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RESEARCH ARTICLE

The Level of Inclusion of ICT Skills in the My Beautiful Language Curriculum in the Fifth Grade of Primary School

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ARTICLE INFO	ABSTRACT
	The current research aimed to reveal the level of information, media and communication technology skills in the Arabic language curriculum in the fifth grade of primary school. To achieve this goal, the study materials and tools were prepared, which were: a list of information, media and communication technology skills necessary for the content of the Arabic language curriculum in the fifth grade of primary school, a content analysis card, then ensuring the stability and validity of these tools. The study sample was represented in the content of the My Language curriculum in the fifth grade of primary school, then applying the study tool, then statistical analysis and interpretation of the results and presenting recommendations and suggestions. The results showed: that information culture skills came at a rate of (40.00) and repetitions (94); thus, it is in second place, and that media culture skills came at a rate of (19.57) and repetitions (46); thus, it is in third place, and that information and communication technology culture skills came at a rate of (40.43) and repetitions (95); thus, it is in first place, and that the repetitions of the total skills were (235). The research presented some recommendations, the most important of which are: including information, media and communication technology skills in Arabic language curricula at different educational stages in a sufficient manner.

INTRODUCTION

The process of analyzing and evaluating school books is one of the important studies in the field of curricula and teaching methods, considering that the school book is a container for the content of the curriculum, an important tool for its implementation, and a source for individual and collective learning alike (Al-Farra, 2010, 2).

The curricula are one of the basic pillars that help prepare the builders of the future to develop thinking; as the largest amount of information, knowledge and skills that an individual acquires during his basic education stages depends on the curricula; and despite the necessity for the curricula to maintain their values and authenticity, they must keep pace with cognitive and technological development; as the curricula are the mirror of peoples, reflecting their current reality, and revealing the extent to which they keep pace with the course of events (Abu Kamil, 2021).

It can be said: It is the duty of those responsible for designing and developing curricula to include twenty-first century skills in the curricula, including (learning and innovation skills); so that learners become able to face life problems, make appropriate decisions, and practice critical and creative thinking skills; Integrating these skills in a deliberate and organized manner into educational curricula will help educators achieve many goals that they have not been able to achieve for many years (Al-Eid, 2019).

Integrating 21st century skills into curricula will ensure that students are engaged in the learning process, and help them build self-confidence. These skills also prepare learners to innovate and participate effectively in different life situations in the 21st century (Ken, 2010).

Integrating 21st century skills into educational curricula is important, as it will help teachers achieve educational goals. 21st century skills enable learners to learn and achieve in academic subjects at higher levels, and provide an organized framework that ensures learners' engagement and integration into the learning process. They also help learners build confidence, prepare them for creativity and leadership in the 21st century, and participate effectively in practical life (Ken, 2010; Rizk, 2015; Al-Harbi, 2019).

Many studies (Al-Kaltham, 2013; Subhi, 2016; Al-Khuzaim and Al-Ghamdi, 2016) have confirmed that current curricula are no longer sufficient to prepare students for life and work in a changing, and even rapidly changing, world, because there are challenges facing learners, which requires that today's learning be different from yesterday's learning. It is important to provide students with an abundant and sufficient amount of skills to face the challenges of the twenty-first century, as education in this century includes - in addition to the main topics - contemporary ideas and skills: such as global awareness, health, economic and environmental culture, technological competence and digital age skills, the ability to solve problems, critical and creative thinking, and possessing the components of an integrated personality, and other skills (Al-Harbi, 2019).

Twenty-first century skills are an important and necessary requirement in curricula at various educational levels, as they include diverse, comprehensive and useful skills for the learner, as they are related to the era in which we live. Therefore, people need them in their lives and interactions with each other. Those who do not possess these skills may not be able to adapt to society or achieve success in many areas.

The call for these skills began through the Partnership for 21st Century Skills (P21), which was established by the US Department of Education and a group of educational institutions such as Microsoft and the National Education Association. This partnership has become one of the most important leaders in developing and teaching 21st century skills (Al-Baz, 2013, 196).

The Arabic language curriculum, like other curricula, must include 21st century skills with all its elements: starting with objectives, content, activities, teaching methods, educational tools, and assessment methods, and that they be developed among students at all educational levels; due to their great benefits for the learner and society.

The current era is characterized by a knowledge explosion, growing information, rapid developments in knowledge and information, and increasing development in teaching and learning methods and communication technology; This development has been reflected in the educational process, as knowledge is no longer fixed, but rather developing and renewable; therefore, it has become necessary to develop the educational system with all its elements; and as a result of the developments and changes witnessed by the 21st century in all fields; it has become necessary for the learner living in this century to have a creative mind and critical thinking; which requires the teacher to have a high degree of awareness and professional competence; so that he can develop his knowledge and teaching skills (Al-Sulaiti, 2015).

Shalabi (2014) mentioned that the 21st century brought changes that carry new challenges and horizons; This requires preparing a generation capable of confronting them and dealing with them as active, productive and even creative individuals within a cooperative framework based on effective communication in a world led by technological development. This will only come about by providing individuals with skills that enable them to do this. Therefore, it has become necessary for countries to develop national education projects with the aim of reconsidering the future skills that individuals need to prepare them for life and work in the twenty-first century, as twenty-first century skills are necessary to ensure students' readiness to learn, innovate and make optimal use of information and technical media.

It can be said that there is a deep gap between the skills that students learn in school and those they need in life and work in the knowledge-based society, and that current curricula are no longer sufficient to prepare students for life and work in today's changing world, led by technological development (Bybee, 2010).

Opinions also called for education to provide learners with the skills necessary to succeed in their societies and work in the twenty-first century, and therefore many institutions concerned with education sought to formulate frameworks to identify and define twenty-first century skills, and to propose how to integrate them within the educational system in general, and the basic academic fields in particular (Shalabi, 2014. 2).

Focusing in the educational process on the functions of one side of the brain (the left side) alone is not enough, but rather skills and abilities that were not taken into account should be employed: as basic skills in qualifying for work, such as: creativity, innovation, and the ability to link elements and events to form something new, which are skills specific to the right side of the brain (Pink, 2005).

Twenty-first century skills represent a necessity; to prepare the individual for life and work in the jobs of the present and future era, in a manner consistent with the requirements of modern life, which is no longer compatible with traditional teaching practices; which depend on indoctrination and memorization, but rather require new practices; requiring the teacher to perform multiple roles; To develop basic skills: such as critical thinking and problem solving, communication and teamwork skills, creativity and innovation skills, and media and digital literacy skills; through teaching curricula, practicing classroom and extracurricular activities, and employing blended learning; to ensure the quality of educational outcomes (Al-Ruwais, 2020).

Research problem and questions

Given the importance of 21st century skills, and the importance of including them in curricula in general and Arabic language curricula in particular for these skills, and studies confirming this, including the study of each of: (Al-Yami, 2022; Al-Ruwais, 2021; Al-Shahri, 2021; Al-Jahni, 2019; Al-Bahrawi, 2015); the current research sought to reveal the level of inclusion of information technology, media and communication skills in the content of the Arabic language curriculum in the fifth grade of primary school. The problem of the current study was determined to reveal the level of inclusion of information technology, media and communication skills in the content of the Arabic language curriculum in the fifth grade of primary school.

The current study attempted to answer the following questions:

- What are the information technology, media and communication skills that must be available in the content of the Arabic language curriculum in the fifth grade of primary school?
- What is the level of inclusion of information technology, media and communication skills in the content of the Arabic language curriculum in the fifth grade of primary school?

Importance of the research

The importance of the current study stems from the following:

- It helps researchers conduct similar research that reveals the level of ICT skills in curricula.
- Preparing a list of ICT skills needed in the content of the Arabic language curriculum for the fifth grade of primary school; it can be used in evaluating the curriculum.
- It helps curriculum planners to include ICT skills in Arabic language curricula.
- It helps teachers to include ICT skills in their teaching practices.

Search terms:

1- Skills of information technology, media and communication skills:

The researcher defines it procedurally as: A set of skills included in the book My Eternal Language for the fifth grade of primary school; to provide it to students in this grade and includes: (Information culture skills, media culture skills, information technology and communication culture skills).

2- Content of the Arabic language curriculum:

The researcher defines it procedurally as: Knowledge, concepts, ideas, skills, attitudes and scientific material included in the Arabic language book for the fifth grade of primary school.

Research objectives:

The current study aimed to determine:

- The information technology, media and communication skills that must be available in the content of the Arabic language curriculum for the fifth grade of primary school.
- The level of inclusion of information technology, media and communication skills in the content of the Arabic language curriculum for the fifth grade of primary school.

Research Limits:

The current study was limited to:

- Information, media and communication technology skills, which are (information culture skills, media culture skills, information and communication technology culture skills).
- Arabic language book for the fifth grade of primary school.
- Applying this study in the academic year 2022/2023 AD

THEORETICAL LITERATURE

21st century skills have been classified in many ways, the most important of which is the Partnership for 21st Century Skills P21 classification; where it divided them into three main areas, each of which includes sub-skills, and these areas are: (learning and innovation skills, information and communication technology skills, life and work skills; NSTA, 2013; P 21, 2006; Trilling and Fadel, 2013; Al-Saleh, 2013; Shalaby, 2014; Al-Helou, 2016; Al-Khazim and Al-Balawi, 2020; Al-Ruwais, 2020; Al-Sardiya, 2020; Al-Azab, 2020; Al-Ruwaished, 2021; Al-Otaibi, 2021; Ali, 2021). The following can shed light on the area of digital culture skills, which is the subject of the current study.

ICT skills (digital culture):

This means the ability of the individual to create, evaluate and employ information, media and technology effectively, while ensuring the application of ethical and legal requirements; as individuals in the twenty-first century live in an environment characterized by technology, and the role played by media outlets is increasing, which are characterized by different characteristics than before, including: the abundance of information, and rapid changes in technology tools; therefore, this area of skills is necessary for dealing with contemporary society. This type of skills focuses on how to enable students to distinguish facts, publishing outlets, and the technology behind them, as well as focusing on the use of technology, media and communication; As they are necessary for preparing learners, they include information literacy skills, media literacy skills (media literacy), and ICT literacy skills (ICT literacy). This can be explained in some detail as follows (Trilling and Fadel, 2013; Al-Ruwais, 2020; Al-Otaibi, 2020; Al-Azab, 2020; Ali, 2021):

1- Information literacy skills.

It means the mechanism for dealing with and adapting to the huge amount of information in its various forms and sources in the era of the knowledge explosion, and includes some sub-skills, including: accessing information effectively, evaluating it critically, accurate use, and managing information. It is the culture that specializes in accessing information efficiently and effectively, using it, evaluating it, and managing it accurately. These skills are important to help individuals understand information and find the truth in an era surrounded by information.

2- Media literacy skills (media literacy).

It means developing the skills of receiving, analyzing, and criticizing media messages; to reach accurate information, and a deep understanding of the meaning. It is the culture that pertains to the media message, understanding it, constructing it, and the ethical and legal issues to which it is committed. It includes some sub-skills, including: analyzing the media message; To know its purpose, understand how media messages are constructed, examine how individuals interpret messages differently, how values and viewpoints are included in these messages, how the media influences individuals' beliefs and behavior, and apply the real and essential mouth of the ethical and legal issues related to accessing and using media messages. Another skill is: creating media products and programs; to understand and use the most appropriate tools for media production, and to use the most appropriate expressions in diverse and multicultural environments.

3- ICT culture skills (ICT culture).

 It means using ICT, which is the effective application of technology as a search tool; to access information: such as using search engines, browsing tools, and taking advantage of digital technology such as computers, viewing devices, and smartphones. Some sub-skills include: the ability to apply technology effectively, organize and evaluate information, and effectively employ communication tools and social networks; to access and disseminate information. It also means the ability to communicate clearly and effectively; Meaning that the individual is able to express his ideas effectively using oral and written communication skills, verbal and non-verbal, in different forms and contexts, as well as listening effectively to reach the ambiguous meaning, and using communication for a range of purposes including: for guidance, information, motivation, and encouragement.

As well as communicating effectively in diverse and multilingual environments. And benefiting from multimedia and technology, and knowing how to judge their effectiveness at the beginning, and evaluating their impact at the end. These skills can be developed through practicing some classroom and extracurricular activities that enhance and support the presentation of media and digital culture, as well as some teaching strategies based on blended learning, and employing information, communication and media technologies in accessing knowledge and its applications. It also includes preparing individuals to be able to: Use technology effectively as a tool for research, organization, evaluation, and application. A fundamental understanding of the ethical issues associated with accessing and extracting information technology, all of which are necessary and important; Because despite the knowledge-age generation being distinguished by technology, they are always in dire need of guidance, advice and follow-up on the optimal use of digital tools and methods in learning tasks, and assessing the risks of using social media sites.

Many studies have focused on the process of evaluating the curriculum and the skills of the twenty-first century. These studies include the following: (Saif, 2022; Bahrawi, 2021; Dawoud, 2021; Al-Ruwaished, 2021; Al-Shabl, 2021; Al-Shammari, 2021; Al-Shahri, 2021; Hilal, 2021; Baghdadi, 2020; Al-Khazim and Al-Balawi, 2020; Al-Sardiya, 2020; Al-Shahrani, 2020; Abdul-Barr, 2020; Al-Otaibi, 2020; Al-Azab, 2020; Al-Maghribi and Bani Khalaf, 2020; Hindawi, 2020; Al-Jahni, 2019; Al-Harbi, 2019; Al-Arfaj, Al-Khalidi and Al-Shahri, 2019; Al-Qahtani, 2019; Hajjah, 2018; Al-Ghamdi, 2018; Rabat, 2018; Abdel-Aal, 2018; Al-Mansour and Al-Adili, 2018; Al-Helou, 2016; Al-Ghamdi and Muhammad, 2016; Hussein Al-Arja, 2009). These studies recommended the need to pay attention to the twenty-first century skills of learners in various disciplines, and to include them in the curricula. This study is a response to previous studies.

RESEARCH METHODOLOGY:

The current research used the descriptive analytical method; because it is appropriate for the nature of the research and to achieve its objectives.

Research community and sample:

The study community was represented by Arabic language books, while the study sample consisted of the Arabic language book for the fifth grade of primary school.

Research procedures and preparation of its materials and tools

First: A list of information technology, media and communication skills

The list aimed to identify the information technology, media and communication skills required in the content of the Arabic language curriculum for the fifth grade of primary school. The researcher relied in building the list on reviewing some books, references, studies and research related to the research topic, including (Shalabi, 2014; Al-Jarrah, 2021; Al-Ruwaished; 2021), as well as the opinions of some specialists in curricula and methods of teaching the Arabic language about the information technology, media and communication skills required in the content of the Arabic language curriculum for the fifth grade of primary school. The list consisted of three main skills: (information culture skills, media culture skills, information technology and communication culture skills), and (36) sub-skills fall under it. After preparing the list in its initial form, it was presented to a group of arbitrators to express their opinion on it in terms of: the sub-skill's affiliation to the main skill, the suitability of the skill and its importance to the research sample, adding, deleting or modifying the wording. The arbitrators confirmed that the list is appropriate.

Second: Preparing the analysis card:

1- Analysis objective:

The card aimed to analyze the content of the Arabic language curriculum for the fifth grade of primary school in light of the skills of information technology, media and communication.

2- Analysis category:

The researcher relied on the list of information technology, media and communication skills that were prepared; which consisted of (3) main skills: (information culture skills, media culture skills, information technology culture skills, and communication), and under it (36) sub-indicators fall.

3- Analysis unit:

The idea unit was adopted as a unit of analysis in the My Language book for the fifth grade of primary school, second semester, and the analysis units amounted to (511) analysis units.

4- Card validity:

The card was presented to seven arbitrators in the field of curricula and teaching methods, in order to express their opinion on it in terms of: clarity of expressions, soundness of their formulation, appropriateness and importance to students and their suitability to the curriculum, and adding, deleting or modifying the formulation. The arbitrators confirmed that the card was suitable for application, with some minor modifications. The card in its final form consisted of (3) main skills, under which (36) sub-skills were included.

5- Card stability:

The retest or analysis method was used; the researcher analyzed a survey sample of the content, and after two weeks he reanalyzed the same sample, then the percentage of agreement between the two analyses was calculated using the Holsti equation.

$$\text{stability coefficient} = \frac{\text{Points of agreement in the two analyses} \times 2}{\text{Repetitions in the first analysis} + \text{Repetitions in the first analysis}}$$

The card's stability coefficient reached (0.85), which is an appropriate stability coefficient.

Application of the research tool and analysis process:

The research tool was applied and the analysis process was carried out in the second semester of the academic year 2022/2023 AD. After completing the application of the research tool, it was corrected, and the grades were recorded in preparation for statistical processing, discussion and interpretation.

RESEARCH RESULTS, DISCUSSION AND INTERPRETATION:

1- Answering the first question:

The first question stated: What are the information technology, media and communication skills required for the content of the Arabic language curriculum in the fifth grade of primary school? To answer this question, a list of information technology, media and communication skills required for the content of the Arabic language curriculum in the fifth grade of primary school was prepared? It was presented to the arbitrators, and a list was reached, which is explained in detail in the research procedures.

2- Answering the second question:

The question stated: What is the level of information technology, media and communication skills in the content of the Arabic language curriculum in the fifth grade of primary school? To answer this question, the frequencies, percentages, The results of the analysis came as shown in the following table:

Table (1): Averages and standard deviations in the main ICT skills and the card as a whole

the field	Number of indicators	Repetition	percentage	Arrangement
Information literacy skills	12	94	%40.00	the second
Media literacy skills	12	46	%19.57	the third
ICT Culture Skills	12	95	%40.43	the first
Skill set as a whole	36	235	%100	

It is clear from the previous table that information literacy skills came in at a rate of (40.00) and (94) repetitions; thus, they are in second place, and that media literacy skills came in at a rate of (19.57) and (46) repetitions; thus, they are in third place, and that information and communication technology literacy skills came in at a rate of (40.43) and (95) repetitions; thus, they are in first place, and that the repetitions of the total skills are (235). Thus, the second question of the study questions

was answered, which states: What is the level of information technology, media and communication skills in the content of the Arabic language curriculum in the fifth grade of primary school?

Research Recommendations

In light of the research results, some recommendations can be presented, the most important of which are:

- Curriculum planners should pay attention to information technology, media and communication skills, one of the areas of twenty-first century skills, when building the curriculum.
- Curriculum developers should pay attention to information technology, media and communication skills, one of the areas of twenty-first century skills, when developing the curriculum.
- Arabic language curricula at different educational stages should include information technology, media and communication skills, one of the areas of twenty-first century skills, sufficiently.

Research Proposals:

In light of the research results and recommendations, the following research points can be proposed:

- The level of twenty-first century skills in the Arabic language curriculum at the intermediate stage

REFERENCES

Abu Jarad, Hamdi Younis (2020). The Twenty-First Century. Studies in Curricula and Teaching Methods. Vol. (248). 73-96. Students' Estimates of the Teaching Practices of Faculty Members at Al-Quds Open University. Al-Manara Journal for Research and Studies. Vol. (26). Vol. (2). 171-192.

Ahmed, Abdul Majeed Sayed (1996): Educational Evaluation. Cairo: Dar Al-Amin.

Ahmed, Muhammad Abdul Salam (1983): Psychological and Educational Measurement, Cairo: Dar Al-Nahda Al-Arabiya.

Al-Aswad, Al-Zahra Ali (2021). Building a Tool to Measure Teaching Practices in Promoting Creative Behavior among University Students. Journal of Humanities. Vol. (5). (2). 142-159.

Al-Baz, Marwa Muhammad (2013). Developing the Science Curriculum for the Third Preparatory Grade in Light of the Skills of the Twenty-First Century. Journal of Scientific Education. Vol. (16). Vol. (6). 191-231.

Bahrawi, Atef Abdullah (2021). The degree of possession of graduate students in special education specializations of twenty-first century skills. Journal of Special Education and Rehabilitation. Special Education and Rehabilitation Foundation. Vol. (13). No. (44). September. 1-35.

Bahrawi, Fathi Mabrouk (2015). Professional performance standards required for student teachers in light of twenty-first century skills. Arab studies in education and psychology. Arab Educators Association. No. (63). 435-484.

Baghdadi, Manal Muhammad (2020). Evaluation of the content of the science book for the third intermediate grade in light of twenty-first century skills. Studies in curricula and teaching methods. The Egyptian Association for Curricula and Teaching Methods. Ain Shams University. No. (248). 73-96.

Al-Balawi, Awatif Falakh and Al-Balawi, Aisha Muhammad (2019). A vision for a training program to develop some twenty-first century skills among primary school mathematics teachers in Tabuk City. Arab studies in education and psychology. No. (107). March. 387-433.

Al-Baytar, Hamdi Muhammad (2021). 21st Century Skills for Technical Industrial Secondary Education Students in Egypt in the Digital Age, Educational Journal. Sohag University. Vol. (91). November. 4602-4620.

Bayoumi, Yasser Abdel Rahim and Al-Jundi, Hassan Awad (2019). The Reality of Classroom Teaching Practices for Primary School Mathematics Teachers in Light of Contemporary Professional Standards for Teaching and Learning Mathematics. Journal of Mathematics Education. Egyptian Society for Mathematics Education. (22). (1). 6-67.

Al-Tamran, Omar Saad and Khalil, Ibrahim Al-Hussein (2019). Teaching Practices of Mathematics Teachers in Light of the Requirements of the Kingdom of Saudi Arabia's Vision 2020 from Their Point of View. Arab Studies in Education and Psychology. Arab Educators Association. Vol. (111). 199-218.

Gabrah, Abdullah Yahya (2020). A proposed training program based on constructivist theory to develop teaching practices for Arabic language teachers in the primary stage and its impact on developing self-regulated learning skills and linguistic wealth among their students. PhD thesis. College of Education. King Khalid University.

Al-Jahni, Amal Saad (2019). Evaluating the performance of science teachers in light of twenty-first century skills. Arab studies in education and psychology. Arab Educators Association. Issue (116). December. 23-50.

Johari, Samir (2021). Evaluating the teaching performance of university professors in light of education quality assurance standards from the students' point of view. Journal of Humanities and Social Sciences. Abdel Hamid Mehri University. Constantine 2. Vol. (7). Issue (2). 361-391.

Al-Harbi, Ibrahim Salim (2019). The extent of including twenty-first century skills in mathematics textbooks for the third intermediate grade. Journal of Education. Al-Azhar University. No. (183). Vol. (1). July. 512-554.

Hassan, Ali Attia (2020). Evaluating the reality of teaching practices for special education teachers for the intermediate stage in Baghdad Governorate. Journal of Physical Education Sciences. University of Babylon. College of Physical Education. Vol. (13). Vol. (1). February. 390-408.

Hafni, Maha Kamal (2015). Twenty-first century teacher skills. The twenty-fourth scientific conference. The Egyptian Society for Curricula and Teaching Methods. Teacher preparation programs for excellence. Cairo: Ain Shams University. Dar Al-Diafa. August 12-13.

Al-Helou, Narmin Mustafa (2016). Home economics teachers' awareness of twenty-first century skills in light of professional development and their attitudes towards them. Journal of the Faculty of Education. Kafr El-Sheikh University. Vol. (16). Vol. (3). 461-540.

Al-Khazim, Khaled Mohammed and Al-Balawi, Abdullah Marzouq (2020). The level of teaching practices among primary school mathematics teachers to develop learning and creativity skills according to the requirements of the twenty-first century. Journal of Mathematics Education. The Egyptian Society for Mathematics Education. Vol. (23). No. (5). July. 28-56.

Dawoud, Samir Saeed (2021). The effect of free reading on the development of in-depth reading and some twenty-first century skills among student teachers at the Faculty of Education. Educational Journal. Sohag University. November. 301-343.

Al-Rabat, Bahira Shafiq (2018). The effectiveness of integrating the thinking maps strategy and the learning model based on dual situations to develop some twenty-first century skills in the study of geometry. Journal of Mathematics Education. The Egyptian Society for Mathematics Education. (21). (12). October. 277-368.

Al-Ruwais, Aziza Saad (2021). Evaluating teaching practices in light of the twenty-first century skills for primary school teachers in Riyadh. Journal of the Islamic University for Educational and Social Sciences. Islamic University of Madinah. Issue (5). March. 229-277.

Al-Ruwaished, Noha Rashid (2021). The availability of twenty-first century skills in teaching mathematics according to the opinions of its teachers in the State of Kuwait. Journal of the Faculty of Education in Educational Sciences. Ain Shams University. Vol. (45). Vol. (1). 273-312.

Al-Sardiya, Haya Khalaf (2020). Twenty-first century requirements for special education teachers in light of the Kingdom's Vision 2030. International Journal of Research in Educational Sciences. Vol. (3). Vol. (1). 387-421.

Al-Sulaiti, Dhabia Saeed (2015). A proposed vision for reading teacher skills in light of twenty-first century requirements in independent schools in the State of Qatar. Education. Al-Azhar University. Egypt. 164. (3).

Al-Sahli, Sarah Muhammad and Al-Harbi, Muhammad Sunt (2021). Habits of Mind among Intermediate Mathematics Teachers and Their Relationship to the Teaching Practices Necessary to Develop Them among Their Students. Journal of the Faculty of Education. Menoufia University. Vol. (36). No. (1). March. 70-107.

Al-Sayed, Fouad Al-Bahi (1979): Statistical Psychology and Measurement of the Human Mind: Cairo. Dar Al-Fikr Al-Arabi.

Al-Shabl, Manal Abdel-Rahman (2021). The Reality of Digital Learning in Enhancing Twenty-First Century Skills from the Perspective of Mathematics Teachers and Supervisors in Secondary School in the Kingdom of Saudi Arabia. Shaqra University Journal for Humanities and Administrative Sciences. Issue (15). 343-367.

Al-Sharif, Khaled Muhammad (2021). Teaching Practices of Mathematics Teachers in the Kingdom of Saudi Arabia Based on the Teaching Quality Model and Its Impact on Students' Attitudes Towards Mathematics. Journal of Mathematics Education. Egyptian Society for Mathematics Education. (24). (3). 255-287.

Shalaby, Nawal Muhammad (2014). A Proposed Framework for Integrating Twenty-First Century Skills into Science Curricula in Basic Education in Egypt. International Specialized Educational Journal. Issue (3). Issue (10). 1-33.

Al-Shammari, Salman Hadid (2021), The degree of acquisition of twenty-first century skills by mathematics majors at Shaqra University from the perspective of faculty members. Educational Journal. Kuwait University. Vol. (35). No. (139). June. 213-254.

Al-Shammari, Afif Aliwi and Al-Arini, Hanan Abdulrahman (2019). The reality of teaching practices among primary school mathematics teachers in light of mathematical prowess. Journal of Mathematics Education. The Egyptian Society for Mathematics Education. Vol. (22). No. (6). April. 85-137.

Al-Shahrani, Muhammad Barjas (2019). The teaching practices required by faculty members at Bisha University to develop the mathematical strength skills of its students. Educational Journal. Sohag University. Vol. (92). December. 292-322.

Al-Shahri, Abdulrahman Ali (2021). The level of inclusion of twenty-first century skills in middle school textbooks. Journal of Educational Sciences. King Saud University. Vol. (33). No. (2). 307-333.

Al-Shahri, Mani Ali (2021a). Evaluation of the level of teaching practices among middle school mathematics teachers in light of twenty-first century skills. Educational Journal. Faculty of Education. Sohag University. Vol. (86). June. 1139-1181.

Al-Shahri, Mani Ali (2021b). Evaluation of the level of teaching practices among middle school mathematics teachers in light of twenty-first century skills. Educational Journal. Sohag University. Vol. (86). June. 1139-1181.

Al-Saleh, Badr Abdullah (2013). Twenty-first century skills: learning for life in our time. King Saud University. Scientific publishing and printing.

Subaih, Wafaa Abdullah (2022). The degree of practice of Arabic language teachers in the primary stage of twenty-first century skills. Master's thesis. Faculty of Educational Sciences. Al al-Bayt University. Jordan.

Al-Salahi, Muhammad Issa (2019). Mathematics teachers' teaching practices supporting the comprehension of mathematical concepts at the primary stage. Mathematics Education Journal. Egyptian Society for Mathematics Education. Vol. (22). No. (9). July. 173-197.

Zalami, Ayman Gebran (2020). Teaching practices of middle school mathematics teachers in light of Marazzano's learning dimensions model. Journal of Mathematics Education. Egyptian Society for Mathematics Education. Vol. (23). No. (3). April. 217-239.

Abdel-Barr, Abdel-Nasser Mohamed (2020). Developing the mathematics curriculum within Egypt's vision for sustainable development 2030 and its impact on the development of some twenty-first century skills among middle school students. Journal of Mathematics Education. Egyptian Society for Mathematics Education. (23). (7). October. 7-81.

Abdel-Aal, Mohamed Sayed (2018). The effectiveness of a program enhanced with Web2 tools in developing 21st century skills among mathematics teachers at the Faculty of Education.

Journal of Mathematics Education. The Egyptian Society for Mathematics Education. (21). (6). 214-269.

Abdel-Qader, Mahmoud Hilal (2020). The level of Arabic language teachers' mastery of methods of developing creative understanding skills among fifth-grade primary school students, Journal of the Islamic University for Educational and Psychological Studies, Volume (28), Issue (6), 309-330.

Al-Otaibi, Reem Hamoud (2020a). The reality of 21st century skills. Journal of Reading and Knowledge. The Egyptian Society for Reading and Knowledge. Issue (230). December. 323-354.

Al-Otaibi, Salman Sahoud (2020b). The level of awareness of secondary school mathematics teachers in Al-Kharj Governorate of the most important teaching practices consistent with the brain-based learning approach. Arab Studies in Education and Psychology. Issue (125). September. 123-141.

Al-Azab, Rahab Amin (2020). Characteristics of faculty members in light of twenty-first century skills and their relationship to providing students with twenty-first century skills from the perspective of undergraduate students. International Journal of Educational and Psychological Sciences. No. (55). 101-155.

Alimat, Muhammad Muqbil (2013). The degree of representation of primary school teachers in Jordan for knowledge economy skills and its relationship to their teaching practices from the perspective of their supervisors. Al-Manara Journal. 3. (9).

Al-Anzi, Ahmed Abdullah (2020). The effectiveness of a training program based on global standards for educational technology in improving teaching practices and professional leadership skills of Arabic language teachers in the State of Kuwait. PhD thesis. World Islamic Sciences University. College of Graduate Studies. Jordan.

Al-Ghamdi, Mona Saad (2018). Training needs and challenges facing mathematics teachers in light of twenty-first century teacher skills. Journal of the Faculty of Education. Tanta University. M (70). No. (2). April. 468-528.

Al-Faqih, Mishaal Muhammad (2017). The level of teaching practices of Arabic language skills among female student teachers at the College of Education from the perspective of cooperating teachers and their attitudes towards the teaching profession. Journal of the Islamic University for Educational and Psychological Studies. Gaza. Palestine. Vol. (25). No. (3). July. 88-105.

Al-Fahid, Khaled Abdulrahman (2018). The development of effective teaching practices among student teachers in the field of Islamic sciences in Saudi universities in light of the renewed educational requirements. Journal of Education. Al-Azhar University. Vol. (179). Vol. (2). July. 360-406.

Al-Qahtani, Othman Ali (2019). The effectiveness of a proposed strategy based on mathematical communication in developing some twenty-first century skills among primary school students. Journal of King Khalid University for Educational Sciences. College of Education. King Khalid University. Vol. (6). No. (1). January. 207-235.

Al-Qaseem, Muhammad Mahmoud (2019). Evaluation of lenient teaching practices among science teachers in the intermediate stage according to the estimates of educational supervisors in the Kingdom of Saudi Arabia. Journal of Educational Sciences. Imam Muhammad ibn Saud Islamic University. Issue (20). 89-162.

Mahmoud, Ahmed Hassan (2018). The effectiveness of an enrichment program based on some twenty-first century skills to develop mathematical strength and mathematical thinking among academically superior students in the intermediate stage. Journal of Mathematics Education. The Egyptian Society for Mathematics Education. (21). (11). 326-340.

Mahmoud, Abdel Razek (2012): A program based on authentic teaching standards to develop the skills of creative Arabic language teachers and productive mind habits among their students. Journal of the Faculty of Education, Assiut. Vol. (28). Issue (1). 517-611. January.

Murad, Awda Suleiman and Mahasneh, Omar Musa (2020). Evaluation of the quality of teaching practices among university faculty members from the students' point of view. Journal of the Islamic University for Educational and Psychological Studies. Gaza. Palestine. Vol. (28). No. (2). March. 551-573.

Al-Maghribi, Ayat Muhammad and Bani Khalaf, Mahmoud Hassan (2020). The level of acquisition of digital culture skills by eighth-grade students in light of the twenty-first century skills in

science education. Al-Quds Open University Journal for Educational and Psychological Research and Studies. Al-Quds Open University. Vol. (11). No. (30). 17-29.

The Fifth Conference on Teacher Preparation (1437 AH). Preparing and training the teacher in light of the demands of development and modern developments. Umm Al-Qura University. Makkah Al-Mukarramah, 23-25 Rabi' Al-Thani.

International Conference (1438 AH). The teacher and the age of knowledge: opportunities and challenges. A renewed teacher for a changing world.. King Khalid University. Abha. 29 Rabi' Al-Awwal - 1 Rabi' Al-Thani.

International Conference on Education Evaluation (1440 AH). Future skills. Their development and evaluation. Education and Training Evaluation Commission. Riyadh, 26-28 Rabi' Al-Awwal.

Hilal, Samia Hassanein (2021). The effectiveness of a developed unit in light of the STEM cognitive integration approach in developing some twenty-first century skills among primary school students. Journal of Mathematics Education. Vol. (24). No. (3). January. 221-254.

Hindawi, Imad Muhammad (2020). The effect of using the service learning strategy in learning chemistry to develop twenty-first century skills among students, chemistry teachers at the Faculty of Education. Journal of Science Education. The Egyptian Society for Science Education. Vol. (23). No. (3). March. 151-195.

Wahdan, Mayada Muhammad (2021). Curricula and twenty-first century skills to develop life practices among first-year secondary school students in music education. Educational Sciences. Faculty of Graduate Studies for Education. Cairo University. Vol. (29). February. 377-391.

Al-Yami, Naji Muhammad (2022). Evaluating the teaching practices of primary school mathematics teachers in light of twenty-first century skills. Master's thesis. Faculty of Education. King Khalid University.

Al-Farra, Maysoun Nasr (2010). Analysis of the book Our Beautiful Language for the fourth grade in light of creative thinking and the extent to which students acquire it. Master's thesis. Faculty of Education. Islamic University. Gaza. Baghdadi, Manal Saleh (2020). Evaluation of the content of the science book for the third intermediate grade in light of the skills of the twenty-first century. Studies in curricula and teaching methods. Issue (248). 73-96.

Astleinter.H, (2002). Teaching Critical Thikining Journal of Instructional Psychology, v(29), n(2), 53-76.

Bybee,W,R.(2010). The Teaching of Science: 21 St Century Skills Perspectives, NSTA Press.

Ken, K. (2010). 21 St Century Skills. Why they matter, What They are, and How we get there? Available at: http://www.Innovationlabs. Com.plsd/resources/kenkay.pdf.

Partnership for 21 st Century Skills(2006). Framework for 21st CenturyLearning. Retrieved from: http://www.battelleforkids.org/networks/p21.

Peterson. A.d.(2003). Schools Across Frontiers: The story of the International Baccalaureate and the United World Colleges USA: Carus Publishing Company, ISBNO. 49505-8126.

Pinke, D.H, (2005). A whole New Mind the Penguin Group New York, USA.

Steele Jennifer L. , Hamilton Laura S. , Stecher Brian M. (2010). Incorporating Student Performance Measures into Teacher Evaluation Systems. the RAND Corporation

The National Science Teacher Assocation.(2013). Quality Science Education and 21 St Century Skills. http: www. Nsta. Org.

Ken, K.(2010). 21 St Century Skills. Why they matter, What They are, and How we get there? Available at: http://www.Innovationlabs. Com.plsd/resources/kenkay.pdf.