehensive concept of knowledge, skills and actions that citizens need to be able to contribute to the knowledge society" (Joynes et al., 2019: 8)

The Importance of Twenty-First Century Skills

In today's rapidly evolving world, marked by technological advancements, economic shifts, and cultural exchange, the demands on international students have changed. International students are now expected to acquire a set of skills known as the skills of the twenty-first century. These skills are essential for navigating the challenges of the modern era and staying competitive in a globalised society (Jaafar, 2021). These skills aim to equip learners with essential abilities to foster creativity, critical thinking, and problem-solving in both personal and collective contexts (Hajjah, 2018). Hence, it is imperative for education experts and officials to develop education systems that effectively meet their objectives, including equipping international students with the essential skills needed in the modern era (Luqman, 2020).

Classification of Twenty-First Century Skills

Due to the significance of these skills, various organisations and economic entities have categorised them. The following is an overview of several of these classifications. Firstly, the Educational Laboratory of the Northern Central Regional Educational Laboratory has classified the skills of the twenty-first century into four categories: Skills needed in the digital age include critical thinking, effective communication, and efficient productivity (Abdul Karim Abdul Rahman Ali, 2019; Salama, 2021). Secondly, the United Nations Educational Scientific and Cultural Organisation asserts that learning should be founded upon four fundamental principles: acquiring knowledge, acting, fostering social cohesion, and personal growth (Abdul Karim Abdul Rahman Ali, 2019). Thirdly, the Assessment and Teaching of 21st Century Skills Project (ATC 21s) is a significant initiative that categorises skills relevant to the twenty-first century. It organises these skills into four areas, encompassing ten fundamental skills: critical thinking, problem-solving, collaboration, communication, creativity, information literacy, media literacy, ICT literacy, flexibility, and adaptability (Abdul Karim Abdul Rahman Ali, 2019).

Fourthly, the Arab League Educational Cultural and Scientific

Organization: The skills of the twenty-first century can be categorised into three primary areas: advanced thinking skills, soft skills, and information technology skills (Abdul Karim Abdul Rahman Ali, 2019). Lastly, the partnership for 21st Century Skills Classification: The Partnership for Twenty-first Century Skills (PPS) assists international students in acquiring and honing their knowledge and abilities. The organisation is a collaborative effort involving partners, businesses, policymakers, the National Association for Education, various ministries of education, and numerous professional development organisations. Their focus is on studying the future of education in relation to twenty-first-century skills (Abu Kamil et al., 2020).

There are three sets of skills, with each main skill comprising sub-skills. Initially, the first set of skills comprises those related to learning and innovation. The skills covered in this section are creativity and innovation, cooperation and communication, critical thinking, and problem-solving. Additionally, there are skills related to information technology and media, such as information literacy, media culture, and ICT culture. Additionally, there are skills that are essential for both personal and professional development. The skills that are important to develop include flexibility and adaptability, social and cross-cultural skills, initiative and self-direction, leadership and responsibility, productivity, and accountability (Abdul Karim Abdul Rahman Ali, 2019; Shalaby, 2014).

PREVIOUS STUDIES AND LITERATURE REVIEW

Several studies have examined the analysis of textbooks in relation to 21st-century skills. For instance, Abu Kamil et al. (2020) conducted a study that evaluated Palestinian science and life textbooks for the upper primary stage (5-8) with a focus on 21st-century skills. The findings indicated that sixth-grade international students had the highest number of skill repetitions at 815, corresponding to a percentage of 28.49%. Seventh-grade students had 741 repetitions, accounting for 25.20% of the total. Eighth-grade students had 687 repetitions, representing 24.01% of the total, while fifth-grade students had 618 repetitions, making up 21.60% of the total. Likewise, in Yemen, Jaafar (2021) conducted a study to identify the presence of 21st-century skills in the first and second parts of fifth-grade science books. In general, the study revealed that fifth graders in Yemen demonstrated a deficiency in 21st-century skills.

Abdul Karim Abdul Rahman Ali (2019) conducted a study to assess the inclusion of 21st-century skills in science books for fourth-grade students in Ramallah and Al-Bireh cities. The study revealed a limited presence of 21st-century skills in science books designed for fourth graders, with only 9.96% availability. In a study conducted by Hajjah (2018), an investigation was carried out to determine if science textbooks for grades 7-9 in Palestine incorporate 21st-century skills. Based on the study, the most frequently encountered skills in

science books were effective thinking (25.80%), clear communication (9.67%), and the remaining skills (0–5.37%). A study was conducted by Luqman (2020) in Sudan, focusing on the content of science books in the upper grades of primary education, with a particular emphasis on 21st-century skills. According to the study, the percentage of science curricula that included 21st century skills decreased significantly, from 27.8% to 4%.

In addition, Baghdadi (2020) examined the extent to which science textbooks in the Kingdom of Saudi Arabia cover 21st-century skills. The science book contains a total of 270 instances of 21st-century skills. These skills include problem-solving (28.8%), critical thinking (25.92%), communication (24.4%), and technological development (10.74%). In addition, Voogt and Roblin (2012) conducted a study to analyse eight frameworks that describe one-century skills. The results revealed a notable alignment among global curriculum frameworks regarding twenty-first-century skills. However, the practical implementation of these skills is still a long way off. In a recent study carried out by Ahmed and Taha (2021), the content of a chemistry book used in the third intermediate grade was thoroughly examined. The main objective of the study was to assess the extent to which the book incorporates 21st-century skills. The study revealed a prevalence of 43.76% and an overall of 658 repetitions.

Oktafianto et al. (2019) conducted a recent study to determine the level of incorporation of 21st-century skills in physics books. The study revealed that the book encompassed a significant emphasis on problem-solving, critical thinking, and decision-making skills (61.86%). Additionally, it highlighted the importance of fostering innovation and creativity (14.88%) as well as promoting cooperation (7.44%). Furthermore, the study specifically focused on the physics book. The content primarily focuses on developing critical thinking, problem-solving, and decision-making abilities. The study conducted by Duran et al. (2011) demonstrates the integration of twenty-first-century skills into science teaching. The study findings revealed enhanced collaboration and engagement among international students, fostering a conducive environment.

METHODOLOGY

Research Methodology

A descriptive analytical approach was used to assess whether Jordan's sixth grade science textbook incorporates 21st-century skills. The analysis card includes 21st-century skills, which have been determined using a content analysis tool.

Population and Sample of the Study

The sixth-grade textbook for the academic year 2021-2022 was thoroughly examined, encompassing a total of 246 pages across its first and second parts. A systematic random sampling method was used to select 74 pages from 30% of the book's pages for the study.

Study Tools

In a study conducted by Jaafar (2021), a content analysis card was used to assess the validity of a tool. A group of eight arbitrators, who are experts in science teaching curricula, measurement, and evaluation, received the card. The purpose was to determine the significance of the paragraphs and their alignment with the study's objective, as well as the accuracy of their wording. Furthermore, the tool's reliability was validated through the examination of a random sample of textbook pages from outside the study sample. This sample was re-analysed after a two-week interval, and the stability coefficient was calculated using Holsti's Method Formula. The stability coefficient for this tool was 90.32, indicating a significant level of stability. There are a total of 46 subskills included in it.

Analysis Controls

The tool was utilised based on the subsequent procedures. The analysis focused solely on the scientific content of the book, excluding the cover, introduction, and indexes. Additionally, the analysis encompassed the questions at the end of the textbook and all the visual aids, illustrations, and exercises within the content. Also, the analysis encompassed pages with odd numbers. The focus of the analysis was the idea unit. Ultimately, the level of accessibility of 21st-century skills was evaluated based on the criteria outlined in Table 1.

Table 1: Controls for judging the degree of availability of 21st-century skills.

“Percentage		Availability
To	From	
Less than 20%	0	Very low availability
Less than 40%	0.2	Low availability
Less than 60%	0.4	Medium available
1	0.6	Highly available”

Analysis Steps

The analysis process involved the following steps: Firstly, it is worth noting that approximately 30% of the pages in the first and second parts of the sixth-grade science textbook serve as samples for analysis. Secondly, it is important to identify the analysis card used as a tool in the study. This card encompasses a comprehensive list of 21st-century skills, including their primary and sub-skills, as well as indicators. Thirdly, after deciding on the concept as the unit of analysis, figure out how many ideas there are in the sample. Fourthly, calculate the repetitions for each subskill to ascertain the availability of 21st-century talents based on the number of subskills. Finally, add the sub-skill repetitions to each main skill and compute the percentage to determine the score that represents each major skill.

RESULTS

The study addressed the research question by examining the science textbook for sixth graders, considering 21st-century abilities, and noting their frequency. Following a first and second round of analysis of the study sample, the total number of thoughts generated was determined to be 250. The first and second sections of the study's sample were examined to ascertain the extent to which 21st-century main and subskills were available, as well as to compute the frequencies of the primary and subskills and the percentage of the main skill, as indicated in Table 2.

Table 3 shows the extent to which scientific textbooks include competencies for sixth-grade international students, based on the percentage. It draws attention to the major elements advancing vital abilities and their significance for the learning of sixth-grade foreign students.

Table 2: Results of analysis of the sixth-grade science textbook considering 21st-century skills

Order	Frequency		Sub-Skill	Main skill	
	(Sub-skills)	(Skill)			
1	22	181 0.34	The content directs the learner to write statements expressing his opinion.	Critical thinking	
	49				The content directs the learner to interpret and clarify ideas.
	15				The content includes attitudes to develop decision-making skills.

	45	The content includes skills to interpret information, opinions, and events.	
	13	The content includes opportunities to independently resolve issues.	
	13	The content gives the learner a chance to judge different answers.	
	16	The content includes different types of unfamiliar problems and situations.	
	8	The content includes questions that illustrate different and diverse points of view.	
2	16	The content offers different ways to come up with ideas.	Innovation and creativity skill
	27	Content encourages the construction and expansion of ideas.	
	28	Content encourages the learner to add new and diverse details to an idea.	
	10	The content asks the learner for unfamiliar interpretations of data and forms.	
	23	The content encourages the learner to organize information according to new ideas.	
5	12	The content reinforces the positive trends of collaborative work.	The skill of collaboration, teamwork and leadership
	0	The content directs the learner to invest the strengths of others.	
	1	The content includes educational situations with group projects.	
	3	The content focuses on community issues and interests.	
	1	Content includes attitudes that encourage initiative and leadership	
	0	The content directs human behavior towards righteousness.	
4	15	Content actively cultivates engagement and collaboration.	The skill of information and media - culture
	1	Content guides behavior in a professional manner.	
	16	The content includes situations to develop oral communication skills.	
	19	The content includes situations for the development of written communication skills.	
	11	The content helps the learner to access information time efficiently.	
	5	The content includes situations associated with the collection of information from its sources.	
	10	The content encourages the learner to use the information accurately.	
6	11	The content develops the learner's ability to critically evaluate information.	Computing and IT culture skill
	0	The learner's content is directed to take advantage of what is published in the media.	
	0	The content encourages the learner to use multiple media and techniques.	
	1	The content encourages the learner to make judgments on the effectiveness of means and techniques.	
	6	The content reinforces the learner's positive attitudes towards technology.	
	8	The content includes situations that require the employment and use of modern technologies.	
3	7	The content includes situations for the use of digital technologies to access information.	Profession skills and self-reliant learning
	0	The content urges the learner to make judgments about the quality of information sources.	
	19	The content develops the learner's adaptation to diverse roles and responsibilities.	
	1	Content directs the learner to effectively monetize feedback.	
	18	The content includes learning situations for increasingly complex projects.	
	0	The content clarifies the goals for learners.	
7	10	Learner content guides project management efficiently.	Multicultural skill
	24	The content stimulates the learner to self-question.	
	21	The content gives the learner an opportunity to go beyond curriculum requirements to explore personalized learning.	
	14	The content develops a sense of responsibility and responsibility for results in the learner.	
	1	The content reinforces positive attitudes towards other cultures.	
Total	9	The content includes situations to develop interacting skills with others (listening and speaking).	
	1	The content encourages the learner to respond to different social values.	
	3	The content refers to what distinguishes the cultures of different countries.”	
Total	533	1	

Table 3: Percentages of Key Skills and Extent of Inclusion

Order	Key skills	Percentage	Extent of inclusion
1	Critical thinking and problem-solving skills	0.724	High
2	Profession skills and self-reliant learning	0.428	medium
3	Innovation and creativity skills	0.416	medium
4	Communication, information and media culture skills	0.292	low
5	Collaboration skills and teamwork	0.132	Very low
6	Computing and IT culture skills	0.084	Very low
7	Multicultural skills	0.056	Very low
	Arithmetic mean	0.3046	Low ²

DISCUSSION

The research findings are noteworthy. In the science book, the main 21st-century skills were repeated a total of 533 times across various classifications and fields, as shown in Table 2. The skills of critical thinking and problem-solving ranked first with repetition (181) and a percentage of (34%), followed by profession skills and self-reliant learning with a frequency of (107) and a percentage of (20.1%), creativity and innovation skills with a frequency of (104) and a percentage of (19.5%), and communication, information, and media culture skills ranked fourth with repetition (73) and a percentage of (13.7%). Computing and information technology culture skills scored sixth with frequency (21) and percentage (3.9%), multicultural skills placed last with frequency (14) and percentage (2.6%), and collaboration skills, cooperation, and leadership ranked fifth with frequency (33) and percentage (6.2%). Regarding the low availability of 21st-century talents in general and the low availability of critical thinking and problem-solving skills (36.55%), the results were in line with Hajjah's (2018) study. The percentage of other talents that were available with cooperation and communication skills (9.67%) was different.

Similarly, it is in line with Luqman's study (2020) in that 27.80% of participants had the greatest percentage of critical thinking and problem-solving abilities. Furthermore, it agreed with the study by Jaafar (2021) regarding the low availability of skills related to computing, information, and communication technology culture (10.37%), multicultural understanding skills (2.6%), profession skills, and self-reliant learning (31.12%), but disagreed with them regarding the percentage of availability of the remaining skills. Additionally, it agreed with the studies by Abdul Karim Abdul Rahman Ali (2019) and Abu Kamil et al. (2020) regarding the low availability of skills related to computing, information, and communication technology culture (4.03%). When examining Table 3, which shows how much the science book

incorporates 21st-century skills, it is clear that critical thinking and problem-solving abilities rank highest in the sample (72.4%). By contrast, the average percentage of professional skills, self-reliant learning, innovation, and creativity was 42.8%, while the average percentage of communication, information, and media culture skills was only 29.2%, along with the lowest percentages of cooperation and teamwork, computing and information technology culture skills, and creativity and innovation skills.

The availability of multicultural skills was limited, with percentages of 13.2%, 8.4%, and 5.6%, respectively. The average inclusion of twenty-first-century skills is 30.46%. The science book for sixth grade in Jordan has a low rate of including these skills. The researchers attribute this to the book's emphasis on scientific investigation skills and science processes, including classification, arrangement, comparison, and measurement. This encompasses a range of skills that foster critical thinking and problem-solving abilities. Simultaneously, the book's scientific activities solely focus on individual work, neglecting the opportunity for learners to develop teamwork, initiative skills, leadership skills, and responsibility during their studies.

Additionally, the book lacked clear objectives for the learner regarding the units, and it primarily emphasised concepts, facts, and principles. The programme lacked adequate research opportunities for international students, limiting their ability to develop skills in areas such as information, media, and social cultures. Previous research studies found in the academic literature support the results (Abdel Aziz & Saudi, 2014; Abu Hassan et al., 2015; Al-Baz, 2013; Collins, 2014; Hajjah, 2018; Melhem, 2017; Shalaby, 2014; Subhi, 2016; Yunus, 2016). The studies indicate that the availability of twenty-first-century skills falls short of the necessary level, and current textbooks seem to lack in adequately preparing international students for real-life situations and the challenges of the modern era.

THEORETICAL AND PRACTICAL IMPLICATIONS

This research made substantial contributions to the existing body of knowledge. It is worth noting that there has been a decline in the level of science courses offered to sixth grade international students, which are aimed at enhancing their skills. In addition, this study emphasised the inadequacy of excluding these courses as a means for international students to enhance their learning. Additionally, this study focused on the improvement of learning outcomes for sixth-grade international students, which is widely recognised as a significant factor in enhancing their skills. The study revealed that the textbooks used by sixth-grade international students lack comprehensive and reliable information to effectively enhance their skills. The study made a valuable contribution to our understanding that international students need

skills-building initiatives to enhance their knowledge and facilitate their learning effectively. Therefore, this study effectively addressed gaps in existing research by emphasising these important factors.

In addition to its theoretical value, this research offers important practical suggestions. This study emphasises the need to reevaluate the content of sixth-grade science books to address the skills required in the twenty-first century. These skills include communication and media culture, cooperation and teamwork, computing and information technology culture, and multicultural skills. By incorporating these skills, learners will be better prepared to tackle the challenges of life. Additionally, the study emphasised the significance of establishing standards for developing science curricula to enhance the educational experience of international students.

LIMITATIONS

While the study has made valuable contributions to existing knowledge, it does have certain limitations. These limitations are emphasised to provide researchers with insights into existing gaps in the literature and areas for further research. This research was conducted during the first semester of 2021–2022. Furthermore, this study has performed a thorough content analysis. However, it would be fitting to gather data from teachers to assess the content analysis of scientific books. Therefore, it is imperative to conduct additional research in these specific areas of the literature. This study suggests the need for further research to explore the effects of international students' low skills on teacher performance in the classroom, particularly in terms of teaching skills to these students despite their low proficiency levels. Ultimately, the study suggested researching to examine how teachers incorporate and implement twenty-first-century skills within their classrooms.

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