THE ROLE OF EDUCATIONAL SYSTEMS IN DEVELOPING THE TWENTY-FIRST CENTURY SKILLS: PERSPECTIVES AND INITIATIVES OF GULF COOPERATION COUNCIL COUNTRIES

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Abstract

In the dynamic landscape of the 21st century, the global economy is increasingly driven by knowledge and innovation. This shift necessitates a re-evaluation of educational paradigms to equip individuals with the essential skills required to thrive in the knowledge economy. The Gulf Cooperation Council (GCC) countries, characterized by rapid economic development, are at the forefront of this transformative era, facing the challenge of aligning education with the demands of the 21st century. This research aims to explore the importance of 21st century skills globally and in the context of the GCC countries, focusing on the intersection of education, skills development, and the evolving knowledge economy. A comprehensive literature review, qualitative interviews with educators, policymakers, and educational experts, in the GCC region, form the basis of this research. The study examines current educational practices, identifies key 21st century skills, and assesses their integration into the education systems of the GCC countries. Preliminary findings underscore the urgency for a paradigm shift in education to foster 21st century skills such as critical thinking, creativity, collaboration, and digital literacy. While some GCC countries have made strides in this direction, challenges persist, including curriculum alignment, teacher training, and the need for agile educational policies.

Keywords: 21st Century skills, Education, Knowledge Economy, Gulf Cooperation Council Countries, Skills development.

1. Introduction

The provision of necessary skills for the twenty-first century is a critical function of educational systems. Collaboration, entrepreneurship, self-directed learning, critical thinking, and effective communication, amongst others, are competencies that must be fostered in the educational environment where this position is carried out (AlHariri, 2020; Alainati, Alshawi, & Al-Karaghouli, 2011). These abilities are vital in today's workforce. In order to achieve these learning objectives, it is imperative to develop state-of-the-art and relevant curricula, implement effective and innovative teaching methodologies, and provide the required educational resources and technology (Larson & Miller, 2011). Additionally, instructors play a crucial role in assisting students in acquiring and implementing these skills to their daily lives and future endeavors.

Acquiring skills relevant to employers in the twenty-first century is crucial since it prepares students for the labor market (Norahmi, 2017). Evaluation of teaching resources and teacher training, in addition to the implementation of teaching standards and methodology, can accomplish this.

Moreover, opportunities for students to develop the skills necessary for the twenty-first century must be provided by the educational system outside the classroom (Katara, 2023). These opportunities may include participation in societally relevant educational initiatives, volunteer work, and engagement in external affairs. A substantial contribution to the skill development of students can be made by facilitating their self-directed learning, investigation, and discovery of topics that captivate their interest (Hofni, 2015). In order to meet the challenges of the twenty-first century, it is imperative that education officials and policymakers at both the national and international levels advocate for the advancement and enhancement of these systems. This involves transferring financial resources to improve educational infrastructure, acquire instructional technology, and furnish training for teachers on how to effectively utilize it (Al-Sharhan & Al-Hunaiyyan, 2012). An additional focus should be placed on ensuring that all students have access to a high-quality education and minimizing the educational opportunity gap between students of different socioeconomic backgrounds. The advancement of teaching methodologies and technologies that enhance the competencies of the twenty-first century through education-related research and innovation. In general, the purpose of investing in and acquiring knowledge regarding the twenty-first century is to gain knowledge and become involved in the challenges of that era (Ahmadi, 2018). Community members, educators, parents, and decision-makers should all be included in the embrace.

Developing 21st-century skills is the best approach to prepare youth for the workforce and meet the needs of contemporary businesses and industries. Educators should, theoretically, possess the pedagogical expertise required to impart 21st-century skills to their students. Given that we currently live in a knowledge-based economy where the workforce's education and training determine a country's ability to compete economically, this is especially important (Alainati, 2021A). As a result, in order to succeed and contribute to a knowledge-based society, workers now need to have the skills that this economy requires of them.

The relationship between Human Resource Management (HRM) and the 21st-century skills of students and graduates is significant, as these skills play a crucial role in determining employability and success in the modern workplace. 21st-century skills emphasize the importance of ongoing education and adaptability, aligning with HRM's goal of ensuring employees remain relevant in a rapidly changing world (Alainati, 2015; Alainati, 2021B). In summary, HRM is closely linked to the cultivation, recognition, and utilization of 21st-century skills among students and graduates. As the workplace evolves, the emphasis on these skills becomes increasingly important for organizations seeking to build a workforce that is agile, innovative, and well-prepared for the challenges of the 21st century. Instructors play a crucial role in the context of Human Resources and online learning delivery (Alainati, Al-Hunaiyyan, & Alkhatib, 2023B). In online learning

environments, instructors are responsible for facilitating and guiding the learning experience for learners, providing feedback and support, and evaluating learners' performance (Al-Hunaiyyan, Al-Hajri, & Bimba, 2021D; Al-Sharhan, Al-Hunaiyan, & Gueaieb, 2006; Al-Hunaiyyan, Alhajri, Al-Sharhan, & Al-Ghannam, 2021B; Al-Hunaiyyan, Al-Sharhan, Alhajri, & Bimba, 2021A; Alhajri, Al-Hunaiyyan, & Almousa, 2017) to ensure that the program meets the learning objectives and equipping learners with 21st century skills (Alainati, Al-Hammad, & Alhajri, 2023A; Al-Sharhan, Al-Hunaiyyan, & Al-Sharrah, 2010).

The structure of this article is as follows. In Section 2, the research aims and objectives are stated. The literature review in Section 3 centers on the abilities required in the twenty-first century to adapt to the changing work market. In Section 4, the research methodology is explicated. The outcomes of the qualitative discussion and presentation by the GCC delegates are detailed in Section 5. A list of recommendations is provided in Section 6. Section 7 provides the concluding remarks.

2. Research Aim and Objectives

This research aims to contribute a holistic understanding of the importance of 21st-century skills globally and within the unique context of the GCC countries. By exploring the intersection of education, skills development, and the evolving knowledge economy, the study seeks to inform educational policies, guide skills development initiatives, and facilitate a more agile and innovative workforce prepared for the challenges of the 21st century. Specific objectives are:

- Investigate the global landscape of 21st-century skills, examining their conceptualization, recognition, and integration into educational frameworks worldwide.
- Identify key trends, challenges, and success stories related to the adoption and impact of 21st-century skills globally.
- Assess the current state of education and skills development in the GCC, emphasizing initiatives aimed at cultivating 21st-century skills.
- Underline the alignment between educational curricula in both global and GCC settings and the demands of 21st-century skills.
- Value the impact of 21st-century skills on the evolving knowledge economy, both globally and within the GCC region.
- Discuss how the integration of these skills contributes to innovation, productivity, and competitiveness in the business and industrial sectors.

3. Literature Review

The literature review starts with a thorough explanation of the significance of the 21st century and its definition. The article then investigates the role of educators in preparing their students for success in the modern world. Then, the importance of the programs and curriculum, as well as the learning tools and methodologies, in fostering the competences of the twenty-first century are underlined. The significance of this issue to contemporary knowledge-based economies is thus acknowledged fortify the skills necessary for success in the modern era.

3.1. Twenty-first Century skills: Definition and Significance

Saavedra & Opfer, 2012, stated that twenty-first century skills are interdisciplinary and relevant to many aspects of contemporary life and currently have no place in most curricula. Most 21st century skill lists are not entirely composed of specialized skills but involve many aspects of skills, understanding, and perception, while many focus on tendencies such as curiosity, creativity, and collaboration, which are not, strictly speaking, in the sense of skills. Some of the 21st century skills are also focused on technology, and others are more focused on attitudes and values. According to (Saavedra & Opfer, 2012), in recent years, education systems have developed their curricula in many countries and frameworks with an increased focus on developing the skills, knowledge, and attitudes necessary for success in the 21st century. Larson & Miller (Larson & Miller, 2011) noted that there are different ways of describing twenty-first century skills, but they generally emphasize the practical application of knowledge and the use of communication skills in real-world situations. Another definition, in (Wagner, 2008), suggests that students need seven skills to prepare for life, work, and citizenship in the 21st century: Critical thinking and problem solving; Collaboration and leadership; Agility and adaptability; Initiative and entrepreneurship;   Effective   oral   and written communication; Accessing and analyzing information; Curiosity and imagination.

Skills acquisition and development are of paramount importance because it is a process that leads to mastery of work and is characterized by precision and originality. Skill refers to the ability and competence acquired through a coordinated and systematic effort to effectively deal with tasks and navigate smoothly through different activities (Alainati, Alshawi, & Al-Karaghouli, 2009). These skills can be classified into three main types: mental, technological, and social life skills that enable individuals to live in confidence and security while ensuring access to appropriate work that guarantees them a decent life. As a result, educational institutions in developed countries have been forced to reassess their curricula and goals with a view to providing graduates with the necessary preparation to keep up with the ongoing developments and changes that have engulfed global and local communities (Bashir & Miyamoto, 2020). This preparation should allow them to cope with these ongoing challenges and meet the many challenges posed by globalization, particularly with the rise in the challenges of digital transformation and transformation (Dahlstrom, Brooks, & Bichsel, 2014).

Multiple studies have demonstrated the importance of 21st-century skills. The findings of a study conducted by Thang et al. (2014), demonstrated that both students and instructors respond positively to the use of Digital Storytelling to teach English for Academic Purposes. The review of the preliminary findings centered on the extent to which the innovative teaching method enhances the promotion of 21st-century skills, such as interactive communication skills, interpersonal skills, technology literacy skills, and language skills. An important study by (Norahmi, 2017) sought to collect the written opinions of respondents regarding the activities implemented by instructors during the teaching-learning process (Al-Doub, Goodwin, & Al-Hunaiyyan, 2008). The results revealed that the majority of students expected teachers of the 21st century to be proficient in current technology and the future characteristics of 21st century

students. The findings of a comprehensive literature review (Ahmadi, 2018) indicate that the use of technology enhances the levels of interaction between teachers and learners, develops thinking skills, facilitates a student-centered approach, and promotes learners' autonomy, self-confidence, and motivation to effectively acquire a foreign language. Another research by (Bedir, 2019) looked into how future teachers view the 4Cs and their role in developing students' 21st-century learning and innovation skills. According to the findings, students define 21st-century education as classrooms that incorporate technological tools for instruction. They were only somewhat familiar with the 4Cs but had a favorable impression of them.

Groups of academics and government agencies have worked to identify and strengthen the foundational skills and capabilities needed to prepare the workforce for what comes next. Within the twenty-first century learning framework, the skills necessary to keep up with education, and to be an indicator of the size of the digital divide, can be summarized as follows (Bernie & Fadel, 2009):

1. Learning Skills: Learning Skills are skills used to process and communicate information, including participation and creativity, ability to think critically, collaboration and communication.

2. Literacy Skills: are skills needed to develop researchers and intellectuals with expertise and knowledge, including information literacy, media literacy and technological literacy, all of which focus on the assessment and processing of new information, especially information on the Internet.

3. Life skills: Life skills are the skills needed for individuals to succeed in their personal and work lives, including resilience, adaptability, leadership, initiative, efficiency, and social skills.

A McKinsey study (McKinsey, 2021) also found that 56 important skills people will need to achieve future success are divided into 13 groups and four categories, shown in Table 1.

Cognitive	Interpersonal	Self-leadership	Digital
Critical thinking	Mobilizing systems	Self-awareness and self-management	Digital fluency and citizenship
Planning ways of working	Developing relationships	Entrepreneurship	Software use and development
Communication	Teamwork effectiveness	Goals achievement	Understanding digital systems
Mental flexibility			

Table (1): Future skills for success as listed (McKinsey, 2021)

3.2. Educators' Role in Developing 21st Century Skills

The current century has seen great advances in knowledge and technology. As a result, education systems have had to keep abreast of these changes and create an education system that is in line with the trends and developments of the 21st century. It has therefore become necessary for instructors to have a good understanding of this (Al-Zahrani & Ibrahim, 2019). In addition, instructors must take advantage of modern learning strategies that revolve around the learner's needs and develop the skills required in the labor market and industries, such as the values of good citizenship, critical thinking, problem solving abilities, the ability to use computer applications and how to integrate them into education. As the main focus of the learning process, effective communication, innovation and the ability to play different roles are also critical to success in the 21st century (Bashir & Miyamoto, 2020; Oliver & Jorre de St Jorre, T, 2018). The primary responsibility of instructors is to transfer the knowledge, skills and tools needed for success in the labor market and industry, as well as to cultivate the moral and cultural role. The role of teachers is to motivate students to achieve their goals in life and prepare them to engage in changing labor markets (Bedir, 2019).

Instructors face many challenges in teaching twenty-first century skills that must be addressed and overcome effectively. According to the findings of (Al-Zahrani & Ibrahim, 2019), one of the critical responsibilities of instructors is to improve students' understanding of their society. To do this successfully, instructors must critically assess and distinguish between positive and negative aspects of media and social media content (Al-Hunaiyyan, Alhajri, Al-Sharhan, & Bimba, 2021C; Alhajri, Al-Sharhan, Al-Hunaiyyan, & Alothman, 2011; Al-Kandari, Al-Sumait, & Al-Hunaiyyan, 2017). This requires instructors to have a broad knowledge to appropriately support the cultural identity of their community, accommodates diverse learning styles (Alhajri & Al-Hunaiyyan, 2016), and articulate national and local initiatives, and promote positive ideas and values prevalent within the community. Al-Zahrani and Ibrahim (2012) also introduced the idea of learning for knowledge, which includes skills such as seeking information and promoting lifelong learning. Education experts and industry leaders unanimously recognize this urgent need. According to (AlHariri, 2020), instructors must adapt their focus from merely transferring scientific content to emphasizing effective teaching and learning methods. This requires transforming students from passive recipients of information to active participants, equipped with critical thinking, teamwork skills, creativity, communication skills, and the ability to communicate and innovate (Saddiq, 2020; Al-Hunaiyyan, Al-Sharhan, Alainati, & Al-Duaij, 2023).

The ability of instructors to acquire the skills needed for computer applications and technological innovations plays a crucial role in their personal growth and professional development. By mastering modern applications such as virtual reality, augmented reality, artificial intelligence, and digital geographic information, instructors will be competent with modern technical skills (Alzayed & Al-Hunaiyyan, 2021; Al-Sharhan & Al-Hunaiyyan, 2012). This enables them not only to use ICT to its fullest potential, but also to help their students adapt to and use these technologies. This means that instructors must make concerted efforts to develop and promote creative thinking in students. In addition, learners should be given great value and freedom to participate in

exploration and research, which encourages self-discovery and self-awakening. They should be encouraged to face challenges, seek answers to their inquiries and develop effective learning habits. Furthermore, the mindset of self-learning should be strengthened, while promoting awareness and sensitivity to cultural diversity. Students should be encouraged to empathize with the suffering of others and acquire skills for life and technology mobility. This includes the ability to make informed decisions, solve problems, communicate effectively, and engage in meaningful dialogs with others. According to (Hofni, 2015), the most important skills that 21st century instructors should have to enter the cognitive economy era are: high-thinking skills development, life skills management, student capacity management, cognitive support, and education technology management. In order to promote and advance education, it is important to train and comprehensively prepare instructors in all academic, professional and technical aspects within educational institutions (Al-Hunaiyyan & Al-Sharhan, 2009). The process of continuous professional development and support for instructors enhances their ability to perform at a high level and to achieve the objectives of education effectively both in and outside the classroom (Zahra & Tilly, 2020).

According to (Al-Sharhan S. , Al-Hunaiyyan, Alhajri, & Al-Huwail, 2020), instructors of the 21st Century are expected to manage the education system teach anytime, anywhere using interactive ICT, video conferencing, as well as AI applications, being able to interact with the virtual learning environment, encouraging students to seek and use information to infer, explore, share, express, in and outside the classroom. In the field of education, instructors need to possess a wide range of skills, ranging from technical and operational skills to information management, social interaction and content development skills (Al-Hunaiyyan, Al-Sharhan, Alhajri, & Bimba, 2021A; Nutsubidze & Schmidt, 2021). These skills will determine the "future teacher" who will take the role of leading the educational process creatively, moving away from traditional teaching and performance-based methods. Thus, the main challenge is the continuous professional development of teachers to ensure that they keep up with developments in the areas of information and technology (Alainati, Al-Hunaiyyan, Alhajri, Alahmad, & Alkhatib, 2023C). The proliferation of AI, the use of data science, and the emergence of smart cities and IoT will increase the need for advanced capabilities in managing educational content and formulating the educational system (Liu, Zhao, & Su, 2022). To keep up with the rapid advances in education, instructors must adapt to new teaching mechanisms and methods. To meet these challenges, (Al-Sharhan & Al-Hunaiyyan, 2012), proposed a six-stage model to enhance teachers' digital capabilities, each of which represents a specific level of competency on a maturity scale known as the Teacher Competency Maturity Model (TCMM).

3.3. Integrating 21st Century Skills into Education Systems
Education has numerous advantages and functions, enabling students to make meaningful contributions to society, develop students' talents and skills, and develop values and principles. This contemporary era is distinguished by knowledge, global market openness, and cultural integration (Al-Hunaiyyan A. , 2000; Al-Huwail, Al-Sharhan, & Al-Hunaiyyan, 2007). In the

twenty-first century, it is necessary to adapt to advances in knowledge of technology where the achievement of educational goals is influenced by the use of technology in communication and collaboration with others. Curricula must help students acquire basic knowledge, technological competence, creativity, innovation and necessary professional skills (Alainati, 2021B). The redesign of curricula and the implementation of new educational strategies in schools have contributed to the development of twenty-first century skills, which equip students with the means to navigate the demands of an evolving and developing global landscape (Katara, 2023). Participation in the development of learning in the twenty-first century is a comprehensive structure aimed at incorporating and integrating these skills into school curricula. For the successful integration of these skills into the education system, it is important to ensure their effectiveness, make it is the age of knowledge, innovation, and the creation of new personalities, and technology, which enable students to create new classrooms (Alzayed & Al-Hunaiyyan, 2021). Instructors have to think about their teaching methods, integrate them with twenty-first century skills, and relate them to real-life situations (AlHariri, 2020).

According to a recent survey of 9,000 employees, result show that companies now expect universities to move away from the much focus on pure theory of theoretical education and instead direct their efforts to better equip graduates with skills needed to engage in the labor market (Benq, 2021). These trends highlight an urgent issue that educational institutions must address to close the skills gap in the 21st century. To adequately qualify students for the demands of a renewable labor market, it is necessary to provide them with the necessary skills relevant to the knowledge economy (Katara, 2023; Hofni, 2015). These skills can be acquired through teaching twenty-first century skills directly related to the development of higher thinking capacities. As emphasised by situations (AlHariri, 2020), education in the past focused primarily on acquiring knowledge and information and then evaluating students based on their understanding of content through periodic tests. However, as education systems and digital transformation in the workplace evolve, it has become clear that a more holistic approach is needed to meet the changing requirements of society.

Digital and twenty-first century learning skills are particularly crucial when considering future learning environments and the substantial changes that will accompany them and which will have a profound impact on learning mechanisms, means, and future opportunities (World Economic Forum, 2016). One of the primary barriers to a nation's endeavors to bridge the digital educational divide is the deficiency of competencies pertaining to the utilization of education technology, as well as competency development in technology as a whole, and its integration into the public education system (Al-Sharhan & Al-Hunaiyyan, 2023). The ITU report on the information society noted that the lack of digital and cognitive skills are important barriers to population access to the internet (ITU, 2018). This applies to Gulf Countries Council (GCC) societies, as technical access and access to the Internet show that as various activities from e-Governments, digital work and educational activities become more complex, populations, with more and fewer computer skills, as developed countries demonstrate. This is a serious indicator of the weak development potential

of countries, and the report also noted that there is an increasing need for "personal" skills that go beyond technical and basic skills.

The education system must encourage students to think creatively, foster critical thinking, develop their abilities to find new solutions to problems and develop new concepts (Al-Sharhan & Al-Hunaiyyan, 2023; Katara, 2023). In addition, it is important to enhance students' research skills, review and analyze scientific sources and information online to ensure access to accurate and reliable information. Strengthening and developing self-learning skills is also very important to enable students to be able to learn in a continuous manner, and to foster new skills and collaboration (Oliver & Jorre de St Jorre, T, 2018). Leadership skills and teamwork, where these skills can be vital in a society that requires effective interactions with others (Almonawer, et al., 2023). The skills of the twenty-first century should be taught and integrated into the current curriculum by offering attractive learning experiences to students in original settings (Sherifi, 2015). Here are some strategies and teaching methods that contribute to incorporating twenty-first century skills into the school curriculum: Active Learning; Effective Learning; Project-Based Learning; Problem-Based Learning; Game-Based Learning; Flipped Classroom (Benq, 2021).

3.4. Twenty-first Century Skills in the Knowledge Economy
The traditional economy is based on tangible natural resources, such as agriculture, oil and other resources, while the knowledge economy depends mainly on the production of goods and services based on human intellectual capital (Hinton, 2020). This important component of the knowledge economy depends largely on intellectual potential, rather than natural resources, as it takes advantage of scientific discoveries and research, which is of great importance in the developed economies (Tarbiyya, 2023). The current era is that of a knowledge-based economy, in which economic competition between nations depends on the skills possessed by the workforce which correspond to the characteristics of this age, which has necessarily led to live and work in the knowledge-based society (Alainati, 2021A). There are compelling economic reasons for education systems to develop the skills and attributes of 21st century graduates. Especially as technical devices and tools are able to perform the kinds of jobs that only people with routine knowledge and skills can perform cost-effectively, this means that the workplace needs fewer people with only basic skills and more people with higher thinking skills (Ahmadi, 2018). Moreover, individuals are part of the interconnected global economy, and this interdependence makes it more urgent for students how to communicate and collaborate with the world's problems outside the boundaries (Saavedra & Opfer, 2012). All these reasons underscore the need for twenty-first-century skills from a different perspective, but they are not at odds, but rather complement each other because the skills and knowledge needed to participate in economic, civic, and global spheres are almost entirely overlapping (World Economic Forum, 2016).

The current educational system in most educational institutions is based on old learning strategies, namely that the instructor is the master of the educational process and the focus on instruction and conservation (Al-Hashemi & Al-azzawi, 2007; World Government Summit, 2023). Education is based on content and intensive testing rather than skills, so education does not meet the

requirements of development in the context of global competitiveness and digital transformation (Katara, 2023; Bukle, 2023). It is therefore necessary to develop curricula in order to produce a generation to be an addition to building a knowledge economy. Here comes the role of the fourth generation of education, which contributes to this, so it is necessary to shift to a learning model based on Outcome-based Education (OBE) (Sessums, 2020), so that the student is at the center of the educational process and is able to participate, discover and innovate (Norahmi, 2017). The successful application of the knowledge economy in educational institutions requires the development of appropriate human cadres familiar with the concepts and principles of the knowledge economy (World Economic Forum, 2016). This does not depend on the theoretical aspects but goes beyond it through the application of these concepts, and it requires changing the role of teachers to develop and update their information and skills in order to employ renewable and advanced technology in the educational process (Hill, Walkington, & France, 2016). Thus, the transition to the knowledge economy depends on the promotion of knowledge through education, starting with university education, as well as through training courses, activities, media and other means of knowledge transfer, interest in scientific research centers and services, in addition to the provision of scientific research and its various institutions and services ICT-based (Al-Hunaiyyan, Alhajri, Al-Sharhan, & Al-Ghannam, 2021B).

The correlation between education and the knowledge economy is initially established through the integration of information technology into the learning process, which facilitates the attainment of educational objectives (Al-Sharhan & Al-Hunaiyyan, 2023). However, this necessitates the provision of human cadres consisting of professors and instructors who possess the necessary expertise to handle the intricacies of this technology and employ it effectively in order to reap its intended benefits (Hill, Walkington, & France, 2016; Scott, 2015). This necessitates a thorough examination of the curricula and an all-encompassing restructuring of the educational process, encompassing pedagogical approaches and philosophical considerations, alongside the implementation of contemporary mechanisms in education derived from scientific investigation and exploration (Zahra & Tilly, 2020). Government, private institutions and entrepreneurs in SMEs should therefore take advantage of AI applications to act as an enabler and critical catalyst for the growth and advancement of the knowledge economy (Abah Abah, 2020; Alainati, Al-Hammad, & Alhajri, 2023A). By harnessing the potential of AI, the knowledge economy can flourish, fostering innovation, productivity and sustainable growth. There are also many existing and available AI applications that contribute to business growth, especially projects related to innovation, analysis and technology.

The World Economic Forum recognized this and issued its famous annual report on the jobs of the future for the next five years. In its 2020 report (World Economic Forum, 2016), of more than 20 professions required until 2025, 11 were related to technological skills. The GCC and Arab countries alike should be aware of this rapid change in the skill map and work to address these challenges, which are the continuous updating of their strategies and training programs based on digital skills (Andreas, Goldin, & Nusrat, 2020; Al-Hunaiyyan, Alhajri,, Alzayed, & Alraqqas,

2016). Digital transformation, and education in particular, will strengthen the digital and knowledge economy and the digital community, opening up new avenues for economic diversification and making a serious contribution to enhancing individual and collective responsibility for the sustainability of state resources (Ahmadi, 2018). It is essential that members of society possess a set of digital skills that will enable them to succeed and contribute to the economies of their countries. People with high digital skills can also benefit from more opportunities, especially those related to emerging technology sectors, and even promote entrepreneurship to initiate businesses related to the ongoing developments in digital technology, and to respond to these digital challenges, which is not easy or simple, and has been divided into three levels (as illustrated in Figure 1) (ITU, 2018).
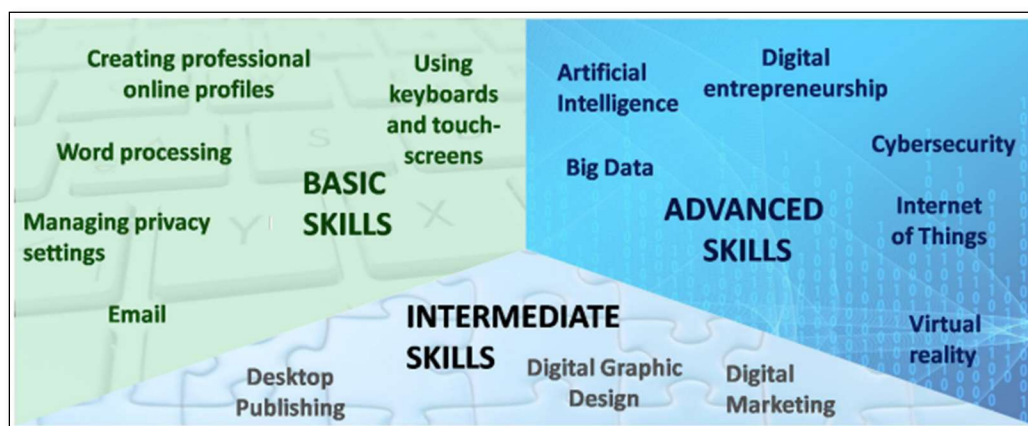

Figure 1. Digital skills - Source: (ITU, 2018).

The knowledge economy requires significant efforts in education and appropriate teaching methods (Andreas, Goldin, & Nusrat, 2020). As the numbers of people working in this field continue to rise, there is a need to eliminate information illiteracy, which is the greatest impediment to the growth of the knowledge economy (Alainati, 2021A; Bedir, 2019). Moreover, the rapid advancement of knowledge requires lifelong training and a high level of scientific and technological competence among all employees. Various studies conducted around the world have highlighted the high demand for workers specialized in information management, information technology and knowledge as a whole. These studies also point to a declining demand for uneducated or inexperienced workers. As a result, as reported by (Hinton J. , 2020), there is an urgent need to reassess educational systems and policies that provide significant opportunities for the development of education in line with the knowledge-based economy, which depends on the growth of the information and communication technologies.

According to (Tarbiyya, 2023), it is the responsibility of academic establishments to establish a conducive learning atmosphere that fosters opportunities for cognitive innovation and creativity, as well as cultivates a positive societal attitude toward the knowledge economy. Additionally, it is critical to establish a robust research and development environment that fosters the success and

growth of the knowledge-based economy via all-encompassing strategizing, knowledgeable counsel, meticulous assessment, and ongoing improvement. This can be achieved by actively engaging in global dialogue and disseminating the values and customs of the academic community through initiatives and concepts across various community establishments. According to (Katara, 2023), to ensure a smooth transition to a knowledge-based economy, several key elements must be in place. These include enhancing performance competencies to effectively utilize information technology and computers, reassessing the design of curricula and courses, certifying educators to assume the novel responsibilities demanded by the knowledge economy, reevaluating teaching methods and strategies, placing greater emphasis on intellectual growth and lifelong self-improvement, and prioritizing the quality of learning over quantity.

4. Methodology

A comprehensive literature review, lectures, discussion, and qualitative interviews with educators, policymakers, and educational experts, in the GCC region, form the basis of this research. Symposium sessions provide a platform for in-depth discussions among diverse stakeholders, including educators, policymakers, and researchers. The representatives came from education and higher education ministries, schools, and universities within the Gulf Cooperation Council (GCC) countries. This Include a diverse range of perspectives, ensuring a comprehensive understanding of the challenges and opportunities related to 21st century skills. This took place in the Cultural Village Foundation – Katara, Qatar (Katara, 2023).

A Question & Answer sessions with open dialogue were encouraged to gather qualitative data on participant opinions, experiences, and recommendations, and a thematic analysis to identify recurring themes, patterns, and key issues discussed during the symposium and the discussions (Nowell, Norris, White, & Moules, 2017). In addition, extracting qualitative insights related to the integration of 21st century skills in education within the GCC context. In addition, the Lectures delivered by the GCC participants served as a means to disseminate expert knowledge and theoretical frameworks related to the crucial role of 21st century skills in shaping the knowledge economy. These sessions covered a range of topics, including the theoretical foundations of 21st century skills, successful case studies, and potential strategies for integrating these skills into educational systems. Finally, reflections from symposium attendees after each lecture was collected, focusing on their key takeaways, questions, and thoughts.

Combining symposium sessions and expert lectures provided a holistic qualitative research methodology (Gray, Williamson, Karp, & Dalphin, 2007), capturing diverse perspectives and fostering rich discussions on the crucial role of 21st century skills in shaping the knowledge economy within the GCC countries. The qualitative insights gained from these interactive sessions will contribute to a nuanced understanding of the challenges and opportunities in this educational landscape.

5. Gulf Countries Council's Insights of the 21st -Century Skills

The Gulf Cooperation Council (GCC) nations have made concerted efforts to advance educational systems, encompassing both secondary and tertiary levels, by means of curriculum development, strategy diversification, quality improvement, teacher skill enhancement, and the establishment of contemporary learning environments. Given the circumstances, we deemed it crucial to solicit the perspectives of experts hailing from the GCC nations—specifically, the Kingdom of Bahrain, Qatar, Saudi Arabia, Oman, the United Arab Emirates, and the State of Kuwait—with regard to endeavors concerning the improvement of twenty-first century competencies. This was accomplished through lectures, talks, and two days working session in the Cultural Quarter of Katara, Qatar. After providing an overview of the sessions, the subsequent section contains recommendations.

5.1. Delegate of the State of Qatar

Mona Al-Kowari, Consultant, Ministry of Education, Qatar, quoted that in recent years, the world has witnessed rapid development and growth on many levels, especially technological ones. This highlights the role of preparing the learner and acquiring the necessary skills to challenge many of the difficulties in light of globalization, fierce competitions, epidemics, climate change and technical developments. Mona added that the educational process has many elements related to the educational space, the teaching material, the teacher, the learner, the teaching methods and the attendance in time and place (Abah Abah, 2020). All these elements have contributed effectively to determining the form of the learner and have had a highly influential impact on his intellectual building, psychological and social and economic role.

Mona said that the 21st-century learner's training is based on three basic pedagogical pillars: personality, participation, and productivity. She stressed that the teaching system must be based primarily on learning in real contexts linked to fully completed projects with solutions to problems throughout the project. This type of teaching allows the learner to develop distinctive and cost-effective learning self-experiences. The skills that the teacher must have been general technical and human skills, skills that must be well-trained on a continuous basis throughout the teaching profession. Mona emphasized that the teacher's competence increases as he or she acquires more skills, especially training him or her in the proper use and application of digital systems, software, and global applications (Trilling & Fadel, 2009).

Mona added that according to the vision of the State of Qatar on the future of jobs, the ten most important basic skills required in the coming decade are: cognitive flexibility, solving complex problems, critical thinking, governance and decision-making, negotiation, personnel management, coordination with others and orientation of the service. Preparing the learner for the future requires all vigilance in exploring the required skills, techniques that have begun to emerge and all the changes affecting our economic and social environment. Mona concluded that preparing an learner according to scientific terms and correct methods is a profitable investment for GCC countries and their various institutions and can be done in partnerships with the labor market, which is the biggest beneficiary of the learner's skills and professional and life skills (Scott, 2015).

5.2. Delegate of the Kingdom of Sudia Arabia

Jassim Al-Nasser, Chairman of the Board of Directors of Education Services Education Company of Saudi Arabia, elaborated on the 21st Century practices and initiatives in Saudi Arabia. He stated that in light of the constant changes and rapid development in this era, there is a need to develop and teach students the skills they need in life and work in the 21st century. He indicated that education in the Kingdom of Saudi Arabia aims to achieve the Kingdom's vision through the harmonization of educational system outputs with labor market needs, in addition to providing students with the knowledge and skills necessary for future jobs.

He also highlighted the experiences of the "Community Schools of Discipline" group in empowering students with twenty-first century skills through a system of programs and activities that support the skills of teachers and students in this century, including training students in twenty-first century skills and methods used to study the impact of this training on the development of learning strategies that can be used to achieve this.

According to Al-Nasser, the objectives of this practice to explore and document best practices in the field of training students in twenty-first century skills and how to apply them effectively, study the impact of developing skills of the twenty-first century on the performance of students in a variety of academic fields, evaluate how to use digital technology and means to enhance these skills, develop and evaluate education strategies to contribute to the development of the skills of the twenty-first century among students, and, finally, draw practical recommendations to improve the programs of training students in twenty-first century skills in schools.

Some of the achievements that can be considered as another measure of the success of applying the skills of the twenty-first century in "Community Schools of Discipline" are summarized as follows:

- High success rates and improved academic performance of students.
- Increase in critical and creative thinking skills of students and their ability to solve complex problems.
- Improve students' presentation and writing skills. and social interaction skills in general.
- Improve students' social interaction skills in general.
- Observe student's ability to always learn new things and use the resources that are available to them.
- Improvement in student's capacity to use technology efficiently for learning and production.
- The ability of students to use their talents in daily life.

5.3. Delegate of the Kingdom of Bahrain

Dr. Fadil Habib, Educational Consultant, from Kingdom of Bahrain pointed out that there are two important issues in teaching 21st century skills: one related to the complexity of the teaching process and the importance of creativity. The other related to the preparation of the teacher, as

education for the 21st century requires a teacher of the 21st century: educated, creative, reflective; he asked the question, how will the students be provided with these skills if they have not become part of their normal daily behavior and teaching? He emphasized on the need for teacher training institutions and curricula that has become critical in the 21st century. Dr. Fadel also mentioned that a university in the Kingdom of Bahrain conducted a field study at the private sector level on the degree of readiness of university graduates to enter the labor market. The study included direct visits and meetings with more than 40 employers from various large, medium and small enterprises. The study results showed that high rates of graduates during their university studies are offset by a weakness in job skills, which is undesirable for employers. The question arises: How students graduate from schools and universities when they do not have the minimum levels of skills required for the labor market?

As for Dr. Fadil's vision of moving from a culture of depositing to a culture of creativity, he said let's be very frank, and this is what we see every year when schools and universities hold graduation parties, that top students are the most able to memorize and compete to achieve the highest academic rates, and not those students who have acquired skills even if their academic rates are acceptable and moderate. He referred to what the Brazilian thinker Paulo Freire expressed in banking education, where the main concern for students has become to store information and keep it in short memory (the bank), and then to withdraw this information from the bank and re-empty it in the exam papers (the deposits at the bank), (Freire, 1970).

Dr. Fadel answered an important question: Where do we begin to instill a culture of skills in our education system? Dr. Fadl also attributed it to February 2019, when the Bahrain Quality Education and Training Authority (QTA) launched the Fourth Framework to review the performance of public and private schools and kindergartens. He noted that the framework gives great attention to the skills required for learners and represents an essential element in order to reach an individual capable of dealing with the requirements and requirements of higher education, whether in the framework of pursuing higher education or in following up on higher education She taught her, drawing on twenty-first-century skills. Dr. Fadel added that extracurricular activities are important when applying the skills of local and international citizenship, such as using the morning queue program or school radio in a theatrical performance aimed at developing awareness of sustainable development goals. This also include paying attention to the school garden and green space in the school space or devising environmental projects that ensure sustainability, activating student committees to contribute to the principle of rights and responsibilities, respect and volunteer work, and engaging in UNESCO school programs.

Dr. Fadel pointed out that incorporating twenty-first century skills enhances students' skills, strengthens their memory and helps transfer the impact of their learning in a way that contributes to the achievement of the general goals of the curriculum and the general framework of education in the Kingdom of Bahrain. He concluded, by saying that the process of revising the educational system in the Kingdom of Bahrain is based on the principles of critical thinking and that it has

dealt with them with responsibility and intelligence as the main element in the reform process of the educational system.

5.4. Delegate of the Sultanate of Oman

Dr. Mohammad Al-Asimi, Assistant Secretary-General of the Omani Shura Council from the Sultanate of Oman remarked in his discourse, education systems must adapt to modern and sustainable developments in order to meet the needs of learners, including the provision of information revolution-appropriate knowledge and skills, as well as the advancement of communication technologies, mechanisms, and means. He stated that previously, education was conducted in physical classrooms and buildings; this has since changed, and the student can now study from home. Therefore, advancements in technology were made possible by artificial intelligence, which allowed students to participate in lessons in a virtual environment.

Dr. Mohammed said that the Sustainable Development Goals (SDGs) of the United Nation (UN) sought to achieve the fourth of these goals, which was adopted by the Sultanate of Oman as part of its quality education development plan for education. This shows that education that will raise the human standard is a quality education that conforms with the skills of the 21st century and gives people the ability to interact positively with other components. Goal number 4 of the Sustainable Development Goals (Quality Education) focuses on a number of articles to be achieved through the provision of quality education. These include two important elements: first, a significant increase in the number of young people and adults with appropriate skills, including technical, vocational, and life skills. Second: Ensure that all learners acquire the knowledge and skills necessary to support sustainable development, including through education for sustainable development, sustainable lifestyles, human rights, gender equality, the promotion of a culture of peace, non-violence, global citizenship, appreciation of cultural diversity and appreciation of culture for sustainable development.

Dr. Mohamed called top officials in charge of education in the Gulf Cooperation Council countries (GCC) to invest in education in order to catch up with the developed nations. He pointed out that we should focus on the quality of education, because the GCC countries' material potential makes the process of improving education an inevitable, and even those that suffer, education is the way out of their crises. He stated that educated citizen contributes positively to the development of the country, in contrast to the illiterate citizen who creates a burden for development plans. Dr. Mohammad pointed that entering the twenty-first century without significant skills is a kind of losing wager, accumulated waste, and devoting problems from which the countries have suffered for long time, and concluded that, the skills of the twenty-first century have become a necessity, not a luxury, and not looking at this very dangerous angle (Cuban, 2015).

5.5. Delegate of the United Arab Emirates

Dr. Yousef Al-Hammady, Certified Coach in Team Building and Overall Leadership, United Arab Emirates designed and participated in many workshops and training programs in UAE by employing games to enhance 21st Century skills among students and employees. He defined

educational games as: a purposeful activity for the student to develop their mental, physical, and emotional skills, while achieving pleasure and recreation. He stated that the training game is structured educational activity based on the individual's activity and effectiveness, which increases the student's motivation to learn, that is based on interaction between the student with the goal of achieving specific learning goals (Saddiq, 2020). According to Dr. Yousef, game-based learning is a method that increases participation and improves learning outcomes. The game-based learning concept is based on the idea that people learn better through play, experimentation, experience, and error. One smart solution is to incorporate learning content into a serious game, once the first hurdle has been overcome and people are ready to learn, the benefits generated by serious games within the organization are unusual and extend to professional and personal life.

Dr. Yousef revealed his findings and experience giving games training throughout the UAE, that games have assisted persons in learning functionally beneficial skills in recent years. While the use of games is not required, it is greatly encouraged. Some individuals appreciate this learning process, while others find it to be time-consuming. Training games have been shown to foster the development of numerous life skills, including but not limited to leadership, problem-solving, initiative, respect for others, time management, emotional intelligence, communication aptitude, and social acumen. In part because of the substantiated advantages of mental health and well-being programs for adolescents, training-based interventions in life skills offer persuasive avenues through which to comprehend the impact of physical and mental activity on psychosocial and other developmental outcomes of individuals. Enhanced academic performance and competencies play a pivotal role in facilitating the attainment of numerous essential professional objectives, leadership development, and team coordination. He concluded that there are many benefits of game-based learning that make it a valuable tool for improving student achievement and developing employee skills: enhancing participation, increasing retention of information, enhancing understanding, tackling ambiguity, increasing accessibility, enhancing self-confidence, improving skills, increasing resilience, and improving brain communication (Duz, Serkan; Aslan, Tahir Volkan , 2020).

5.6. Delegate of the State of Kuwait

Dr. Shaikhah Alainati, Associate Professor, Department of Management, College of Business Studies, Kuwait, quoted that the provision of necessary skills for the twenty-first century is a critical function of educational systems. Collaboration, entrepreneurship, self-directed learning, critical thinking, and effective communication, amongst others, are competencies that must be fostered in the educational environment where this position is carried out. These abilities are vital in today's workforce. She stated that, in order to achieve these learning objectives, it is imperative to develop state-of-the-art and relevant curricula, implement effective and innovative teaching methodologies, and provide the required educational resources and technology. She pointed that instructors play a crucial role in assisting students in acquiring and implementing these skills to their daily lives and future endeavors. Acquiring skills relevant to employers in the twenty-first century is crucial since it prepares students for the labor market.

Dr. Alainati experience is in curriculum development of educational programs in the college of Business Studies in Kuwait, and designed curriculums based on competency-based education. She stated that opportunities for students to develop the skills necessary for the twenty-first century must be provided by the educational system in and outside the classroom. These opportunities may include participation in societally relevant educational initiatives, volunteer work, and engagement in external affairs. A substantial contribution to the skill development of students can be made by facilitating their self-directed learning, investigation, and discovery of topics that captivate their interest. In order to meet the challenges of the twenty-first century, it is imperative that education officials and policymakers at both the national and international levels advocate for the advancement and enhancement of these systems. She emphasised that it is important to involve transferring financial resources to improve educational infrastructure, acquire instructional technology, and furnish training for teachers on how to effectively utilize it. She stressed that additional focus should be placed on ensuring that all students have access to a high-quality education and minimizing the educational opportunity gap between students of different socioeconomic backgrounds. She also pointed out that her advancement of teaching methodologies and technologies that enhance the competencies of the twenty-first century through education-related research and innovation. In general, the purpose of investing in and acquiring knowledge regarding the twenty-first century is to gain knowledge and become involved in the challenges of that era. Community members, educators, parents, and decision-makers should all be included in the embrace.

According to Kuwait vision 2023, Dr. Alainati pointed out that developing 21st-century skills is the best approach to prepare youth for the workforce and meet the needs of contemporary businesses and industries. Educators should, theoretically, possess the pedagogical expertise required to impart 21st-century skills to their students. Given that she said that we currently live in a knowledge-based economy where the workforce's education and training determine a country's ability to compete economically, this is especially important. She concluded that, in order to succeed and contribute to a knowledge-based society, workers need to have the skills that this economy requires of them. The significance of this issue to contemporary knowledge-based economies is thus acknowledged, and no one is left in the dark about the significance of measuring, evaluating, and controlling quality to guarantee that students make full use of the techniques used to fortify the skills necessary for success in the modern era.

6. Recommendations

The following are the recommendations that stood out the most from this article:

- Encourage the implementation of education policies that prioritize the inclusion of 21st-century skills in the curriculum and make sure that the frameworks are flexible enough to incorporate interdisciplinary learning, critical thinking, creativity, communication, and digital literacy.
- Embed real-world applications and projects to provide practical experiences that develop problem-solving skills and promote entrepreneurial projects and encourage students to design and manage innovative projects.

- Provide ongoing professional development opportunities for teachers to enhance their proficiency in technology integration, pedagogical approaches, and 21st-century skill development.
- Integrate technology tools and platforms into teaching and learning processes to enhance engagement and expose students to digital collaboration, and explore emerging technologies like virtual reality, and artificial intelligence.
- Implement project-based learning (PBL), gamed-based learning (GBL) methodologies that emphasize teamwork, research, critical thinking, and problem-solving.
- Develop a comprehensive digital literacy curriculum covering online research, information evaluation, cybersecurity, and responsible digital citizenship.
- Integrate the teaching of soft skills such as collaboration, communication, adaptability, and empathy into the curriculum by encouraging group activities and collaborative projects to enhance interpersonal skills.
- Establish partnerships with local communities, businesses, and industries to provide students with real-world exposure and mentorship opportunities, aligning educational goals with the needs of the local job market.
- Foster an inclusive learning environment that accommodates diverse learning styles, abilities, and backgrounds, providing differentiated instruction to meet the needs of individual students.
- Encourage a culture of lifelong learning by emphasizing the importance of continuous skill development and adaptability.
- Encourage instructors to motivate students by diversifying teaching strategies and methods to take advantage of their knowledge, examining them from different points of view, and continuously acquiring or generating new knowledge, all of which can be enhanced through the use of technology, collaboration, communication, participation, critical thinking and problem-solving.
- Move beyond traditional assessment methods and explore innovative approaches, such as outcome-based and competency-based assessments and e-portfolios. In addition, evaluate not only knowledge but also students' ability to apply 21st-century skills.
- Promote the utilization of e-learning software by students in basic education, both inside and outside of the classroom, in order to cultivate a technology-savvy generation that can navigate a technologically advanced educational environment from a young age. This will enable them to thrive in a technologically advanced society and contribute to the enhancement of twenty-first century skills, and the development of knowledge-based economy.
- Modern information and communication technologies, such as interactive e-textbooks, multimedia, the Internet, tablets, e-blackboards, virtual reality software, AI futuristic tools, and interactive learning augmentations, that are made available and utilized in schools to expand the learning options of students.
- Furnish students with a diverse range of intricate educational opportunities that surpass those offered in conventional classrooms. This will assist them in attaining desired learning outcomes

and will ultimately produce a generation of graduates who are capable of making valuable contributions to the establishment of the knowledge economy.

▪ Provide assistance to the educational process and learning activities to ensure that they align with the prescribed objectives of education. Therefore, it is imperative to conduct regular assessments of teaching strategies and evaluation methods to ensure they align with the desired educational outcomes. Additionally, student performance must be evaluated to ensure that the desired outcomes are met.

▪ Collaborate and invest in education through the promotion of research and innovation in order to discover more effective teaching methods and tools that will equip individuals to confront the challenges and opportunities of the twenty-first century.

▪ Foster collaboration between the Gulf and Arab states, the objective is to construct educational and training programs and curricula that are grounded in scientific thinking, innovation, and creativity. Additionally, developing curricula that are suitable for the twenty-first century and emphasize renewable learning styles that cultivate digital skills, and the skill of the future is significant. This will serve as the foundation for pioneering and contemporary curricula.

▪ Implementing these recommendations requires a collaborative effort among educators, administrators, policymakers, and the broader community to create a holistic and future-ready education system in the digital economy era.

7. Conclusion

This research contributes to the discourse on education, skills development, and the knowledge economy within the GCC countries. The findings have implications for policymakers, educators, and industry stakeholders, emphasizing the need for concerted efforts to bridge the gap between traditional education models and the demands of the evolving global landscape. As the GCC strives for economic diversification, investing in 21st century skills are imperative for sustained growth, innovation, and competitiveness on the international stage. This article first discusses the characteristics of skills relevant to the twenty-first century as well as their significance. Following that, the article delves into the role that educators play in fostering the development of skills relevant to the twenty-first century in their student populations. After that, the importance of the programs and curricula, as well as the part that different learning tools and strategies play in enhancing the skills necessary for the twenty-first century, and fostering the knowledge-based economy, were emphasized.

Acknowledgment

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