

Research Article

How Primary School Teachers Perceive and Develop Students' Future Skills?

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For each person, it is essential to learn new skills. Thus, this study aims to determine how primary school (K-12) teachers practiced “future skills” in the classroom and how they thought those skills could be improved. This study employed a questionnaire and semistructured interviews to collect quantitative and qualitative data from a sample of 329 male and female teachers in the Wadi Al-Dawasir school district. This study found that teachers practiced future skills frequently, and there was a significant difference in some skills based on years of education but no such differences based on gender or specialization. The interviews revealed that teachers used curricular and extracurricular activities to integrate various methods—most notably cooperative learning, problem solving, critical thinking, mind mapping, technology, and independent courses—to develop their students' future skills. This study has Nemours implications that was discussed at the end of this study.

1. Introduction

The impact of a teacher on the lives of their students is evident. Youth are the nation's future, accountable for carrying out crucial responsibilities across several sectors and assisting society in some way. What motivates people to do great things in life? Apart from parents, who is to blame when today's youngsters grow up to be lovely human beings tomorrow? It's the instructor! Teachers are the architects of a better tomorrow. They mold today's youngsters and assist them in achieving great things in life. First and foremost, we must define a teacher. In general, a teacher is someone who teaches students in schools, universities, or private settings and transmits information on certain subjects, verifies assignments, and offers feedback. That is a typical meaning, yet the name “teacher” refers to something more. Being a teacher entails much more than simply imparting knowledge, giving lectures, and attending back-to-back classes. A teacher has a huge influence on the lives of their pupils. He or she motivates them to be a better version of themselves and to accomplish something meaningful in life. Teachers teach applicants about virtues such as fellow feeling, fraternity, compassion, and simplicity. Teachers seldom

meet the same sort of pupil everywhere; rather, the types vary. Today, they may easily meet someone with strong ambition and provide them with appropriate guidance. The true issue is meeting aimless people who do not take themselves seriously and persuading them to become a better version of themselves. As a result, teacher's responsibilities extend beyond attending lectures and sending notes. It goes beyond that and is extremely important in their student's life. Globalization has brought these changes to nearly every country, exacerbated existing disparities and contributed to the intergenerational transfer of poverty. In many low-income and even middle-income countries, certified teachers—those who have completed the formal education mandated by the nation's regulations—lack expertise in certain subjects like mathematics, physics, and chemistry. They also lack access to sufficient numbers of textbooks and connectivity—and occasionally even electricity—in school buildings. However, even in these situations, there is a need for workers with advanced cognitive abilities, creating a double challenge for an already overburdened educational system.

With good cause, there is an increasing global interest in how teaching strategies and classroom dynamics impact

students' academic performance and psychological development. In both Western [1] and developing nations, instruction quality is more strongly related to children's learning than the structural features of schools [2–4]. But a wide range of key abilities and skills outside of reading and numeracy—also referred to as 21st-century skills—are needed for successful teaching and student development.

Critical thinking, problem solving, creativity, metacognition, communication, digital and technology literacy, civic duty, and global awareness are among the characteristics usually considered to be a part of the 21st-century skillset (for a review of frameworks, see Dede [5]). The acquisition of such abilities is more crucial than in the context of emerging nations, where a glaring lack of progress in learning outcomes has shown the urgency of raising instructional quality. Lack of context-specific knowledge of teaching techniques and effective methods of helping teachers in their professional development provide challenges in achieving the needed changes [6–8]. How can we enhance teachers' 21st-century abilities to produce 21st-century skills?

Teachers have a profound influence on student's lives in a variety of important ways. In addition to serving as role models, they provide the students with the right advice so they can turn their attention toward a better future. Let's get specific and have a discussion. Teachers first assess their pupils' strengths and shortcomings before directing them to adopt the finest practices. They not only help the students to reach their full potential but also teach them important life lessons like communication, empathy, organization, and presentation. Teachers are the ones that inspire students to do better in all areas and assist them in achieving their own objectives. The pupils are taught to distinguish between good and evil, thanks to their leadership. Second, teachers are the most important role models in the lives of their students. Students encounter several sorts of professors throughout their academic careers. A superb teacher is constantly encouraging and empathetic to his students and recognizes their accomplishments in all areas. They have a special bond with the pupils and are continuously encouraging them to perform better. Teachers serve as role models for their pupils by maintaining a positive attitude in life and encouraging them to do the same. Third, teachers are committed learners who can not only educate but also listen to students' issues and strive to mentor them to the best of their abilities. Skilled instructors are patient with their students and can help them to achieve their academic goals. They seldom do anything for the sake of recognition; instead, they follow their hearts! The notion of forceful education and providing useful talents to pupils are directly proportionate. Teachers are aware of the problem and help to fundraise for a better tomorrow. Fourth, teachers do not always come into contact with "excellent" pupils. Rather, many aimless students are unconcerned about life and academics. A superb teacher is equally empathetic to them and assists them in making positive changes. They even push pupils to stay upbeat throughout their lows, and these are accountable for changing the students' life for the better.

More than ever, acquiring "future skills" is crucial for learners to succeed in a rapidly changing workforce and the world

[9]. Such skills encompass learning skills, critical thinking, creative thinking, cooperation, and communication, as well as the capacity to use information and communication technology in these areas [10, 11]. Other names include 21st-century skills, soft skills, and lifelong learning [12], reflecting their importance in everyday life and work where critical thinking and teamwork are vital [13]. This study defined future skills as creativity, critical thinking, communication, cooperation, social and multicultural skills, digital technology use, health culture, and financial awareness.

These skills are especially important for primary school students since their foundational stages of formal education will influence future achievement. As a result, numerous studies have called for incorporating these skills into educational material and activities [14, 15] and increasing student participation [16, 17], and research has suggested that teachers practicing such skills in the classroom could improve learning [18].

Developing countries, in particular, would benefit from a greater emphasis on these skills. As part of its national development project to move toward a knowledge-based economy, Saudi Arabia is working to modernize its education system [19]. In doing so, the government hopes to encourage lifelong learning and produce a more globally competitive workforce.

Future skills are vital because they prepare workers to deal with the continual shift in workplace mindsets and the quick arrival of technology improvements. Finally, they will be the secret sauce on which leaders will rely in the 2020s to successfully manage change. Future talents provide solutions to leaders by concentrating on four areas. Managers must be flexible thinkers, talented at directing people through change, capable of uniting a heterogeneous workforce spread over several locations, and capable of sustaining excellence in communication. Our upcoming skills classes at Working Voices are focused on these four topics. The first is flexible thinking, which recognizes that outmoded approaches may fall short of solving new issues. It is better to be versatile and prepared to find new answers by addressing an issue with the thinking of critical criticism. Critical thinking, also known as agile thinking, improves your ability to make sound judgments, grasp flexibility, use facts and information, solve issues constructively, and understand how others think. The second is leading through change; during the onset of the epidemic, change came quickly. Its long-term consequences are worsened by geopolitical turbulence in Eastern Europe and global economic instability. The problems of the early 2020s are expected to persist, since technological improvements and the difficulties are posed by the climate emergency. Navigating change, volatility, and complication with boundless optimism are the talents required by leaders at all levels. The third is social well-being; new methods of working are supported by a greater appreciation of the importance of persons, not as cogs in a machine, but as people who can think quickly, communicate effectively, and adapt to change. Leaders may safeguard their teams by developing individuals. Through connection, cooperation, self-awareness, and emotional intelligence, these social wellness

skills promote long-term productivity. The fourth is data communication; simple access to data may seduce managers into a false feeling of security as if the data were the entire tale. Data are crucial but people are required to tell the story. Understanding data and conveying its lessons necessitate analytical and interpretative abilities. If complexity is to be conveyed to others, it must be molded into a coherent image, whether through textual reports or graphics and representations.

2. Problem Statement

There is often a gap between the skills taught in school and those required to succeed in a global economy [12, 20, 21], and sometimes students are not exposed to experiences that enhance communication, teamwork, creativity, and critical thinking [22]. However, for the abovementioned Saudi educational reforms to work, teachers must be able to help students to acquire future skills [23, 24]. To accomplish this, they must overcome numerous obstacles [25], such as teachers' limited understanding of their professional obligations in 21st-century education [26]. Consequently, studies have called for better teacher training to address this issue [25, 27, 28]. Al-Ghamdi [29] found that training programs did not keep up with worldwide trends. In a study by Fox [18], teachers reported that their capacity to adopt future skills was hindered by ineffective technology use and a lack of time. Moreover, teachers reported a mismatch between future skills and the information evaluated on standardized tests. A qualitative study by Al-Anzi [30] found that physics teachers employed diverse strategies to instill future skills, such as using digital technology, active learning, cooperative learning, and motivational techniques. He also emphasized the need to diversify classroom activities and target higher levels of critical thinking. To increase teachers' motivation to develop future skills, Shalaby [31] suggested incorporating them into basic learning objectives. Despite the efforts of the Saudi Ministry of Education to encourage future skills, more research is needed to understand the actual abilities and perceptions of primary school teachers [17, 24, 32–34].

In light of the disagreement between the results of past studies and to fill this void, the current research aims to answer the following questions: What is the reality of teachers of the primary school concerning the practice of future skills in the educational process? What is the method to improve those skills from their perspective?

The following subquestions are derived from the above questions:

- (1) What is the extent to which the teachers of primary school practice higher-order thinking skills in the educational process?
- (2) What is the extent to which the teachers of primary school practice social and emotional skills in the educational process?
- (3) What is the extent to which the teachers of primary school practice practical and physical skills in the educational process?

- (4) Are there statistically significant differences attributed to gender, years of experience, and specialization in the level of teachers who included future skills in the educational process?
- (5) From the perspective of primary school teachers, what is the method to develop "future skills"?

3. Theoretical Framework

Wagner [21] identified seven workforce competencies for the 21st century: problem solving and critical thinking, collaboration across networks and leading by influence, agility and adaptability, entrepreneurship and initiative, effective oral and written communication, accessing and analyzing information, and curiosity and imagination. However, despite the widespread use of the term, there is no widely accepted framework for future skills, as conceptual frameworks vary with the organizations that developed them. The most significant are those created by the Organization for Economic Co-operation and Development (OECD), the Partnership for 21st Century Learning, enGauge, and the International Society for Technology in Education.

This study focused on two such frameworks. The Partnership for 21st Century Learning framework was used because it is practical and encompasses basic academic skills due to being developed by a group of education experts. In addition, it contains the skills outlined in the Human Capability Development Program and has been employed in previous studies [15, 31, 35, 36]. The Human Capability Development Program's framework was also used because it was tailored to the Saudi context.

3.1. Partnership for 21st Century Learning. The Partnership for 21st Century Learning outlines the fundamental components of acquiring skills along four axes [37]:

- (i) Master the 3Rs—reading, writing, and arithmetic—and the issues of the 21st century, which include global awareness, entrepreneurship, and the promotion of financial, economic, commercial, and civic literacy.
- (ii) The distinction between students who are prepared for a more complex life and work environment and those who are not based on earning and innovation skills.
- (iii) The ability to utilize information, media, and technology.
- (iv) Students must possess life and work skills, including adaptation and flexibility, initiative and self-direction, social skills, productivity, leadership, and responsibility.

3.2. Human Capability Development Program. By promoting values, teaching fundamental and future skills, and increasing knowledge, the Human Capability Development Program seeks for each person to possess the competencies necessary

TABLE 1: Respondent characteristics.

Gender	#	Percentage (%)	Years of experience	#	Percentage (%)	Specialization	Number	Percentage (%)
Male	98	29.7	<5 years	33	10	Scientific	83	25.2
Female	231	70.2	From 5 to <10 years	32	9.7	Literary	246	74.7
Total	329	100	From 10 to <15 years	93	28.2	Total	329	100
			From 15 years and more	171	51.9			
			Total	329	100			

for global competition. The program's strategy focuses on three skills:

- (i) Higher-order thinking abilities include critical analysis, problem solving, and adaptability.
- (ii) Social and emotional skills include teamwork skills, adaptability skills, acceptance of others, and respect for their cultures.
- (iii) Practical and physical competencies include digital skills, fluency in global financial ideas and procedures, and maintaining physical condition.

3.3. Approaches to Developing Future Skills. Teaching practices are the methods, behaviors, and actions a teacher employs to help students learn. This study characterized these practices procedurally as the performance of primary school teachers throughout instruction, including teaching methods, strategies, and activities designed to build students' future skills. The four most effective teaching approaches for enhancing children's future skills are the bridging, individual, integration, and enrichment approaches [38–40], as outlined below.

The first is the integration approach, which Al-Nagi [38] defined as teaching skills concurrently with academic content in a planned and deliberate manner, with the skills incorporated into the existing curriculum based on the nature of the content, skill standards, and learner characteristics. Numerous studies have called for incorporating such skills into the everyday fabric of learning in the classroom [14, 15, 31, 41–43]. For instance, Fonseca Sanguña [28] motivated teachers to incorporate creativity, critical thinking, problem solving, communication, and cooperation into educational practice. Students learned a second language through the lens of social problems, pushing them to examine difficulties they had encountered or observed elsewhere. After the initiative, students' skill development and participation improved substantially.

Second, the enrichment approach relies on teaching skills through independent activities inside or outside the classroom while under the direct supervision of the school or other institutions [38]. Activities aid in personality formation and the development of self-directed, lifelong learning. Through their participation in such activities, students build more positive social interactions [30] while developing future skills [16, 39]. Studies have called for school programs to focus on basic skills that students should be encouraged to develop, such as communication, critical thinking, creativity, and environmental awareness [40, 44, 45]. In a Saudi secondary

school, for instance, Al-Zahrani [39] found that classroom activities improved students' soft skills.

Third, the independent approach involves teaching future skills within their own dedicated classes, using strategies and activities tailored to those skills and giving students more opportunities to apply them [38, 46]. Five years before now, the Ministry of Education developed and added courses related to digital skills in primary school and special courses to teach critical thinking skills in the intermediate and secondary stages of education.

Finally, the bridging approach is similar to the independent approach in that students learn future skills through an independent course but connections are made to the rest of the curriculum so that students can apply the skills directly or indirectly to their other courses [38, 47]. Critical thinking skills, for instance, can be taught as a standalone course while integrating them into the activities of other courses. In contrast, if competencies learned in one class are not reinforced in other classes, students will not necessarily transfer their progress to other classes or the real world [25, 48].

4. Research Design

This study employed an explanatory sequential mixed-methods design [49]. First, the researchers gathered and analyzed the quantitative data through a questionnaire. This process informed the second, qualitative phase of data collection and analysis via interviews. Finally, the researchers used qualitative data to help explain the quantitative data (see J. W. Creswell and J. D. Creswell [50]).

4.1. Study Population and Sample. The study population comprised all primary school teachers (grades 4–6) in the Wadi Al-Dawasir school district in Saudi Arabia (602 male and 590 female teachers). The sample for the questionnaire consisted of 329 male and female teachers from various disciplines (e.g., mathematics, science, Arabic, English, Islamic studies, and social studies). The vast majority were female (70.2%), and over half (51.9%) had 15 or more years of experience. At 20% of the sample, teachers with <10 years of experience had the lowest participation rate. As shown in Table 1, a quarter of participants taught scientific subjects (e.g., mathematics, physics), while three-quarters of participants taught literary subjects (e.g., language, social sciences).

5. Data Collection

5.1. Questionnaire. A quantitative questionnaire was used to ask primary school teachers how they employed future skills

TABLE 2: Internal consistency of questionnaire items.

Skills	Distance correlation	Correlation with the questionnaire as a whole	Distance correlation with the questionnaire as a whole
Skills of innovative thinking			
1	0.678**	0.614**	0.915**
2	0.856**	0.701**	
3	0.795**	0.832**	
4	0.810**	0.734**	
Skills of critical thinking			
1	0.735**	0.581**	0.876**
2	0.864**	0.762**	
3	0.864**	0.650**	
4	0.849**	0.792**	
5	0.881**	0.866**	
Communication skills			
1	0.894**	0.790**	0.863**
2	0.798**	0.643**	
3	0.888**	0.704**	
4	0.838**	0.810**	
Skills of cooperation			
1	0.907**	0.705**	0.739**
2	0.896**	0.598**	
3	0.810**	0.633**	
Social skills and multiculturalism			
1	0.960**	0.861**	0.885**
2	0.951**	0.790**	
3	0.947**	0.872**	
Skills of using technology			
1	0.828**	0.738**	0.854**
2	0.863**	0.657**	
3	0.777**	0.599**	
Skills of health culture			
1	0.883**	0.756**	0.903**
2	0.934**	0.839**	
3	0.913**	0.879**	
The skill of financial awareness			
1	0.890**	0.807**	0.785**
2	0.933**	0.693**	
3	0.916**	0.679**	

**Correlation is significant at the 0.01 level (two-tailed). *Correlation is significant at the 0.05 level (two-tailed).

in the classroom. The researchers created the questionnaire after analyzing prior studies [10, 17, 51, 52]. It comprised eight prospective skills (innovative thinking, critical thinking, communication, cooperation, social skills and multiculturalism, use of technology, health culture, and financial awareness). Each had a set of items designed to measure how teachers employed that skill in their teaching. All items were closed-ended and required particular responses.

To increase content validity, the researchers presented the initial version of the questionnaire to a panel of experts in curriculum and teaching methods, educational psychology, and educational technology, as well as English supervisors. Based on their feedback on item clarity, precision,

and relevance to the questionnaire's themes, the researchers revised the questionnaire.

To increase internal consistency, the researchers administered the revised questionnaire to an exploratory sample of 30 teachers from the study population and determined the Pearson correlation coefficient between the item score and the total questionnaire score, as shown in Table 2. All correlation coefficients were significant at the 0.01 level, indicating that all items were relevant to their theme and the overall theme of the questionnaire and that no further content needs to be removed.

Finally, according to Cronbach's α reliability coefficient (0.969), the questionnaire was stable (see Table 3).

TABLE 3: Cronbach's α results.

Skills	Coefficients of Cronbach's α
Innovative thinking	0.795
Critical thinking and problem solving	0.895
Communication	0.867
Cooperation	0.843
Social skills and multiculturalism	0.942
Use of technology	0.851
Health culture	0.893
Financial awareness	0.891
	0.969

5.2. *Semistructured Interview.* Based on the quantitative data from the questionnaire, the researchers designed a semi-structured interview to determine how future skills should be developed from the perspective of primary school teachers. Three teachers were randomly selected from the sample for the interviews. The interviews were recorded and transcribed, and transcripts were returned to participants to verify their accuracy. Each interview took ~30 min.

6. Data Analysis

The quantitative and qualitative data were analyzed separately and later combined [50]. The researchers analyzed the quantitative data with IBM SPSS statistics (4th edition) to determine the mean and standard deviation for each item. Independent-samples *t*-tests were used to identify any differences of opinion according to gender and specialization, while one-way analysis of variance (ANOVA) and Scheffe's test for dimensional comparisons were used to determine differences according to the level of teaching experience.

According to Merriam [53], the researchers employed the methods to analyze the qualitative data. First, they read the data to form an overall opinion and reread the data to highlight certain areas for coding. After that, they categorized coded utterances into overarching themes. Finally, the two types of data were analyzed together.

7. Establishing the Trustworthiness of Qualitative Data Sources

The study's internal validity was enhanced by using a variety of instruments to collect data. According to Merriam [53], the external validity of qualitative research is the extent to which the study's conclusions can be transferred to other contexts. To increase transferability, the researchers incorporated several direct quotations from participant responses in the interviews, which provide insights and possible recommendations to teachers implementing 21st-century skills, as a separate curriculum or as a component of a course. Additionally, the data were diversified, the reliability was computed, and comparisons with prior studies were made to increase credibility. To increase validity, identical quantitative and qualitative questions were posed to teachers. Their replies were collected individually, sequentially (quantitative data, then qualitative data),

and at various times. In addition, care was taken to collect and record the data without bias. To increase the credibility of the results, the interviews were recorded and transcribed, and the interview data were simultaneously examined by both researchers.

7.1. *Ethical Procedures.* Normal ethical procedures were followed, including participant confidentiality. Every attempt was made to approach all activities objectively and to prevent prejudice from influencing the processes or outcomes. Before collecting data, the researchers received approval from the Institutional Review Board of Prince Sattam Bin Abdulaziz University.

8. Results and Discussion

The data were analyzed to explore how primary school teachers reported developing future skills in students and how that process could be improved. Table 4 presents the quantitative results for each future skill. Based on the overall mean and standard deviation of the questionnaire ($M = 4.11$, $SD = 0.60$), teachers reported a high rate of practicing future skills, with social and emotional skills having the highest scores ($M = 4.320$, $SD = 0.53$), practical and physical abilities ranked second ($M = 4.06$, $SD = 0.75$), and higher-order thinking coming in third ($M = 3.88$, $SD = 0.81$).

Teachers might have reported using social and emotional skills the most because they do not require special instruments or significant effort. The high degree of knowledge about future skills could have been due to the teachers' understanding of their role in Saudi Vision 2030. Another reason could be the Ministry of Education's recent efforts to increase training courses for teachers to incorporate future skills into the curriculum and achieve higher scores on international tests. This has increased teachers' implementation of those skills, particularly at the elementary level [33, 34]. In contrast to previous research, this study demonstrated that teachers' activities to enhance future abilities were above average [15, 21, 52].

In the interviews, teachers agreed that they taught future skills by emphasizing the development of social and emotional abilities and higher-order cognitive skills. Integration and enrichment were the most prominent approaches. For instance, one interviewee gave the following response:

Most often, I employ memory tape and mind maps to build students' creative thinking skills, as students are enthusiastic about these techniques...After each unit in the book, I have the students construct a concept map in which they identify the story's title, subheadings, characters, setting, and period. This method aids the students in recalling the previous lessons.

Regarding the enrichment method, one teacher said, "We use critical thinking skills extensively in the curriculum, such as in reading comprehension, to help students pass international exams like the Progress in International Reading Literacy Study (PIRLS) test."

TABLE 4: Mean and standard deviation for each future skill.

Main skills	Mean	Standard deviation	Degree	Order
Social and emotional skills	4.320	0.539	Very high (0.734)	First
Practical and physical skills	4.023	0.677	High (0.64)	Second
Higher-order thinking skills	3.992	0.587	High (0.633)	Third
General arithmetic mean of the questionnaire	4.111	0.601	High (0.67)	

TABLE 5: Descriptive statistics for higher-order thinking skills.

Items	Mean	Standard deviation	Degree	Order
1 I use different teaching strategies that help my students to come up with ideas (like brainstorming, concept mapping, etc.)	3.94	0.865	High	Sixth
2 I encourage my students to generate creative ideas when solving a problem or question	3.93	0.768	High	Seventh
3 I encourage my students to offer various solutions to the problems at hand	4.06	0.762	High	Third
4 I motivate my students to come up with solutions to complex problems or an open-ended problem	3.81	0.864	High	Ninth
Innovative thinking	3.93	0.637	High	
5 I urge my students to put forward their different views on the problem and lead to better solutions	4.08	0.812	High	Second
6 I support my students in identifying the similarities and differences between ideas to reach a deeper understanding of the issue	4.009	0.798	High	Fourth
7 I help my students to arrive at the base or concept after reviewing several examples	4.23	0.710	High	First
8 I encourage my students to summarize using their vocabulary what they have read or learned	3.96	0.886	High	Fifth
9 I encourage my students to evaluate the evidence and arguments that support the situation or problem at hand	3.86	0.878	High	Eighth
Critical thinking and problem solving	4.034	0.630	High	

In short, interviewed teachers reported implementing future skills in the classroom and extracurricular activities using various approaches. This finding agreed with the quantitative data that showed positive attitudes about using various methods to develop future skills.

8.1. Research Subquestion 1. To answer the first research question (To what extent do teachers encourage students to use higher-order thinking skills?), relevant means and standard deviations are shown in Table 5. Agreement with educational approaches that promote higher-order thinking skills (creative thinking, critical thinking, and problem solving) ranged from 4.23 to 3.81 out of a possible 5. The mean for higher-order thinking skills ($M = 3.99$) was high overall. The highest agreement ($M = 4.23$, $SD = 0.710$) was for item 7 (“I help my students get the rule or concept after reviewing several examples”), while the lowest agreement ($M = 3.81$, $SD = 0$) was for item 4 (“I motivate my students to devise solutions to a complex or open-ended problem”).

Previous studies found that teachers developed critical thinking and problem-solving skills to a moderate degree [17, 54], while other studies found an even lower rate [33, 34, 51]. Avrakotos [51] noted that teachers developed critical thinking skills in students infrequently, which Fox [18] attributed to a disparity between those skills and what is

assessed on standardized tests. In contrast, this study showed higher results in those areas ($M = 4.03$, $SD = 0.630$).

Teachers reported similar scores for fostering creative thinking ($M = 3.93$, $SD = 0.62$). This was possibly due to their awareness of the needs of today’s students, their exposure to novel teaching methods during the COVID-19 pandemic, and the training programs offered by the Saudi Ministry of Education throughout the country. The results differ from some previous studies that reported a moderate [17] or low [33, 34, 51] degree of practice.

8.2. Research Subquestion 2. To answer the second research question (To what extent do teachers encourage students to use social and emotional skills?), the means and standard deviations are shown in Table 6.

Teachers’ opinions regarding instructional strategies to promote social and emotional skills, including communication, cooperation, social skills, and multiculturalism, varied from 3.98 to 4.55 out of 5. The mean responses fell between a high and very high level of agreement ($M = 4.320$). Item 9 (“I encourage my students to accept the other opinion in a way that does not contradict Islamic values and principles”) received the highest agreement ($M = 4.66$, $SD = 0.646$), while item 2 (“I use written communication skills (such as posters and blogs) to encourage my students to express

TABLE 6: Descriptive statistics for social and emotional skills.

	Items	Mean	Standard deviation	Degree	Order
1	I use oral communication skills (like word choice, clarity of voice, appropriate tone selection, etc.) to encourage my students to express their ideas effectively	4.36	0.741	Very high	Fifth
2	I use written communication skills such as posters, blogs, etc. to encourage my students to express their ideas effectively	3.98	0.959	High	Tenth
3	I use physical communication skills (like smiling, nodding, facial gestures, etc.) to encourage my students to express their ideas effectively	4.53	0.624	Very high	Second
4	I urge my students to listen to the opinions or ideas of their peers actively	4.38	0.707	Very high	Fourth
	Communication	4.320	0.560	Very high	
5	I encourage my students to work in groups to complete a task together	4.24	0.843	Very high	Sixth
6	I encourage my students to divide roles when working on joint projects or costs	4.15	0.843	High	Ninth
7	I encourage my students to display their group work in class	4.21	0.851	High	Eighth
	Cooperation	4.206	0.750	High	
8	I promote tolerance and respect for different cultures in my students	4.52	0.676	Very high	Third
9	I encourage my students to accept others' opinions in a way that does not contradict Islamic values and principles	4.55	0.646	Very high	First
10	I encourage my students to share knowledge, experience, and skills with colleagues who are from different cultures	4.23	0.885	High	Seventh
	Social skills and multiculturalism	4.440	0.617	Very high	

their ideas effectively”) received the lowest agreement ($M = 3.98$, $SD = 0.959$).

The results for communication skills ($M = 4.320$, $SD = 0.560$) were consistent with Charland [55] and Ibrahim et al. [54] and contrasted with studies that found low to the moderate agreement [17, 33, 51]. This disparity may be due to teachers' emphasis on increasing students' cognitive skills and a lack of interest in building communication skills. The results for communication competence ($M = 4.206$, $SD = 0.750$) were consistent with Al-Zahrani [17] and Charland [55].

The results showed that the majority of teaching approaches that foster cooperation were highly effective. This result might be linked to the teachers' desire to promote cooperative learning and their efforts to establish collective educational situations. Cooperation, as a skill, is also required to develop future skills in general. The difference between this study and earlier studies [26, 33, 51] was modest. According to a recent study, most educators did not care about teaching cooperation, and they showed a moderate level of instructional performance to improve collaborative skills [34].

In addition, an agreement was strong with items about social skills and multiculturalism ($M = 4.440$, $SD = 0.617$). This differed from other studies that reported moderate results for social skills and low results for multiculturalism [17, 33]. Possible reasons for this result could be more cultural openness to the world and the media making other cultural practices more acceptable. Another reason could be the increased use of digital technology and communication during the COVID-19 pandemic.

8.3. Research Subquestion 3. To answer the third research question (To what extent do teachers encourage students to use practical and physical skills?), means and standard deviations are shown in Table 7.

Agreement with items about teaching strategies to build practical and physical abilities, including technology, health culture, and financial awareness, ranged from 3.62 to 4.33 out of 5, showing a high overall level of agreement with these items ($M = 4.023$).

In this study, teachers reported using digital technology extensively ($M = 4.09$, $SD = 0.75$), in contrast to Al-Zahrani [17] who found a moderate level of technology use, and to Al-Shahrani [34] and Al-Musabi [33] who found a lower level of technology use. The researchers attributed this result to the greater use of digital technology by teachers and students during the COVID-19 pandemic, which strengthened their technical skills and instilled confidence in students' abilities.

Agreement with items about instructional techniques to promote health culture was high ($M = 4.19$, $SD = 0.54$), in contrast to Al-Shahrani [34] who reported a low score. This lower health awareness might have been due to traditional techniques that did not offer students the opportunity to learn and apply what they learn, as well as the failure to use platforms to provide health education. The researchers thought that the teacher does not recognize the significance of health culture for students and disregards the connection between their physical and mental health. The reported efforts to develop financial awareness were strong ($M = 3.87$, $SD = 0.902$) but below all the other skills in this theme, possibly due to a lack of financial awareness among teachers.

8.4. Research Subquestion 4. The fourth research question asked, “Based on gender, years of experience, and specialization, do teachers differ significantly in how they report using future skills?” To determine differences based on gender, an independent-samples *t*-test was conducted, as shown in Table 8.

TABLE 7: Descriptive statistics for practical and physical skills.

	Items	Mean	Standard deviation	Degree	Order
1	I use videos, useful apps, etc. to enhance self-learning for my students	4.20	0.96802	High	Fourth
2	I ask my students to upload the assignments through my school platform or other educational platforms	3.93	0.99643	High	Seventh
3	I encourage my students to make videos of participation in school activities and national events	3.62	1.14066	High	Tenth
4	I direct my students to the rules of behavior that must be adhered to when using the Internet	4.26	0.863	Very high	Third
	Use of technology	4.009	0.756	High	
5	I encourage my students to adopt healthy habits such as exercising	4.33	0.813	Very high	First
6	I encourage my students to attend seminars and awareness programs that enrich their awareness of the health aspect	3.94	0.920	High	Sixth
7	I direct my students on the importance of a proper diet to prevent diseases such as diabetes and others	4.30	0.813	Very high	Second
	Health culture	4.192	0.544	High	
8	I instill the concepts of financial awareness among my students (such as saving, investing, and budgeting)	4.01	0.941	High	Fifth
9	I encourage my students to save and invest money	3.89	1.009	High	Eighth
10	I involve my students in school programs like Little Merchant to increase their financial awareness	3.70	1.093	High	Ninth
	Financial awareness	3.873	0.902	High	

TABLE 8: T-test results for gender differences.

#	Skills	Gender	Number	Arithmetic mean	Standard deviation	Total sample	t-Value	Significance level
1	Innovative thinking	Male	98	15.56	2.773	327	0.906	0.366
		Female	231	15.83	2.450			
2	Critical thinking and problem solving	Male	98	19.90	3.302	327	0.994	0.321
		Female	231	20.28	3.085			
3	Communication	Male	98	17.01	2.374	327	1.355	0.175
		Female	231	17.37	2.175			
4	Cooperation	Male	98	12.07	2.721	327	2.913	0.001
		Female	231	12.85	1.979			
5	Use of technology	Male	98	14.64	3.449	327	5.702	0.001
		Female	231	16.62	2.614			
6	Social skills and multiculturalism	Male	98	13.12	1.911	327	1.235	0.218
		Female	231	13.39	1.826			
7	Health culture	Male	98	12.46	2.197	327	0.570	0.569
		Female	231	12.61	2.171			
8	Financial awareness	Male	98	11.22	2.912	327	1.732	0.084
		Female	231	11.78	2.601			

Female teachers were significantly more likely than male teachers to report favoring practices that improve cooperation and the use of technology, as the significance levels for cooperation (0.001) and use of technology (0.001) were both lower than 0.001 (Sig. \leq 0.001). This was partially consistent with previous findings that teaching methods connected to cooperation were more common among female teachers [17, 54]. Some have suggested that this was due to women generally having a stronger preference to work in cooperative groups [54] or that female teachers were more

disciplined than male teachers in projects, programs, and teaching methods [17].

The results showed no significant gender differences overall in teachers' inclusion of future skills, which was consistent with Uche et al. [26]. This could be due to various factors, including the learning environment for male and female students in Saudi society being largely the same; they are using the same curricula; their striving for the same goals; and their access to the same material, human, and technical resources. The results differed from

TABLE 9: One-Way ANOVA results for years of experience.

#	Variables	Source of variation	Sums of squares	Degree of freedom	Mean squares	F-value	Significance level
1	Innovative thinking	Between groups	61.182	3	20.394	3.200	0.024
		Within groups	2,071.366	325	6.373		
		Total	2,132.547	328			
2	Critical thinking and problem solving	Between groups	122.366	3	40.789	4.229	0.001
		Within groups	3,134.759	325	9.645		
		Total	3,257.125	328			
3	Communication	Between groups	40.686	3	13.562	2.748	0.043
		Within groups	1,603.776	325	4.935		
		Total	1,644.462	328			
4	Cooperation	Between groups	53.099	3	17.700	3.576	0.014
		Within groups	1,608.409	325	4.949		
		Total	1,661.508	328			
5	Use of technology	Between groups	90.380	3	30.127	3.368	0.019
		Within groups	2,907.182	325	8.945		
		Total	2,997.562	328			
6	Social skills and multiculturalism	Between groups	40.668	3	13.556	4.055	0.008
		Within groups	1,086.457	325	3.343		
		Total	1,127.125	328			
7	Health culture	Between groups	23.023	3	7.674	1.629	0.183
		Within groups	1,531.402	325	4.712		
		Total	1,554.426	328			
8	Financial awareness	Between groups	79.585	3	26.528	3.713	0.012
		Within groups	2,321.923	325	7.144		
		Total	2,401.508	328			

TABLE 10: Dimensional comparisons using Scheffe's test.

#	Variables	Years of experience (<i>I</i>)	Years of experience (<i>J</i>)	Average differences (<i>I</i> – <i>J</i>)	Significance level
1	Use of technology	>15 years	<5 years	0.55305	0.820
			From 5 to 10 years	1.67805*	0.038
			From 10 to 15 years	0.72812	0.313
2	Financial awareness	>15 years	<5 years	1.16933	0.162
			From 5 to 10 years	0.63808	0.674
			From 10 to 15 years	0.98956*	0.042

Note. *Significant differences at 0.05, in favor of the highest average.

earlier studies that found female teachers were significantly more likely to employ methods to develop future skills [17, 54].

To look for differences between responses based on years of teaching experience, the researchers used a one-way ANOVA, the results of which are shown in Table 9.

There were significant differences based on years of experience regarding creative thinking, critical thinking, communication, cooperation, use of technology, social skills and multiculturalism, and financial awareness. However, there were no significant differences regarding health culture. To determine the direction of these differences, the researchers performed dimensional comparisons using Scheffe's test, as shown in Table 10.

Participants with 15 years of teaching experience were significantly more likely to agree with items about the use of

technology compared to those with 5–10 years of experience. There are also significant differences between teachers with more than 15 years of experience and those with 10–15 years of experience in terms of strategies promoting financial awareness for the benefit of those with more than 15 years of experience.

The results somewhat agreed with those of Al-Shahrani [34] who found teachers with 10 or more years of experience to be significantly more likely to promote financial awareness compared to teachers with less experience. This could be due to the greater maturity and skills obtained from more years of practice with various teaching methods and a belief in the value of professional development and keeping up with technological advancements and teaching trends. This was supported by a study in which teachers with 10 or more years of experience had higher estimations of their preparation and

TABLE 11: T-test results for specialization.

#	Skills	Specialization	Number	Arithmetic mean	Standard deviation	Total sample	t-Value	Significance level
1	Innovative thinking	Scientific	83	15.70	2.565	327	-0.203	0.840
		Literary	246	15.77	2.549			
2	Critical thinking and problem solving	Scientific	83	19.97	3.495	327	-0.655	0.5130
		Literary	246	20.23	3.032			
3	Communication	Scientific	83	17.24	2.492	327	-0.110	0.9130
		Literary	246	17.27	2.153			
4	Cooperation	Scientific	83	12.48	2.394	327	-0.614	0.5400
		Literary	246	12.66	2.204			
5	Use of technology	Scientific	83	16.09	2.613	327	0.211	0.8330
		Literary	246	16.01	3.151			
6	Social skills and multiculturalism	Scientific	83	13.32	1.826	327	0.0740	0.9410
		Literary	246	13.31	1.866			
7	Health culture	Scientific	83	12.63	2.441	327	0.286	0.7750
		Literary	246	12.55	2.086			
8	Financial awareness	Scientific	83	11.75	2.778	327	0.5250	0.600
		Literary	246	11.57	2.685			

integration of future skills than their colleagues with less experience [56].

The researchers ran independent-samples *t*-tests to examine the significance of the differences in responses based on teachers' scientific or literary specialization. The outcomes are shown in Table 11.

According to Al-Ghamdi [29], there were no significant differences between teachers attributable to specialization. The researchers attributed this outcome to the teachers receiving the same training to attain shared goals across all disciplines. This conforms to prior calls for future skills to be taught in all fields to fulfill their objectives [25, 52].

8.5. Research Subquestion 5. The interviews were analyzed to answer the fifth research question (How do teachers think future skills should be improved?). The interviews were transcribed and subjected to content analysis to find emergent themes. The first symbols that emerged were grouped into broad categories by reflecting on their significance [53]. Then, the researchers submitted two open-ended questions to the teachers: "How should future skills be produced in your opinion?" and "What are the most effective strategies and practices for developing future skills?" The interviews revealed three key categories: the integration approach, the enrichment approach, and a preference for the bridging approach over the independent approach.

8.5.1. The Integration Approach. In the interviews, teachers said they employed an integration approach to promote future skills in primary school students. For instance, when asked, "What are the most effective strategies and techniques you utilize to develop future skills in your students?" the Arabic instructor gave this response:

Most often, I employ memory tape and mind maps to build students' creative thinking skills, as students are enthusiastic about these techniques...

After each unit in the book, I have the students construct a concept map in which they identify the story's title, subheadings, characters, setting, and period. This method aids the students in recalling the previous lessons.

The math instructor framed collaboration in terms of its effect on weaker students:

I prefer to use peer learning by putting every two students in a group, but certain exercises, pieces of training, or competitions may require learning to be collaborative and in larger groups so that the weak student becomes more active by competing against other groups.

The English instructor also discussed this approach:

I frequently employ problem solving and cooperative learning strategies with my students. For instance, I give them a sentence and ask them to examine it in groups so that each student gives a solution to the problem. I also ask the students to search for the differences between two sentences so that the groups can discuss the solution and I can then make the necessary corrections. I also employ critical thinking with my students by presenting them with sentences and requesting that they rework them using their language.

These statements revealed teachers used the integration approach, as future skills were incorporated into the educational content in various ways, such as through cooperative learning, problem solving, critical thinking, and mind maps. This was consistent with the quantitative data, as well as prior studies suggesting that effective teaching strategies improved future skills [10, 36, 57] and previous calls for

this approach, where future skills are taught alongside activities that strengthen those skills [14, 28, 41].

8.5.2. *The Enrichment Approach.* Interviewed teachers also reported using the enrichment approach, emphasizing their role in fostering future skills in students, as exemplified by the Arabic teacher:

We use critical thinking skills extensively in the curriculum, for example, in reading comprehension, to help students pass international tests such as the PIRLS test, as the Ministry of Education has been sending models and exercises to solve them since the beginning of the corona crisis, so working remotely with students was challenging, but after the pandemic, there is a weekly class to train students to solve a set of obtuse problems. There are additional evaluations of the outcomes. Therefore, if a student receives eight or more grades, she will be considered an able student, while a student who receives six or more grades will be considered proficient in reading comprehension. If a student receives five or fewer grades, she will require a remedial plan, and I must concentrate more on the skills that I failed in.

Teachers still face hurdles when attempting to apply critical thinking skills and require time to develop them. The mathematics instructor said, “The Ministry of Education frequently requests that we record videos of students reading and discussing reading comprehension issues.”

These responses suggested that training for international assessments through models and exercises conducted regularly inside the school developed future skills. This was consistent with prior findings on the positive effects of preparing for international examinations [58]. Alomair et al. [59] found that Riyadh had the highest proportion of innovative teaching approaches compared to other cities in Saudi Arabia due to increased effort and awareness. For instance, the Education Department of Riyadh had a webpage educating teachers about international assessments, with activities, models, and explanations. Martin et al. [60] examined the relationship between students’ reading ability and their ability to answer questions with varying degrees of difficulty from TIMSS test questions. They found that the differences in student replies reflected different reading levels and were attributable to differences in the curriculum and teaching methods.

Interviewees also discussed the relevance of extracurricular activities in developing future skills. The Arabic teacher gave this response:

I believe extracurricular activities build future skills to some extent or according to the nature of the activity. For instance, when the school organizes an extracurricular activity, such as listening to a symposium on health or diabetes, I do not feel that the primary school students are particularly enthusiastic about it, unlike the middle and high

school students. However, when such an activity is presented to them using an educational video or in the form of a competition with prizes, I ask the students if they are interested. Therefore, extra-curricular activities improve [those skills].

Similarly, the mathematics teacher said, “I believe that extracurricular activities have a significant impact on the development of future skills and play an important role,” while the English teacher said, “I believe that students prefer to acquire future abilities, particularly technical ones, through extracurricular activities as opposed to a required course or subject.”

These responses suggested that extracurricular enrichment activities could play a key role in developing future skills, in keeping with previous studies [16, 30, 39]. The findings concurred with Al-Zahrani’s [39] call to raise teachers’ understanding of the significance of school activities in developing the future skills of female students, as well as Vitiello’s [40] recommendation to focus on fundamental skills such as communication, critical thinking, creativity, and environmental awareness.

The teachers also discussed the relevance of social programs in building future skills outside the classroom. The mathematics teacher gave the following response:

I believe that the Mawhiba program is one of the best programs that enhance future skills, as evidenced by the 22 Saudi students who won international prizes in the competition [ISEF 2022]; these students did not limit themselves to lessons or curricula but instead joined the Mawhiba program. I gave [a female student in my class] a certificate and encouraged her father to enroll her in the Mawhiba program after noticing that [she] always stopped me and asked for a simpler or alternative solution to the problem than the one in the textbook.

This remark suggested that social programs could foster the development of future skills. This was in line with positive findings about the Talents Unlimited Program [61] and recommendations about the need for critical thinking to prepare students [62].

8.5.3. *Preference for the Bridging Approach.* Teachers discussed the bridging approach, which involves teaching future skills in separate courses but shows their application to other courses. All of the interviewees agreed that teaching digital skills as a specific course was sufficient for students to practice technical skills. When asked “Or do you believe that technology should be taught in every course? Or do you believe that a combination of the two approaches is preferable?” the mathematics instructor said, “I believe that employing both techniques is preferable, as digital skills are applied practically in the courses and are taught in a separate course in which students learn technical abilities and then apply them practically to other decisions.” This statement implied that teachers preferred the bridging approach over the independent approach, which was consistent with Morris [25]. In

addition, this study indicated that encouraging and developing future skills through rigorous and sustainable teaching methods were possible.

Many work skills should be ingrained in kids by the time they graduate from high school. Educators must model these abilities and assist students in learning these concepts via regular practice. Schools must provide an opportunity for pupils to consolidate their knowledge and establish early growth attitudes. Learners will be better equipped for future problems if these abilities and mindsets are developed early in life. Skill development assists pupils in laying a solid foundation in education. It promotes self-esteem, courage, and management abilities. It fosters problem-solving abilities as well as teamwork. It inspires pupils to prepare for their future and helps them become independent thinkers. Future skills are vital because they prepare workers to deal with the continual shift in workplace mindsets and the quick arrival of technology improvements. Finally, they will be the secret sauce on which leaders will rely in the 2020s to successfully manage change. Schools must provide an opportunity for pupils to consolidate their knowledge and establish early growth attitudes. Students will be better equipped for future problems if these abilities and mindsets are developed early in life.

9. Conclusion, Recommendations, and Limitations

This study evaluated the extent to which Saudi primary school teachers reported practicing future skills in the classroom and their opinions about how those skills should be taught. In the quantitative questionnaire, teachers reported practicing future skills extensively, and teachers with more years of experience were significantly more likely to report using them. No significant differences were found based on gender or specialization. The semistructured interviews suggested that teachers developed students' future skills using the integration and enrichment approaches and had a preference for the bridging approach over the independent approach. Based on the findings, this study recommends that policymakers adopt the bridging approach to teach future skills to primary school students in the classroom and through extracurricular activities. Furthermore, such activities should be incorporated into the curriculum, and more quantitative and qualitative research should be performed to determine the efficacy of incorporating future skills into the curriculum across all academic levels and disciplines. More research is also needed on the role of community institutions, and this study would benefit from being replicated on a larger scale, as well as comparative research on different approaches for developing future skills. The findings could be used in constructing professional development programs for teachers. The Ministry of Education could increase the capacity of teachers to incorporate future skills into classroom activities and identify appropriate procedures and assessment questions to integrate and develop these skills. To this end, this study suggests preparing a guide

for educational activities that contribute to future skill development. Future skills should likewise be incorporated into university curricula and preparatory programs.

By cultivating a growth mindset and thinking that students can learn new things, he or she will be more adaptive to changes in his or her career and workplace, as well as more eager to try new ways of working. People learn new skills for a variety of reasons, whether as a pastime or for professional advancement in their employment. Learning is a new talent that requires significantly more time than merely learning the skill itself. From a workplace and technical viewpoint, investing in learning and self-development will not only help him/her remain ahead of the curve but retain his/her relevance and secure your future professional success. A person begins to learn the moment he or she is born. When youngsters, our brains absorb new knowledge like sponges, absorbing learning as we experience new things and utilize our senses to investigate these new experiences. We go through school, frequently going to further education such as university and professional credentials, and some people think, phew, I've done it! Understandably, our brains and bodies would need a break after the stress of passing the ACA exams but the ever-changing demands of modern professional positions, developments in technology, and a developing economy mean that ongoing learning is essential for continuing career success.

The study was limited to certain future skills identified in primary school students and the methods for their development. In addition, it was limited to one school district in Saudi Arabia so that the researchers could easily implement the findings in the workplace. The time frame for data collection was limited to the second semester of the 2021 academic year.

Data Availability

The data support this study are available in the manuscript.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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