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Knowledge Economy Skills formiddle school Second Grade Female Students

By

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Abstract

The goal of the research is to identify the knowledge economy skills of middle school second grade female students by answering the following question:

What are the knowledge economy skills of middle school second grade female students?

The current research identified second-class intermediate students in middle schools affiliated to the Baghdad Education Directorate /Karkh third for the academic year (2021-2022), and the descriptive correlative research method was adopted. The research sample consisted of (381) female students from the research community of (46227) students,The research tool represented the preparation of a knowledge economy skills scale of eight main skills (basic skills, communication skills, information gathering skills, self-learning skills, thinking skills, behavioral skills) by (55) items, and the psychometric properties of the tool were verified and percentages and averages were adopted Arithmetic and standard deviations) using the statistical epoch for the social sciences (SPP +22).

Statistical results showed that the students of the research sample had knowledge economy skills at a medium degree on the scale as a whole, and each of the skills (self-learning and thinking) were at a (high) degree, while the skills (basic, communication, teamwork, information technology and computer use) were (medium). As for the skills (information gathering and behavioral) they were (weak). Based on the results, many conclusions and suggestions were presented, as well as recommendations, most notably the interest in developing teamwork skills, information gathering skills, behavioral skills, computer use and thinking skills, especially in scientific subjects such as chemistry that mainly use laboratories. Teaching and urging the use of advanced educational means to develop the skills and ideas of students.

Keywords: Knowledge Economy Skills

Chapter One

First: Problem of the research

Today, the world is facing rapid and successive changes in all aspects of life as a result of rapid scientific and technological developments in all fields. There is no doubt that these changes and developments pose a challenge to public education and scientific education, especially since the focus of scientific education is no longer only on the culture of achievement

goals, but now it is called upon to shift towards the development and inclusion of modern educational dimensions and trends of life value, such as the ability to make decisions and practice thinking differently in what develops creativity, analysis and scientific criticism.

Given the importance of moving towards the knowledge economy and the skills it contains, educational institutions need modern technologies and trends to be able to supply the labor market with human energies and to accurately identify and evaluate the types of skills required to absorb the new economy and succeed in it. Therefore, curricula, textbooks, methods and teaching methods used must not hinder the path towards progress towards a better future in science and technology and the achievement of the goals of scientific education and the preparation of the scientifically educated individual who has acquired scientific concepts and participates in all fields by demonstrating the skills of the individual that depend on knowledge, decision-making and creative correct thinking using and employee of modern technology methods to serve him in all aspects of life.

A survey questionnaire was prepared for female chemistry teachers whose experience ranged between (5-10) years, and after analyzing the responses of the survey questionnaire, it was found if :

- 90% of chemistry female teachers do not have knowledge of knowledge economy skills.
- 90% of chemistry female teachers believe that second-grade students do not have knowledge economy skills.

Here was the researcher's sense of the problem of research in light of the development and progress. Do the second-grade students have average knowledge economy skills?

Based on the above, the problem of the current research has been focused on the following question:

What are the knowledge economy skills of second-grade students?

Second: Significance of the research

Education is the effective approach in preparing people to face life changes and keep pace with what has happened in the field of life in terms of development and what will happen in the future. It is the center of receiving, building and developing knowledge and linking it with different applications and skills (Al-Zahrani and Ibrahim, 2012: 6)

The knowledge economy emerges as a result of the knowledge revolutions as a real pillar for all factors of production in all countries of the world that seek to develop, advance and prove their rights. The acquisition, innovation, application and employment of knowledge with the aim of improving human life and its development in all fields are among the most important pillars of the knowledge economy. Education and intellectual capital are among the most important pillars on which the development of the knowledge economy is based, in addition to creativity, innovation, information and communications technology, economic incentive and the institutional system.

(Mahmoud, 2014: 51)

The introduction of the concept of the knowledge economy in the field of education is one of the priorities of all educational systems, including educational programs, academic leaders and students, as these elements must be continuously reshaped in a way that ensures

the best investment of actual capabilities and skills in the knowledge economy in terms of knowledge production. (Attia, 2009: 32)

The educational system is an essential component of the process of making, transferring and using knowledge. In a knowledge-based economy, the process of education becomes very important for all individuals in this society, as the old systems and methods are already condemned to step down in front of the information society, which gives the possibility of applying the policy of continuous education.

(Abbas, 2002: 18)

The knowledge economy requires educational systems to respond to its requirements flexibly, to adapt to the workforce, to strive to achieve social progress, and to be able to face challenges. Therefore, there is an urgent need to reconsider traditional models in education to fit the knowledge economy model, where the role of the teacher is new, which is to restore and update his skills and refine them to keep pace with the knowledge economy in terms of training in teaching skills.

The knowledge economy has introduced a large door of change in all fields. In the field of education, we find that it has transformed the traditional educational position to become with multiple educational environments, including : effective learning, online learning exchange, and the centralization of learning around the needs of society .

Students must be equipped with self-learning skills and directed towards creativity and excellence, and new strategies must be adopted that instill in students teamwork and expand the use of technology.

(Alkanani, 2020: 74)

Third: Research Objectives: The current research aims to identify:

- Knowledge Economy Skills for middle school Second Grade Female Students

To achieve the goal of the research, the following forms of questioning were formulated:

What are the knowledge economy skills of second-grade students?

Fourth: Research limitations: The current research is limited to :

1_. Human boundaries: middle school Second-grade female students in Baghdad / Karkh 3rd Directorate of Education schools.

Temporal Limits : Academic Year 2021-2022

3- Spatial borders: Intermediate and secondary schools in the Directorate of Education of Baghdad Governorate/ Karkh III .

4 Objective limits: the skill scale of the knowledge economy.

V. Terminology

Defined by (Ramadan, 2015): A group of behaviors, actions and activities that enable the individual to deal accurately and skillfully with knowledge in order to be used effectively in all areas of life. (Ramadan, 2015: 5)

The researcher knows it procedurally:

It is a set of personal and social knowledge and activities possessed by the second-gradefemale students and enables them to deal accurately and proficiently with knowledge and

employ it in all aspects of their lives. Skills are measured to the degree that the student obtains after answering about the scale prepared for this purpose .

Chapter II

1-Knowledge

Researchers disagreed on giving a general and specific concept of knowledge. This difference led to multiple definitions of knowledge. (P_Druker) indicated that knowledge is the ability to translate information into performance to achieve a specific task or find something specific. This ability is only for those with intellectual skills. (Mahmoud,2014: 22).

2- Knowledge management

Knowledge management refers to how everything that can access knowledge and ways to use it is directed and benefit from it meaningfully. It can be said that knowledge management is an essential condition for the production of knowledge in universities, scientific, research and educational centers, factories, farms and workshops . (Rifai, 2004: 13)

3. TheKnowledge Society

The knowledge society is a group of people with close interests who try to benefit from pooling their knowledge together about the areas in which they are interested. During this process, they add more to knowledge. Thus, knowledge is the mental and useful product of cognition, learning and thinking processes. The knowledge society is a society that uses information and communication technology, as well as skilled labor, to achieve the development of the individual and society.

4 Knowledge Economy

It is intended to be a major resource for economic development that depends on education and the availability of digital technology and innovations, and in which the percentage of added value in knowledge and information goods that depend on the accumulations of information, computers and various communication networks increases.

There were many attempts to clarify the concept of the knowledge economy, including An educational system aimed at enabling individuals to obtain, participate in, produce and use knowledge.To improve the quality of human life.

- The process of using and employing technology with the aim of improving the quality of life in all its fields and activities by benefiting from information, the Internet and various information applications. (Alkanani, 2020: 50)

Characteristics of a knowledge economy

Alkanani (2020) mentions several characteristics of the knowledge economy, including:

- It is highly flexible, changing and evolving to meet changing needs, and it is characterized by openness and global competition. There are no barriers to entering the knowledge economy, but it is a fully open economy.
- Linked to intelligence, innovative ability, imagination, cognitive awareness, the importance of invention, creation, and self and social initiative to achieve the best and activate all of that to produce the largest quantity and the highest quality and the best in achieving satisfaction.

- Renewal, growth, growth and immaturity of knowledge sources, whether by use, use or retention, but over time and multiple use, the sources of knowledge increase and accumulate and diversify in their fields.
- Effective use of ICT to build a high-speed, accurate and responsive information and communications system.
- It is knowledge-intensive and is based on investing in human resources as the cognitive and intellectual capital.
  (Alkanani,2020: 53)

6 Features and characteristics of learning in the era of the knowledge economy

Many features and qualities of learning emerge in the era of the knowledge economy, including :

- Learning is a lifelong process.
- There should be a minimum of comprehensive knowledge and not focus on specialization only.
- Critical thinking, problem-solving style, and decision-making ability.
- Linking the learned material to the reality of students' lives.
- Integration and integration of the materials learnt by students at the vertical and horizontal levels .
  (Al Hashimi and Al Azawi, 2007: 166)

7 Skill of Knowledge Economy

Both Hutton and Sheehan point out that cognitive economy skills are a set of skills that are common to interpersonal skills, teamwork, and the ability to collaborate in the pursuit of a common goal, leadership ability, motivation skills, coping with situations, learning ability, problem-solving skills, effective communication with colleagues, analytical skills, and ICT skills. (Houghtone&Sheehan, 2000: 11)

Also, many of his skills have been identified (Al-Hashimi and Al-Azawi 2009) :
1- Basic skills: They include reading, writing, and basic skills for using the computer.
2 Communication skills: oral expression, dialogue, negotiation, persuasion and consultation.
3Thinking skills include analytical skills, problem solving, evaluating attitudes and suggestions, employing them, making decisions, and supra-cognitive skills such as adjustment, guidance, and budgeting .
4 Information-gathering skills: This includes cooperating with others and working in a team.
5 Behavioral skills: Adapting to situations and taking risks includes forming and defending a vision, taking responsibility, innovation and renewal. (Al Hashimi and Al Azawi, 2009: 47)

Chapter (3)

First: **Research Methodology:** The descriptive correlative research method was adopted by the researcher to achieve the objectives of her research, in order to suit this methodology to the objectives and problem of the research, as it focuses on knowing the knowledge economy skills of second-grade intermediate students, The scale was adopted as a tool for collecting data and information according to this approach, as well as other procedures required to achieve the research objective.

Second: Research Procedures

1- **Research community:** The **research** community consists of second grade students, middle and secondary schools in the Directorate of Baghdad Education/ Karkh, the third for

the academic year (2021-2022), as their total number reached (46227) .

2- The research sample

The research sample was represented by the selection of a number of second-grade female students from the schools of the Baghdad Karkh Directorate for the third academic year (2021_2022). The sample was chosen in a simple random way, amounting to (381) students. The Stephen Thompson formula was used to measure the size of the sample.

- The **Cognitive Economy Skills Scale:** The researcher relied on measuring the skills of the cognitive economy on the scale that she prepared, where it consists of (55) items . Each item has three alternatives that apply to me (always, sometimes, never apply to me). The items of the scale were presented to a number of arbitrators with specialization in teaching methods and educational psychology, as they were asked to indicate their opinion on the validity of the items of the scale in terms of their suitability in measuring the skills of the cognitive economy to which you belong, as the validity of the measurement tool is what you measure, and the combination of the items has obtained the approval of the arbitrators with some modifications in the formulation of some items to be more appropriate.

Psychometric properties of the scale :

1- Indicators of validity of the knowledge economy skills scale:

First, Face validity

Face validity : This type is achieved by presenting the measure to a group of arbitrators with specialization to take their views on the validity of the items of the knowledge economy skills scale and their suitability to the study community. The items were agreed upon with some amendments.

The **exploratory experiment:** The researcher applied the cognitive economy skills scale to a survey sample of (30) female students with the aim of identifying the clarity of the items of the scale in terms of language integrity and knowing the time taken by the sample members and then calculating the time required to answer by calculating the total time taken by each student divided by the number of female students, which reached(30)minutes.

Statistical analysis of the items of the scale: The cognitive economy skills scale was applied for the purpose of conducting statistical analysis of the items of the scale on the analysis sample of (275) female students.

A- **Discriminatory power**: For the purpose of making the power of distinguishing the items of the knowledge economy skills scale, the following steps were taken:

1- Correcting the cognitive economy skills scale forms for the statistical analysis sample.
2 Ordering the total scores downward from the highest to the lowest score in the scale.
3- Choosing (27%) of the forms that obtained the highest grades, and(27%) of the forms that obtained the lowest grades. The group's grades ranged between (165- 81).
4. The discriminatory power of each item of the scale was calculated in the manner of the two extremist groups in responding through the use of the T.test for two independent samples, and it was found that the calculated T-value is greater than the tabular T-value of (1.96) at the level of significance (0.05) and with a degree of freedom (273). It was found that all items are statistically significant.

B- The relationship of the item score to the total scores of the scale

The relationship of the item to the total score of the scale (internal Reliability) refers to the homogeneity of the items of the scale in measuring the quantitative behavioral phenomenon, because each item of the scale follows the same path as the scale as a whole.

The Pearson correlation coefficient was used to calculate the degree relationship of each item with the total score of the scale, and the values of the correlation coefficients ranged between. To confirm the correlation significance, the T-values of the correlation significance were calculated, so all the items were statistically significant, as the calculated T-values were greater than the tabular value of (1.96),at the level of (0.05), where they ranged between (4.86-7.85) and with a degree of freedom (273).

Second : stability Scale : Stability is one of the basic conditions that are important in building scales and tests. Stability means the stability of results to some extent if the measurement is repeated on the same group several times close. The Cronbach equation was used to ensure the stability of the skill scale of the knowledge economy. The result was equal to (0.93), which is a good stability coefficient.

Chapter Four

research results

- What are the skills of the knowledge economy of the second-grade students?

In order to verify this goal, the researcher resorted to the use of the T-test for one sample for the purpose of comparing the hypothetical mean for each of the fields of the cognitive economy scale with the hypothetical mean. It was found through the test that all the arithmetic media were higher than the hypothesis and that the calculated T-values were greater than the tabular value of 1.96 at the level of significance 0.05 and degree of freedom 379, which confirms the significance of the difference and as shown in Table (1)

Table (1) *The results of the T-test for one sample of the scores of the cognitive economy skill scale as a whole*

Variable	SAMPLE	Sample arithmetic mean	Standard Deviation	Hypothetical average scale	T value		Level of Significance	Difference Significance
					Calculated	tabular		
Knowledge Economy Skills	381	125.57	15.45	110	19.68	1.96	0.05	significance

Table (1) shows that the calculated T-value was(19.68), which is greater than the table T-value (1.96), so it is a statistical function at the level of (0.05) and with a degree of freedom (379), and, when comparing the mean of the scores of the sample (125.57) with the hypothetical average of the scale whose value reached (110), it was found that the difference is statistically significant,as the mean of the sample is greater than the hypothetical average of the scale,this means that there is a statistically significant difference in favor of the mean of the sample,i.e. that the second-grade students have average knowledge economy skills with an average value because the difference between the arithmetic average and the hypothetical is not large .

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