Exploring Students' Perceptions Towards 21st Century Skills Through Novel Applications: A Comparative Study among EFL Learners in Iraq

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Abstract
Many initiatives have been seized to integrate 21st-century skills into the curriculum. They encompass specific competencies under five areas, which are vital subjects, 21st-century themes, innovation, career, and literacy skills. Accordingly, the present qualitative study was carried out at Tishk International University in Erbil, Iraq on 50 first-year students, aged between 18 and 23 in 10 departments through semi-structured interviews, according to the principles of phenomenological research design in the fall semester of the 2023-2024 academic year. This study aimed to explore the attitudes of tertiary-level students toward 21st-century skills through the lens of practical reflections on their social, personal, and academic lives. Specifically, it aimed to address the following question: What 21st-century skills are more significant than others? The rationale for exploring university students' perceptions of 21st-century skills and their practical applications was that students seemed perplexed regarding the significance of practical reflections in the Iraq context. Collected data were transcribed by the *Go Transcribe* application and classified based on the principles of content analysis. The findings revealed that reading, productivity, accountability, creativity, technology, and financial literacy were prioritized in each category by the participants, and they had novel ways to develop them regularly. The findings of this study can shed light on some points about the implementation of 21st-century skills with clear-cut strategies at educational institutions.
Keywords: 21st-century skills, prioritization, practical applications, university students' perceptions

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Introduction

The 21st century has witnessed profound changes in many fields with the advent of technological and scientific advancements. To name a few, the rising popularity of mobile technologies, AI initiatives, futuristic means of transportation, nanotechnology products, and innovative devices to diagnose and cure diseases have prompted authorities to make necessary changes in their education system, so newly graduated citizens will be equipped with required skills to be aware of such novel technologies, thereby having mastery on creating, using and improving them (Celik et al., 2022; Küçük, 2023). These phenomena have transformed the concept of education dramatically. Thus, new prerequisites have emerged to be ahead of others in the competitive market spanning the whole world. In other words, having a degree in some fields is not adequate any longer to land a lucrative job or secure a position. Instead, having a degree should be accompanied by specific competencies regarding crucial subjects, 21st-century themes, career, innovation, and literacy skills. The Partnership for 21st Century Skills (P21 hereafter) is a non-profit organization that has contributed significantly to the conceptualization of 21st-century skills in a single framework, composed by educators, experts, and businesspeople in 2002 (Guo &Woulfin, 2016). This framework has been designed to increase the success rate of people at different stages of their lives, including receiving education and working periods, so it has attracted considerable attention throughout the world to reap the benefits of it with an established plan.

P21's Framework has five classifications with specific sub-categories. To illustrate, key subjects stand for reading, writing, and arithmetic. In other words, managing the reading process effectively, conveying the message in a coherent format, and applying concepts in math are fundamental to developing competency in key subjects (Kara, 2023). In addition, global awareness, financial, civic, health, environmental, ICT, and media literacy should be integrated into key subjects under the heading of interdisciplinary themes. Global awareness refers to taking the initiative on international issues such as wars, natural disasters, pandemics, poverty, violence, racism, etc. Financial literacy is about knowing how to evaluate financial developments and make wise decisions about saving, investing, and spending financial resources (Lusardi & Mitchell, 2011). Civic literacy is related to staying in touch with local and central government agencies to join the management of cities and countries actively. Health literacy is seeking knowledge on the secrets of being healthy with numerous endeavors such as watching videos, reading articles, or visiting trustworthy health centers. After that, environmental literacy is figuring out chronic environmental problems and developing sustainable plans to protect the environment. Afterward, ICT literacy ensures that users can carry out basic tasks through mobile technologies in this digital age, so they will not be behind others in the information age. Subsequently, media literacy allows readers or viewers to make specific connections between content in the media and real life. Another primary category is career skills which encompass productivity, accountability, leadership, responsibility, flexibility, adaptability, initiative, self-direction, and social and cross-cultural skills. They hint that citizens in the 21st century should be as productive as possible, transparent, guide others, and undertake responsibility (Geisinger, 2016). In addition, they should adapt to changes, take sensible initiatives, and learn when to listen and speak in a community. Apart from key subjects and career skills, innovation skills, which are creativity, critical thinking, collaboration, and communication, are essential to secure a respectable position in society. Critical thinking, communication, collaboration, and creativity highlight that citizens should learn to develop novel ideas, see events from different angles, work together for a common goal, and keep in touch promptly. It can be stated that all five domains are of paramount importance in the way

of having a trouble-free lifestyle. 21st-century skills have different reflections on people's lives at different stages. To illustrate, reading is one of the most fundamental skills to understand, evaluate, and make specific interpretations. Likewise, writing is essential to convey messages in written form (Celik et al., 2022). Similarly, arithmetic is crucial to applying the rules of math to daily life. In the same vein, global awareness helps individuals to alleviate the effects of the most pressing world problems. Additionally, financial literacy encourages people to know the value of their money and make reasonable decisions to invest. Subsequently, civic literacy urges citizens to collaborate with mayors or governors for the betterment of society (Hylton, 2018). Afterward, health literacy guides people to live healthily by taking some life-saving measures. Moreover, environmental literacy inspires citizens to devise a plan for saving the world by launching nationwide or universal campaigns. Subsequently, ICT skills help individuals reap the benefits of mobile technologies by programming, editing, and creating. In addition, media literacy prompts people to monitor the inclinations of society and behave accordingly. Some skills may function as game-changing skills such as productivity, accountability, and leadership throughout people's careers. For instance, factory workers can lose their jobs if they produce far fewer products than expected. In addition, managers can step aside if they are not accountable to their co-workers, shareholders, customers, or tax inspectors (Adams & Zutshi, 2004). Similarly, team leaders should encompass the qualities of leadership if they gain the respect of the group continuously. On the other hand, innovation skills have crucial roles in developing students' skills. To illustrate, creative students can express their ideas creatively both in a written and spoken format. Similarly, critical thinking skill allows students to think analytically, so they can handle the issue from different angles and offer alternative solutions (Holmes et al., 2015). Likewise, collaboration is of paramount importance to create a brilliant product as a part of the team. When students are divided into groups, they are expected to collaborate and submit a final product with the contribution of all members. Additionally, communication skills are fundamental to keeping stable relationships with teachers, administrators, and classmates. When some students set communication barriers, they may have conflicts several times, thereby reducing their dignity gradually. Considering the implications of 21st-century skills, it can be argued that they have the potential to affect individuals' lives through their lifespans.

The research has multiple significances. Firstly, stakeholders in education have invested much time, energy, and money in meeting the needs of students in the 21st century. Correspondingly, they have devised novel strategies to cope with chronic problems of education and raise the standards in education. Besides, teaching basic subjects is not sufficient any longer which needs to be complemented with additional life skills. In this regard, the P21 Framework equips learners with the required competencies to master 21st-century skills, so they will not suffer from a lack of competencies throughout their lifespans. In this respect, the current study will fill the gap in the Iraq context by receiving unique perspectives of EFL learners at a tertiary level on prioritizing specific 21st-century skills with practical implementations in real life. Thus, such preferences, justifications, and exemplifications can shed light on some points about the importance, implementation, and improvement of 21st-century skills at other institutions in Iraq. Correspondingly, the aim of the current study is two-fold; the first objective is to pinpoint students' favorite 21st-century skills in each category with their justifications while the second one is to uncover a practical example to trigger such skills regularly. Subsequently, some common points and differences will be sought regarding major and gender. Accordingly, the following research questions are formulated:

- What is the perception of university students on 21st-century skills?
- What are some unique ways to develop specific 21st century skills?

Literature Review

Humanity has experienced a dramatically accelerating pace in the production and integration of new technologies in the last few decades. Those technologies, the internet, robotics, 3D and artificial intelligence have transformed the nature of many fields which require job seekers to be equipped with more skills compared to previous generations (Jan et al., 2023; Taar and Palojoki, 2022; Yucedal et al., 2022). It cannot be envisioned that such radical changes will not have an impact on education systems which have been updated accordingly to meet the needs of the industry in different sectors. Correspondingly, some non-profit organizations or government agencies, including WHO, OECD, UNICEF, World Economic Forum, and P21 have defined some key components of 21st-century skills. Among them, P21 Framework, formed by educators, experts, and businesspeople in 2002, has attracted more attention than others thanks to defining all key skills clearly and setting guidelines to realize them with an established plan (Abdullateef, 2021; Gamze & Bulunuz, 2023; Kara & Kucuk, 2023). P21's Framework has urged the stakeholders to develop specific skills in 4 areas related to core subjects, innovation, career, and ICT skills. Although it has risen in the USA, its influence has been noticed in many countries' education systems internationally. A growing number of countries have integrated the principles of the P21 Framework into their educational systems. Some scholars (Agmita et al., 2021; Rotherham &Willingham, 2010) argued that 21st-century skills need to be integrated into the curriculum for their advantages during academic, social, and professional life, whereas others (Celik & Kara, 2022; Menggo et al., 2022; Michelmore & Rich, 2023) asserted that their effects are not clear-cut at educational institutions. To name a few, Albahlal (2019) postulated that standard skills such as reading and writing are inadequate to meet the needs of the students in the age of information, so they should be trained to be effective communicators, and good critical thinkers in a collaborative manner. Similarly, Nazikian and Park (2016) elucidated that schools should provide a welcoming atmosphere to boost students' self-confidence with a well-balanced curriculum, so they can take initiative and come to the right decisions in their future endeavors. Additionally, Geisinger (2016) and Kara (2023) stated that an education system that does not highlight the importance of ICT cannot yield satisfactory results at a time when ICT tools are at the center of life with many practical examples. In the same vein, Hilliker and Loranc (2022) attested that students should learn how to be accountable for their actions, so they take their tasks more seriously during their lifespan. Otherwise, ignoring some duties or missing the deadline can be inevitable which may culminate in some types of punishments. However, some hesitations have arisen about 21st-century skills. For example, Dakhi (2022) pointed out that 21st-century skills are so comprehensive that narrowing some categories or arranging the skills based on the capabilities of the students can increase their positive outcomes. Otherwise, both teachers and students can feel overwhelmed. Similarly, Agmita et. al. (2021) reported that students can find 21st-century skills as challenging to grasp if practical applications of them cannot be shown clearly in classes. An increasing number of studies have been conducted to measure the influence of 21st-century skills integrated curriculum at different stages of education with varying findings. To illustrate, Öksüzoğlu and Tünkler's (2022) study revealed that most teachers take sides with offering education in a 21st-century skills-enriched way. They attest that students become more enthusiastic when lessons are covered with some form of 21st-century skills. Additionally, Palardy and

Rumberger (2019) found that students' tardiness and other behavioral problems reduced gradually after being exposed to instruction enriched with 21st-century skills. In the same vein, Hadiyanto et al. (2022) asserted that 21st-century skills enriched instruction not only increased their grades but also increased their motivation to be active participants in classes. Similarly, Kavlu (2015) found that 21st-century skills-based instruction guided EFL students to be good critical thinkers and find novel ideas during lessons, so these gains helped them to increase their scores in the exams. In the same vein, Kara (2023) pointed out that developing students' 21st-century skills via Web 2.0 tools paid off at the tertiary level. He underlined that students showed far better performance in the exams after being exposed to the instruction about boosting specific 21st-century skills. In addition, Osman et al.'s (2010) study showed that 21st-century skills paved the way for increasing students' overall success. However, some studies did not pinpoint a positive relationship between 21st-century skills instruction and having some gains. Yilmaz (2021) posited that the integration of technology into the curriculum instantly could have adverse effects on improving students' creativity, critical thinking, and collaboration skills. Conversely, the integration of Web 2.0 tools into education for the sake of mastering some 21st-century skills gradually can yield positive results. Likewise, Nissim et al.'s (2016) study unearthed that the atmosphere of the education system played a vital role in increasing the success rate of 21st-century skills instruction. When the atmosphere is not stimulating, it is not uncommon for the program to fail sooner or later.

Method

This qualitative study was conducted based on the procedures of phenomenological research design. Groenewald (2004) posits that phenomenological research pattern allows researchers to identify a phenomenon and offer sensible solutions upon collecting data through detailed interviews, so they are widely used in social science studies. To illustrate, the phenomenon was initially identified as a starting point to research thoroughly. Later, in-depth interviews were held in different settings. Subsequently, transcripts were classified under specific themes. In the final phase, findings were depicted to elaborate and offer a more precise image in readers' minds.

Participants

The population of the study encompassed all students who took the Foundation English course at Tishk International University in Erbil, Iraq in the fall semester of the 2023-2024 academic year. Their numbers amounted to 250 which were narrowed to 50 by employing the principle of systematic sampling method. Berndt (2020) asserts that systematic sampling is preferred widely to choose sampling thanks to offering an unbiased selection model. There are several stages of the systematic sampling method which were applied to this study as well. The systematic sampling method was activated by assigning a specific number for each student in the population, so 50 students, 25 female, and 25 male were determined. Although the common point was taking Foundation English course to lay a solid background in English as a first-year student, their majors varied from civil engineering to dentistry. Ten departments out of 29 were represented in this study. Additionally, their ages ranged from 18 to 23. The detailed distribution of participants is visualized in Table One below:

Table 1. *Participants' distribution regarding gender, age, and department*

%	F		Option	Variables
50	25		Female	Gender
50	25		Male	
88	44		18-20	Age
12	6		21-23	
Department		Architecture	6	12
		Business	6	12
		Civil Engineering	3	6
		Computer Engineering	5	10
		Dentistry	9	18
		Interior Design	4	8
		IT	10	20
		Medical Analysis	8	16
		Nursing	4	8
		Pharmacy	5	10
Total			50	100

As illustrated in Table One, the number of male students (n=25) was equal to female students (n=25). After that, most of the students were between 18 and 20 years old (n=44). Subsequently, IT students were higher than other departments' students when considered separately. Conversely, civil engineering students (n=10) were the least (n=3). Other departments' students were represented between four and nine members.

Research Instruments

The data was gathered using an individual, semi-structured interview form. The researcher created the interview schedule in different settings in line with the phenomenological research pattern. The final form was piloted after talking with the expert to ensure the quality of the items. The participants' responsibilities in other courses were noted as significant issues that would affect their willingness to participate, so the schedule of interviews was set in cooperation with students individually. Additionally, participants were granted the freedom to express their ideas in the researcher's office or online via scheduled video calls. The duration of the interviews varied from 15 to 25 minutes. Interviews were saved in an electronic format to be transcribed by an application called Go Transcribe. Once transcriptions were available, they were classified by content analysis to make specific interpretations through the common inclinations of the participants. According to Al-Jaro (2017), content analysis has specific stages which are formulating research questions, determining the content and the sample, finalizing units of analysis, coding schedule, checking inter-rater reliabilities, and analyzing collected data. Questions directed to participants to receive their genuine opinions on 21st-century skills were as follows:

- What are the most essential 21st-century skills?
- What are your justifications for prioritizing specific 21st-century skills?
- What are some practical strategies to develop 21st-century skills?

Research Procedures

Data collection lasted 10 weeks in this study which urged the researcher to interview five students per week. Thus, they did not feel stressed to race against time when there were some conflicts with their other responsibilities such as presentations, quizzes, or exams. Each student was exposed to an instruction that was enriched with 21st-century skills. Although they learned English in a professional format, they also learned the basics of 21st-century skills with practical implications through scheduled workshops, so they would be ready to cope with some challenges throughout their lives. Once students were familiar with all concepts in 21st-century skills via presentations, videos, articles, and practical sessions, they were ready to shoot their responses in the interview.

Trustworthiness and Ethics

The prior permission was gathered from the university's research center which is authorized to accept and reject the initiation of studies based on the pre-defined criteria of suitability, credibility, and ethics. Upon receiving the permission, participants were chosen. All stages of the study were introduced with a presentation. They were also informed that collected data would be deleted permanently after data analysis. Next, they signed the consent forms to join the study voluntarily. Thus, data confidentiality and participants' willingness were ensured and archived in advance.

Findings

Findings of the study were categorized under two sections which were content analysis and crucial points in the interviews. The first category was content analysis to display a clear image of participants' ideas about their favorite 21st-century skills, whereas the second category was embedded into findings to present justifications and exemplifications of such skills by the participants.

Content Analysis

Participants' sincere opinions on their favorite 21st-century skills were illustrated in Table Two.

Table 2. *Participants' preferences on prioritization of 21st-century skills*

Categories	Sub-categories	Gender		%
		M	F	
Key Subjects	Reading	15	12	54
	Writing	6	3	18
	Arithmetic	4	10	28
Life and Career Skills	Flexibility & Adaptability	7	8	30
	Initiative & Self Direction	4	3	14
	Social & Cross-Cultural	1	1	4
	Productivity & Accountability	9	7	32
	Leadership & Responsibility	4	6	20
Learning and Innovation Skills	Critical Thinking	7	7	28
	Creativity	7	9	32
	Collaboration	7	2	18
	Communication	4	7	22
Literacy Skills	Media Literacy	5	7	24
	Information	8	10	36
	Technology	12	8	40
21st Century Themes	Global Awareness	4	4	16
	Financial Literacy	10	7	34
	Health Literacy	8	7	30
	Civic Literacy	1	3	8
	Environmental Literacy	2	4	12
Total		125	125	100

Table Two shows that reading (n=27) was prioritized over writing and arithmetic regarding critical subjects. Additionally, productivity and accountability (n=16) were chosen more than other options regarding life and career skills. Subsequently, creativity (n=16) was more popular regarding learning and innovation skills. After that, technology literacy (n=20) was prioritized regarding literacy skills. The final category which was 21st century themes highlighted financial literacy (n=17) as the most favourite one. Table Two also revealed the least favorite ones in each category. To illustrate, writing (n=9), social and cross-cultural skills (n=2), collaboration (n=9), media literacy (n=12) and civic literacy (n=4) got the lowest praise in given categories. When the findings were analyzed by considering the gender in Table Two, they highlighted some points. It was observed that reading, technology, and financial literacy were leading skills to be improved regarding male participants, while reading, arithmetic and information literacy were leading factors regarding female ones.

Interview

To provide a logical progression, the results of the analyses of the data obtained from the semi-structured interviews with university freshmen from different departments were presented separately. In addition, the emerging patterns of similarities and differences were depicted in an embedded pattern to provide a holistic perspective on the topic.

The first essential theme that emerged from the qualitative analysis is highlighting some skills, such as reading, leadership and responsibility, communication, ICT, and health literacy skills. Several respondents reiterated that it cannot be envisioned to contemplate a global citizen without having specific competencies. They supported their notions with clear-cut examples:

> My department is IT, so my favorite skills to be improved will be arranged accordingly. I would opt for reading, leadership and responsibility, communication, ICT, and health literacy as the most essential skills in this century. There are some persuasive reasons to choose them. To begin with, reading is a central hub in our lives to read, expand our knowledge, evaluate, analyze, and synthesize, so it is directed to all other skills. Additionally, leadership and responsibility are two essential considerations. Undertaking responsibility and managing team members as a leader matters a lot to be prosperous in all stages of life. Subsequently, communication is crucial to cement a good relationship with the people around us. Otherwise, some conflicts cannot be inevitable which disrupts the positive atmosphere. Afterward, ICT literacy counts significantly while receiving education, finding a job, and carrying out tasks in social and professional life. Finally, health literacy comes to the forefront in this century because the world has been undergoing many health crises, so being healthy paves the way for having a peaceful and prosperous lifestyle. I have some strategies to develop such skills in my life. For example, I read e-books related to my interest areas. Also, my uncle is a good leader in an IT company, so I get first-hand experience from him during my summer vacations. In addition, I enroll in a course to develop my communication skills with practical examples. Additionally, I take some online courses to learn programming. Finally, I follow some health magazines and TV programs to raise my awareness of living healthily. (St 18)

The second fundamental theme to be emphasized is the importance of developing several skills, such as arithmetic, taking initiative, self-direction, collaboration, technology, and civic literacy. Many students pointed out that the individuals of the 21st century should be equipped with such skills in order not to lag behind others in the competitive job market:

My department is civil engineering, so my choices will be accordingly. In my opinion, arithmetic, taking initiative and self-direction, collaboration, technology, and civic literacy should be prioritized over others for the reasons I will mention. First, my success is directly affected according to my arithmetic knowledge because I need to calculate flawlessly to build more robust and durable buildings in the future. In addition, I must seek life-changing opportunities to progress professionally, so I should take the initiative to lead my career journey straightforwardly. Subsequently, we have a lot of projects to be completed as a team, so I will be behind others if I am an introverted person. I have some strategies to sharpen those skills. To begin with, I subscribe to a Facebook Page that asks a unique question on Math daily. I also ask some math questions to be clarified. Next, I take an online course about civil engineering through which we are shown some chronic problems. The tutors ask us the solutions and wait for a while. Finally, he tells the most sensible solution to fix it. Thus, I learn how to take initiative in a troublesome situation that may affect my career from the beginning till the end. Afterward, I am a volunteer for a charity. We collaborate with other volunteers to raise more money, food, and clothes from donors. It is a great feeling to succeed after a collaborative endeavor. In addition to previous ones, I subscribe to a newsletter from a well-known technology magazine. When some articles capture my attention, I Google to get further details, so I follow the latest technological developments. After that, I urge my friends to visit authorized bodies in my community. We visit them regularly to raise their awareness about some problems we have noticed. So far, we have realized a lot of projects together. (St 37)

Another noteworthy theme that emerged from the qualitative analysis is that media literacy and global awareness should be merged with other essential skills, so individuals can be prompted to progress in their lives. A great majority of students indicated that media literacy and global awareness have taken increasing precedence in the 21st century:

My department is business and management, so I will do my best to be more knowledgeable to be a prosperous entrepreneur in the future. I think reading, leadership and responsibility, communication, media literacy, and global awareness are fundamental skills to be developed. I have some persuasive reasons to defend them. For example, I read success stories of world-renowned businesspeople such as Bill Gates, Jack Ma, and Oprah Winfrey, so I get inspired for my future initiatives. Additionally, I know that my attempts will be futile if I cannot manage my co-workers. After that, communication barriers can prevent me from succeeding. I need to be a good communicator to have a good relationship with other workers, customers, or representatives of government agencies. Afterward, the media shows the latest trends, and success or failure stories, so media literacy can enlighten my way in the future if I learn some lessons from the covered stories in the media. In addition, global awareness is fundamental in this century because all events are connected. Additionally, I know that knowing different people with unique cultures and religions will expand my horizon on the way of being a global citizen who has the potential to work in any country at any time. I have specific strategies to master such skills. For instance, I read a self-improvement book by taking notes monthly. Then, we discuss common themes in it with other friends who have read the same book previously. Subsequently, my uncle is a CEO of a real estate company. I work with him whenever I have free time, so I learn the basics of being a good leader from him by getting first-hand experience through field trips and different meetings. Additionally, I listen to the suggestions of wise people to be a good

communicator. After that, I follow some famous YouTubers who summarize noteworthy news of the day internationally. Finally, I have a lot of foreign friends to improve my English and increase my knowledge about different societies, so we have video talks regularly to know each other well and spend quality time. (St 49)

Some practical strategies to develop different skills in each category are illustrated below in Figure One.
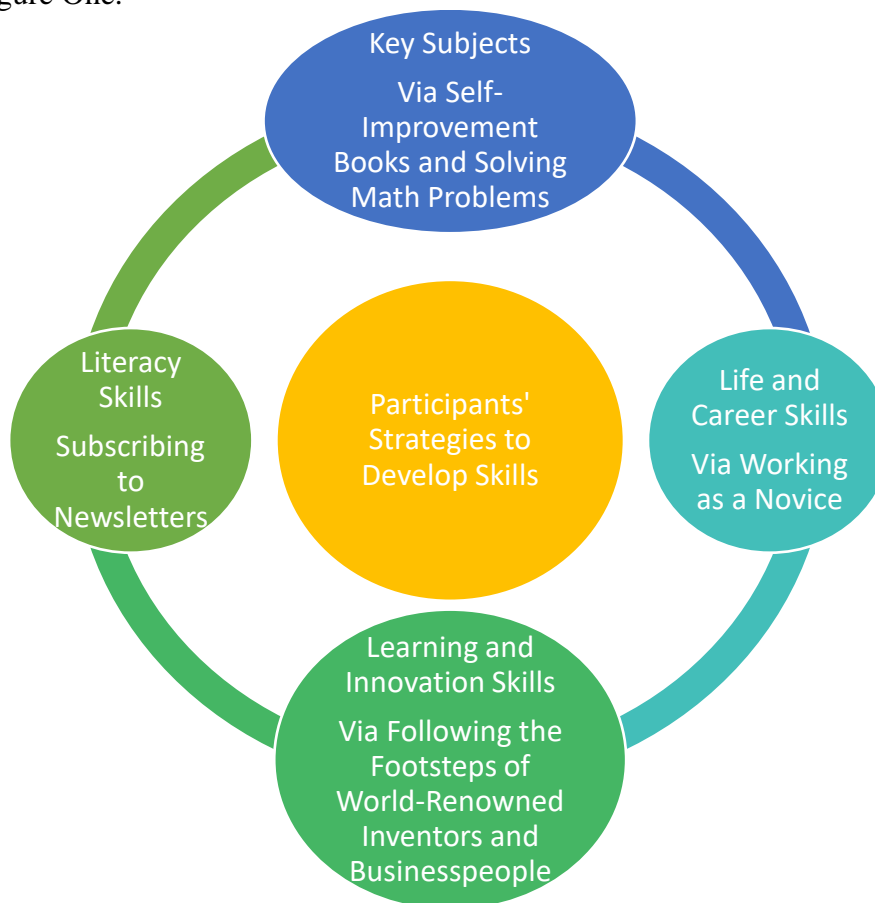

Figure 1. Practical applications to develop specific skills in each category

According to Figure One, respondents devised practical ideas to have more accurate reflections on their lives. To illustrate, they recommend reading extensively and solving math problems for learners who want to sharpen their key subjects. In addition, they highlighted that getting first-hand experience as a novice is fundamental to seeing the atmosphere of professional life and being familiar with some challenges before embarking on professional life upon graduation. After that, they advised young entrepreneurs to indulge in a journey about the success stories of inventors and businesspeople. Finally, they emphasized the value of following news and magazines to be knowledgeable about current events and getting in-depth perspectives.

Discussion

The research questions were addressed thoroughly in this qualitative study by directing the questions to the respondents in the interview. More specifically, the respondents expressed their ideas about 21st-century skills with novel applications in line with research questions. The first noticeable finding of the interview was that reading was emphasized more than others because

they thought that reading was key to success in other areas including writing and arithmetic. This finding was in line with Agmita et al. (2021) study which postulated that reading is the pre-requisite to expand knowledge in other areas. Additionally, it was also observed in the current study that productivity and accountability were highlighted in the life and career skills section. In this respect, it is not conceivable that people can be successful at school, in life, or at workplaces if such skills are missing. Likewise, they elucidated that people who justify their actions regarding their responsible areas can earn more dignity in society. Rotherham and Willingham (2010) stated that accountability urges people to be more transparent, so they can work more responsibly, thereby multiplying their productivity in a well-established plan. Another category was learning and innovation skills which included creativity, collaboration, communication, and critical thinking skills. Although the participants appreciated all skills, creativity got more support from them. They reiterated that being creative was compulsory to make a difference and strengthen our positions at workplaces. It was consistent with Nazikian and Park's (2016) study which revealed that creativity triggers innovation, so each educational institution should allocate a specific amount of time to unleashing students' creativity with carefully designed activities. They also asserted that creativity-based activities arouse students' interest, so their rate to feel boredom reduces substantially. Apart from key themes, life and innovation skills, participants expressed their ideas on literacy skills which have a lot of direct reflections on people's lives. Participants prioritized technology literacy over others because they thought that the future lies in the hands of technological tools. They also asserted that the more they were familiar with technological items, the more talented they would be to integrate them into their professions. This finding was in line with Geisinger's (2016) ideas which pointed out that all professions will transform as technology develops. The final category was 21st century themes which prioritized health literacy over others. The participants reiterated that health literacy becomes increasingly essential upon having witnessed a life-threatening COVID-19 period. They also attested that no progress is possible if they cannot maintain their health. Dakhi (2022) stated that health literacy has received increasing attention thanks to the availability of means of communication. People can access any knowledge instantly thanks to having a stable internet connection, so they can read articles, watch documentaries, get online therapies, or read comments related to health. The study distinguished participants' opinions regarding gender as well. It was noticed that male students prioritized reading, technology, and financial literacy. This finding was in line with Kucuk's (2023) study which highlighted that men are inclined to get more pleasure while taking part in activities related to technology and finance. Conversely, female students' tendencies were quite different from male ones. They prioritized reading, arithmetic, and information literacy which hints that they set aside more time for their self-growth. According to Palardy and Rumberger (2019), women seek novel information so that they can satisfy their hunger for new information. Additionally, they are alert to check the accuracy of the information from multiple sources.Their practical implementations to develop 21st-century skills were emphasized as well. They postulated that subscribing to newsletters increased their numerous skills gradually. Hadiyanto et al. (2022) contended that following news online offers comprehensible input for learners so that they can improve their English substantially. Additionally, they pointed out that they got inspired by watching several movies or videos. Yucedal and Kara (2023) asserted that using visual media can enhance students' learning considerably, so videos, movies, presentations, graphs, and min-maps should be integrated into lessons in a balanced way. In the same vein, students appreciated the efforts to get experience as an apprentice, so they will master some skills by doing. Osman et al. (2010) attested

that apprenticeship allows the novice to put theory into practice, so they test the effectiveness and shape their learning accordingly. Similarly, they praised the value of reading self-growth books to be more knowledgeable. Kara (2023) stated that reading helps the readers unlock their full potential by triggering them to be more proactive. In addition to the mentioned ones, they also expressed that online courses are beneficial to develop countless skills in a cost-free or cheaper offer which was in line with Nissim et al.'s (2016) study.

Conclusion

The main aim of this study was to gain the perceptions of students about 21st-century skills. In addition, students' novel ideas to develop specific skills were described in detail. According to the findings, gathered in the interview, several implications have arisen. P21 Framework, which conceptualized fundamental 21st-century skills for a global citizen, was investigated in this study by considering the perceptions and practical strategies of university students. The result emanated from the study unambiguously unleashed that students are aware of the importance of 21st-century skills to grab unmatched opportunities at the college, in social or professional life. Students' genuine opinions in the interview unearthed that they reserve an increasing time to improve their reading and writing skills. In addition, they pay utmost attention to increasing their competence in arithmetic. They understand that reading literacy should be combined with numeracy to be ahead of others in the competitive job market. Moreover, they highlighted that taking initiative, showing exemplary leadership skills, and being prolific and accountable are as essential as other skills. Furthermore, they expressed that health, civic, financial, and information literacy should not be underestimated to refine knowledge and be more privileged to be more prosperous in life. In the same vein, they reiterated that creativity, communication, collaboration, and critical thinking are indispensable skills to be developed in this century. Students did not leave a gap on realizing them. They also offered some practical solutions to implement them in real life by subscribing to newsletters, watching videos, enrolling in relevant courses, working as a novice, or reading personal growth books.

Recommendations

Some recommendations can be made for future studies. The current study explored students' perceptions in a qualitative mode which can be expanded with quantitative or mixed methods research design models. In addition, 50 first-year students at a private university in Iraq were included which can be enriched with other students studying in a high or secondary school. In the same vein, only perceptions of students at a private university were reflected which can encompass perceptions of students who have been studying at public universities. Moreover, the P21 Framework was the main basis for this study which can be extended with the framework of WHO, UNICEF, and OECD. After that, the study investigated the effects of 21st-century skills in general which can be specified with their effects on specific subjects such as English, science, maths, physics, and chemistry.

Conflicts of Interest

I declare that there is no conflict of interest.
Authenticity
This manuscript is an original work.
Artificial Intelligence Statement
AI and AI-assisted technologies weren't used in this article.

About the Author:

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