



Developing and Organizing an Easy Work Environment for Users of Computers Using Information Technology

Yasir Khudheyer Abass Aloubade

Iraqi Ministry of Education, General Directorate of Education Baghdad Karkh3,
Planning Department, Information and Communication Division.

ORCID: 0000-0001-9976-5406

yasirkhuraq@gmail.com

Article history: Received 25, January, 2022, Accepted, 6, March, 2022, Published in April 2022.

Doi: 10.30526/35.2.2808

Abstract

This study aims to implement a serial security technology system. The system is to organize a comfortable work environment for users of computers in the General Directorate of Education in Baghdad Karkh3. The application of this system is a big challenge because it is connected with scientific goals and structures of computer learning in Baghdad. It considers global learning systems and take into account the ease and scientific flow of the elderly employees. In addition, employees of other categories, are the outputs of the sequential technological system. The target is to create a purposeful technological system and keep pace with global developments, to gain experience, skills and knowledge. The system is executed at the lowest time and cost at all different scientific levels, in the field of computer science, information technology, and communications.

Keywords: Technological System, Working Environment, Users of Computers, Information Technology.

1. Introduction

We live in an advanced technical reality represented by modern technological systems and devices (smartphones, computers, smartwatches, or any other device). The individual cannot imagine his life without a smartphone or personal computer. The individual uses a computer or smartphone to discover the latest news and weather forecasts and chat on the Internet with friends and acquaintances. Young people do this without hesitation or difficulty, unlike the elderly, who face many difficulties when working with different devices, whether, smartphones, tablets, or personal computers. Therefore, computer learning has become one of the most important tools today. since is used in our daily life, Computer Learning in our days has become one of the most important tools that are used in our daily life, where computer learning in



schools such as language learning and lack of knowledge of computer use in our day It is another type of illiteracy, so it has become obligatory for all ages, especially the elderly, to work and learn to use the computer and its applications to understand through continuous practice and continuous training. Our study aims to organize a structure to build a sequential technology system that shows the steps of managing a comfortable work environment to use the computer. It takes into account the ease and scientific flow of the elderly employees category.

1.1. Research Problem

The advanced societies of our time are subject to continuous technological development. At the same time, the elderly group faces many obstacles and difficulties in meeting this development and adapting to it because they do not understand the mechanisms of working on the computer. IT helps them perform their work at the highest level and rid them of computer illiteracy.

1.2. Research Importance

Computer science is one of the modern and important sciences and an indispensable necessity. This science is used in various fields of life. Most developed countries depend on it to develop and develop their businesses, as it has become an essential part of their survival. Therefore, most governments resort to innovation and development in everything in this field. Where the importance of the research is represented in the following aspects:-

- Shedding light on the importance of using the sequential technological system to provide a suitable work environment for users of computers for easy use and the use of important programs that pertain to their work, preventing intrusions and following the important and proper rules of computer use.
- The application of this study in the field of work contributes to the development of the skills and capabilities of employees, especially the category of employees (the elderly), in using computers and integrating information technology in their work field, and benefiting from their scientific expertise to integrate it and acquire science and modern technological knowledge.

1.3. Research Goals

The researcher seeks to achieve the following objectives:

- Supporting, organizing, and developing the process of learning to use the computer for employees and the elderly category through building an effective and sequential technological system that provides scientific flow, acquires knowledge and skills, save time and effort for learning, and achieves international quality standards in learning.
- Eliminating computer literacy for the elderly and making them keep pace with the global development in the field of information technology to perform their work at the highest level.

1.4. Research Hypothesis

The hypothesis is to support, develop, and organize the educational and scientific process in the field of computer use in the General Directorate of Education in Baghdad Karkh3 through the use of the effective sequential technological system for learning It is also to achieve the highest quality standards in learning and acquiring science and knowledge and saving time and

effort to develop a strong cadre familiar with technology and modern sciences To perform his duties at the highest level.

1.5. Research Limits

The current research is determined by the Planning and Human Resources Departments in the Iraqi Ministry of Education, General Directorate of Education Baghdad Karkh3 within the years 2021/2022.

2. Research Methodology and Related Work

2.1. Research Methodology

The research curriculum includes a research study and an applied study to achieve the specific objectives that conform to the international standards and achieve the highest quality standards as follows:

2.1.1. Theoretical Aspect: The following are discussed in this aspect

A literature study is related to the organization of a sequential technological system that shows the scientific methodology, clarifies the principles of using a computer, and provides employees with basic digital skills. Various sources have been used from books, periodicals, and specialized research in this field.

2. 2.2.The Practical Aspect

The design of the sequential technological system is chosen because it is a comprehensive system that shows how to learn computer skills in effective sequential steps and according to international standards for learning and getting rid of computer illiteracy.

3. Related Work

This study aimed at information wealth, technological development, and challenges in Ireland, which sought to know the most important challenges in the information revolution facing Ireland and how to deal with challenges such as reluctance to university education and heading to other professions, and moving away from creativity and productivity, After distributing 250 forms at the University of Dublin, the researcher concluded that it is necessary to give intensive training courses to deal with the information revolution and technological development, not only for learning but also for acquiring behavior and trends that stimulate the acquisition of skills and knowledge that contribute to the development and use of information technology to gain a conscious and active generation of all experiences and be Prepared for doing business and facing all the resigned developments in the various work sectors [1].

Conducted a study to identify the relationship between the information technology revolution, political roles, and the impact of moral awareness among educational and educational institutions, to reduce the damage caused by the use of Information Technology, and to produce a strong generation capable of overcoming all difficulties , familiar with the latest technological sciences and knowledge. The generation will be ready to face the most recent technological developments and be prepared for development and innovation away from policies that negatively affect cultural and creative awareness [2].

This report aims at finding the most important problems, difficulties, and challenges that will face the world. [3] conducted a study aimed at solidarity and teamwork among all institutions to take collective decisions to reach successful solutions that serve and protect communities from Collapse. This study is achieved by distributing a questionnaire to a random sample of (230) individuals from school and university students in the Netherlands. The solution to potential problems in information technology is through technical training, and the use of specialists for guidance. Individuals use information technology correctly and optimally to gain a free technological world without obstacles.

This study aimed at informational wealth to enhance technical awareness among students. It was based on conducting studies on students groups to measure technical awareness. This study proved that students with technical awareness could solve their real problems faster. It is easier than for students who did not have technical awareness, and this confirmed that technical training is very important for individuals to face their work and daily lives. The study also confirmed that technical awareness was not only intended to use information technology, but rather addresses skills, values, and knowledge in addition to technical knowledge [4].

[5] aimed at using information technology in the reality of work and its impact on technical performance was applied in the Department of Human Resources at the Australian International Academy in Melbourne. The study included 72 employees of all academic and administrative levels, the results of the survey showed the approval of the study sample, to support the management of the academy towards the transition to electronic management, and the use of information technology applications has a positive role in the reality of work and has a future impact to keep pace with the latest global developments and link them in the field of work.

[6] Aimed to know the technical awareness represented by information technology among the professors of technical colleges in Nigeria and turn it into a clear behavior while performing their functions, the results of the survey showed that there is a good technical awareness among the professors, but there is a weakness in the application of this awareness of the application of Information Technology in the current reality, as the definition of the importance of the technical revolution has a major role in acquiring skills, knowledge and technical awareness among students educational institutions.

[7] Considered that the means of communication of all kinds and the use of social communication programs between different countries have a great impact on technological development and the dissemination of different cultures, which contribute to unifying opinions and discussing them to gain a unified decision on technological development, these technical tools and means contributed to highlighting the challenges of the information revolution and its impact on peoples and countries, which produced the technological revolution and its rapid development between different generations.

Another study aimed at applying a program to develop and increase technical awareness among secondary school students to reach the challenges of the information revolution and its impact on our daily lives. It has positive and negative effects represented by the problems of cultural invasion and globalization among students, the program was for raising technological and cultural awareness in the fourteenth secondary school in Tabuk, with increasing opportunities to deal with ethical issues resulting from the flow of communication technology [8].

Therefore, our study aimed at applying a sequential technology system that demonstrates the scientific concepts of computer training and introduces us to the methods and theories that help us overcome problems.

4. Research Procedures

4.1. Theoretical Framework of Research

science is the set of facts that we receive in all areas of life and help us in developing and serving society. Learning is the approach that a person is trained on in his life extracted from science. Therefore, it has become necessary to possess a technical awareness to keep pace with development and prosperity. With its advanced tools and smart applications, information technology has become important in human life. Nothing has affected man as information technology since the Industrial Revolution. It has become an important part of people's life, institutions, states, and major companies. The huge amount of information that grew and moved very quickly between countries, institutions, and major companies has made information technology an important tool for technological development in various areas of life. Its goal was to stay in a competitive environment, the world has entered technical development with no limits and in constant competition between governments., information technology leads to the pillars on which progress stands and has become a distinctive tool for this modern era. [9] defined Information technology since its creation in all types of software, hardware, and equipment, including personal computers, telephones, and information systems. [10] defined information technology as consisting of two parts, the physical and software part, where the physical part consists of computer equipment, automatic control and communication technology. The software part consists of software, artificial intelligence and software engineering [11] as in **Figure1**. This figure shows the components of the information technology system, so training individuals in institutions and large companies have become a vital part of keeping pace with this development, the system is designed to be used as a training system to acquire skill and knowledge in the use of computers and to increase capabilities in the field of information technology, and to use it in the reality of work to rise to the highest levels and get rid of computer illiteracy.

To highlight the identification of the steps of preparing the sequential technological system (the comprehensive technological system), which is adopted as a training system for the employees of the Iraqi Ministry of Education, the General Directorate of Education Baghdad Karkh3, which shows how to learn computer skills in effective sequential steps and according to international standards for learning, and this system was designed To acquire skill and knowledge in the use of computers, increase capabilities in the field of information technology, eliminate computer literacy and keep pace with the rapid development of information technology.

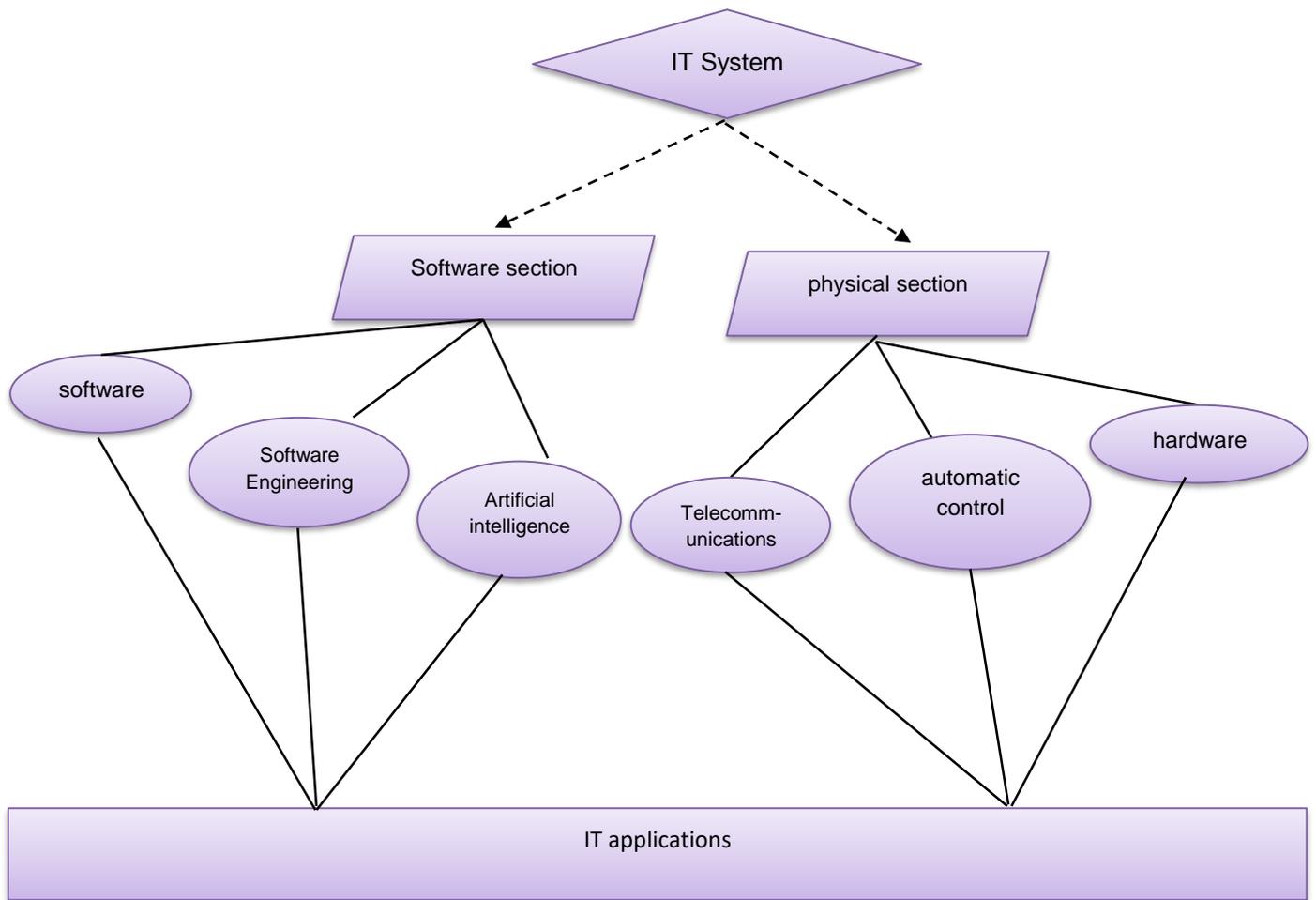


Figure 1. Components of an information technology system.

4.2. Stages of The Work of the Sequential Technology System

4.2.1 The Stage of Preparing the Serial Technology System

The education process is defined as a process that aims to teach a set of new skills and knowledge to individuals to carry out an activity or work [12]. Stages for the implementation of an integrated educational program concerned with taking into account the scientific flow and taking into account all age groups and specializing in all the sciences necessary to prepare an integrated trainee who keeps pace with modern scientific developments. The stages of the education process pass through four basic stages as follows:

4.2.1.1. Gathering Information and Requirements

At this stage, all the necessary data about the various elements of the educational program for information technology are collected, and the obstacles and problems facing the staff are taken into consideration. Then a specific policy is drawn up to design the comprehensive educational program [13].

4.2.1.2. Determining the Requirements

At this stage, we define the educational needs as the difference between the current performance of the job cadre and the performance desired to teach. It. They are summarized as follows: (developing or updating information - developing information technology skills - developing trends and behaviors - strengthening weaknesses, and strengths) [14].

4.2.1.3. Preparing the Educational Program

At this stage, the educational program is built and designed for information technology to achieve the expected goals of the education process. The process of preparing the educational program includes several procedures as follows

- Set tutorial topic.
- Preparing the educational material for information technology.
- Determine the sequence of topics in the educational program.
- Determining the educational methods (trainees - the subject of education - the period of education).
- Supplying the necessary educational equipment and supplies.
- Preparation of trainers.

4.2.1.4. Evaluation of the educational program

In this stage, the education process for information technology is implemented [15]. Evaluation of the educational program: At this stage, the evaluation process is conducted in three parts as follows [16] :

- Evaluation of the design of the integrated educational program on the subject of information technology.
- Evaluation of education during the implementation of the integrated educational program on the subject of information technology.
- Evaluation of education after implementing the integrated educational program on the subject of information technology.
- External evaluation (which identifies the trainee's weaknesses after practicing his work and following up on applying what the trainee has learned in the reality of work). And **Figure 2** shows the basic stages of education.

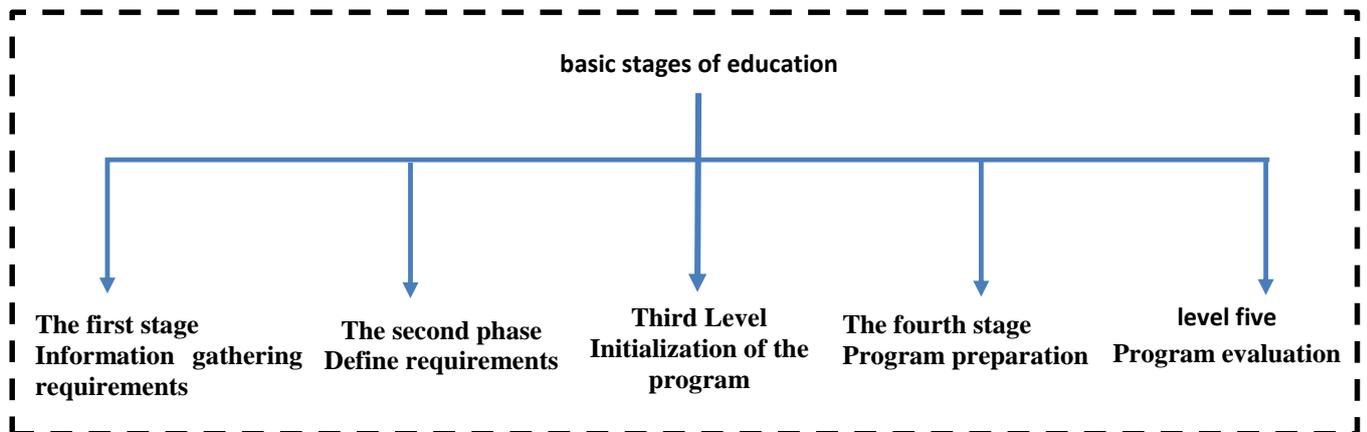


Figure 2: The basic stages of education.

4.2.2. The Stage of Building the Sequential Technology System

This stage depends on the first step, which is (preparing for the training process), where the third stage is the process of designing the training program, where the design of the training program is divided into three levels. In the information technology program that will be prepared, how much experience does a person have, what capabilities. After conducting the questionnaire, the concerned person is directed to the level of the training program, where the levels are divided into the sequential technological system three levels as follows [17] :

- basic level
- Supplementary Level
- Integrated level

And **Figure 3** shows the levels of the sequential technological system.

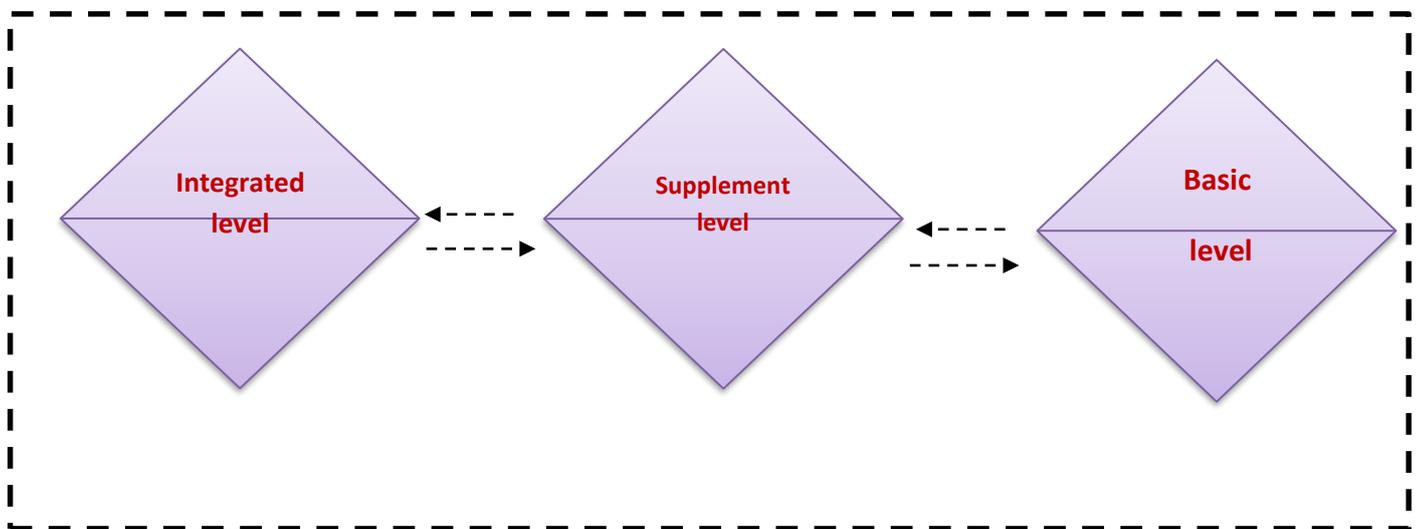


Figure 3: The levels of the sequential technological system.

4.2.3. Sequential (Technological System) Work Stage

At this stage, the mechanism of the sequential technological system work will be clarified, and its scientific levels will be identified [18], as shown in **Figure 4**. All scientific levels will be addressed and identified, and how the target group should be included in these levels to produce a conscious category familiar with all information related to information technology and able to manage all tasks It is entrusted as follows:-

1. Basic Level

This part is concerned with the first level for beginners to use the computer, and it consists of several factors as follows:

A- Digital Marketing

In this part, the trainee learns the basic concepts of digital marketing, understands the different options for web services, chooses the appropriate keywords to improve the appearance of sites in search engines, learns about social media platforms, understands how social media

management helps effectively in Promote and lead generations, and understands the different options for online marketing and advertising.

B - Basics of Project Planning

In this part, the trainee learns to understand the basic principles related to project management, using the project management application to develop a new project and maintain the existing project, setting and scheduling tasks, adding controls and deadlines for project delivery, determining costs and creating and assigning resources for tasks, and seeing the course of things, monitoring its development, rescheduling work, preparing and printing results, including tables and reports.

C- Research Via the Internet

In this part, the trainee learns to understand the basic principles related to cooperation and sharing on the internet, in addition to cloud computing, creating accounts for preparation and cooperation over the Internet, using network storage and productivity applications to collaborate with others, using online calendars and mobile devices to manage and activities and planning Sharing and interacting via social media, blogs and wikis scheduling and hosting online meetings and employing online learning environments Understanding the basic principles of mobile technology and using various features such as email, apps, and time-bound formats.

D- Typing and Data Entry

In this part, the trainee learns to use a word processor program to print data and official books, prepares letters, research and studies, and learns all the skills needed for data entry.

E - Digital Transactions

In this part, the trainee learns how to deal with government websites and fills in digital forms and forms. This part contributes to the development process and dictates government transactions via the internet to get rid of paper transactions and reviews. This part adopts the Blockchain platform that will be implemented in the UAE by the year 2021.

2. Supplementary Level

This part is concerned with trainees who have experience in the use of computers. This part is complementary to skills and knowledge and consists of several parts as follows:

A - Technology in Education

In this part, the trainee learns about the advantages of using information technology, understanding safety and security considerations, the correct use of information and communication technology, understanding information technology sources to enhance the learning process and evaluating educational programs.

B - Cyber Security

In this part, the trainee will learn about basic security concepts and online risks, identify malicious programs and ways to deal with them and remove them, understand the basics of network security, including telecommunications networks and wireless networks, procedures for accessing information, managing passwords and preventing their penetration, and securely

using web pages, the safe management of social networks, how to properly manage e-mail, the management of audio programs, the understanding of common threats to the security of individuals and extremism via the Internet, and the understanding of the vital components of national security policy.

C- Data Analysis

In this part, the trainee will learn the concepts of data analysis programs in administrative and commercial work, understand statistical analysis programs and identify the features and characteristics, identify pivot tables and charts data, and prepare reports and dashboards in the data visualization tool.

D - Creating Websites

In this part, the trainee learns how to create and manage websites using special programs, create and manage blogs, and create and manage e-mails.

E- Artificial Intelligence

In this part, the trainee will learn about the concept of artificial intelligence and identify the systems that use it, understand the methodologies used and describe the applications and contributions of artificial intelligence, understand the modern basics in artificial intelligence such as machine learning, deep learning, and robotics, display the simple basic components of robots, understand the role of intelligence artificial intelligence in giant data analysis, and see the platforms of artificial intelligence.

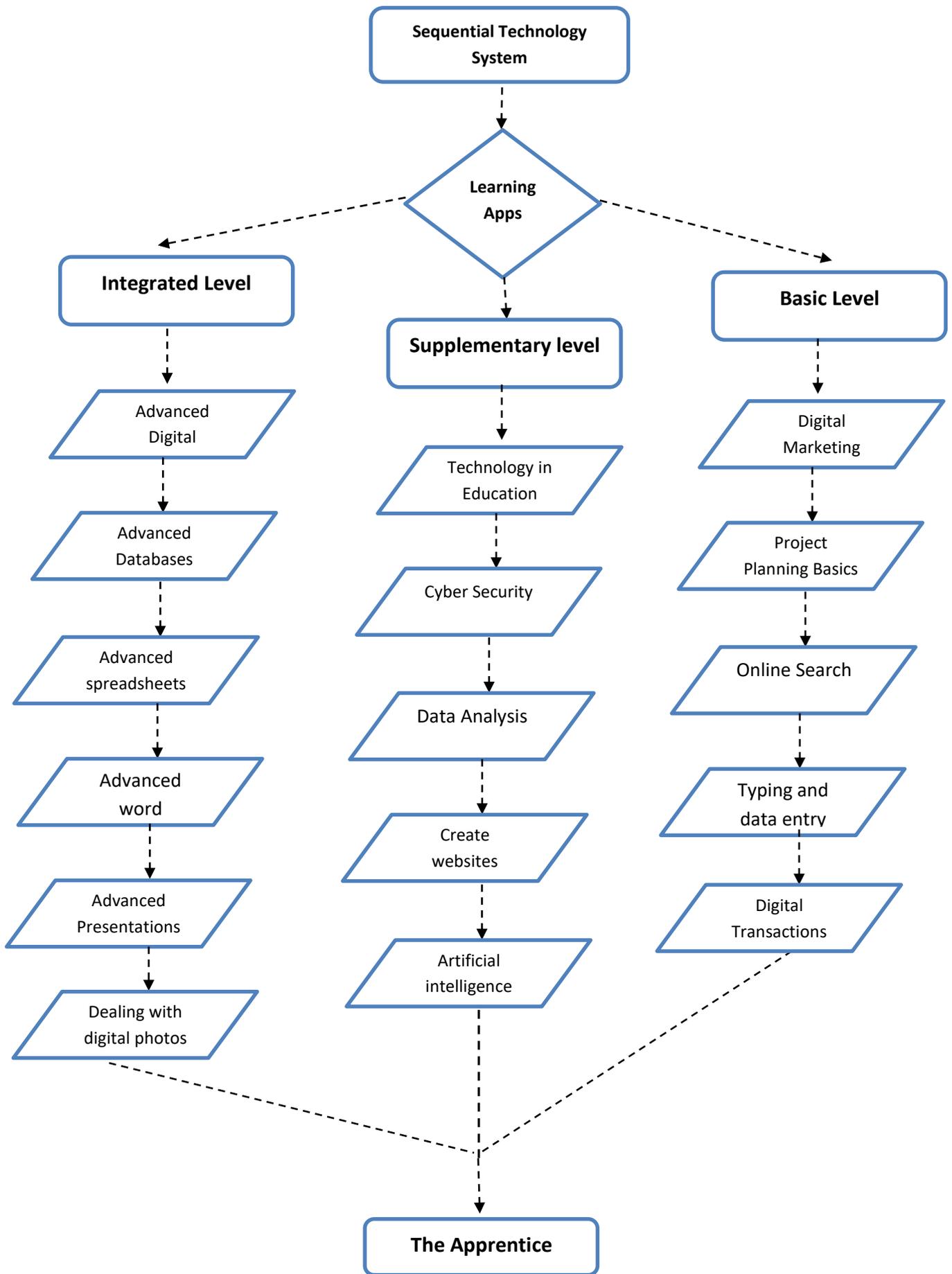


Figure 4: Sequential technology system.

4.3. Results

After preparing the sequential technological system, the knowledge of each trainee is evaluated through an interview and a preliminary test that precedes the process of providing skills and knowledge, (the test that precedes the start of the training course determines the level of knowledge possessed by the trainee) [19], and taking into account the process of determining scientific needs and then determines the special scientific level With the trainee, and it is possible to give all levels to a trainee who does not have knowledge of the information technology system, the sequential technological system is designed to facilitate scientific flow and to know the weaknesses that the trainee has and to address these points with scientific levels, where we can reduce the effort and find an appropriate level for the trainee so that he is equipped With knowledge of information technology applications by defining the part that is needed, as the application of this study in the field of work contributes to developing the skills and capabilities of employees, especially the category of employees (the elderly) in using the computer and linking it to their field of work, and benefiting from their scientific expertise to integrate it and acquire science and knowledge Modern technology, eradicating illiteracy, and replace documents and files Electronic paper [20] , and **Figure 5** shows the logical distribution of the scientific levels that the trainee (the employee) needs in his work.

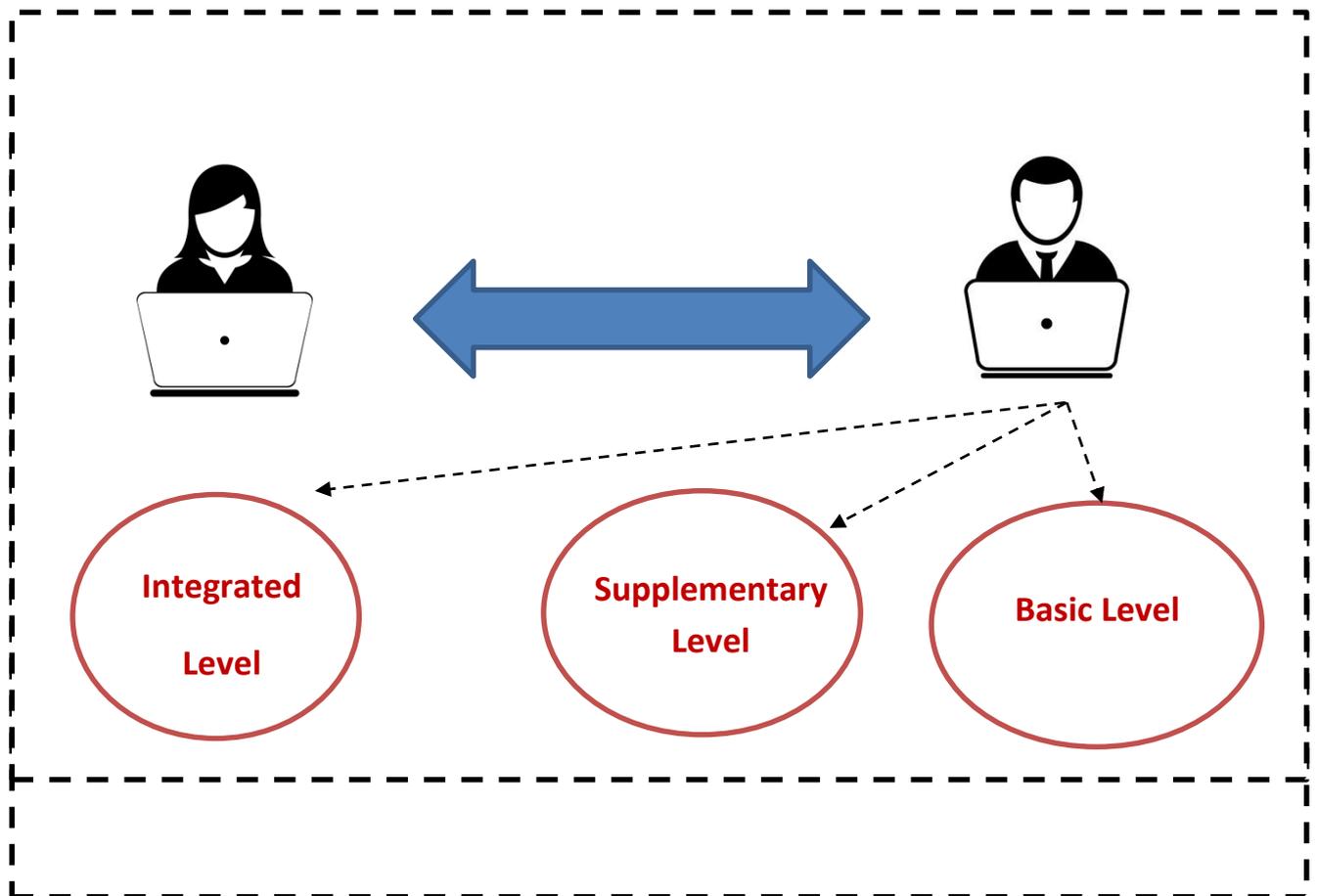


Figure 5: Distribution of scientific levels.

5. Conclusions And Future Work

5.1. Conclusions

With the rapid development of information technology and the increase in technological applications and its entry into all areas of life, and the competition of developed countries in developing their capabilities, environment, economy, and scientific energies, it is necessary to keep pace with this rapid development in the era of information technology and develop the skills and capabilities of individuals to keep pace with any development in this technical field. Through books and various sources specialized in the field of information technology, the most important results of this study were the application of the sequential technological system in the General Directorate of Education in Baghdad Karkh3, in the departments (Human Resources, and the Department of Educational Planning), for the benefit of the technological system to organize the scientific knowledge of individuals and reduce the effort is through the distribution of scientific levels, where the trainee is given the scientific level allowed to be provided with knowledge and technological skill, and the sequential technological system is a technological system that organizes and provides learning skills and is considered a developmental process for the educational process and its usefulness in providing individuals with skills and knowledge, eliminating computer illiteracy and building an advanced scientific generation able to overcome any difficulties and develop in their field of work.

5.2. Future Work

In light of the findings, the researcher recommends the following:
It is necessary to apply the use of the sequential technological system in the Iraqi Ministry of Education, General Directorate of Education Baghdad Karkh3. This system contributes to developing the skills and capabilities of employees, especially the category of employees (the elderly) to use the computer at work and benefit from their scientific expertise to integrate it and acquire science and technological knowledge, the application of this system in the field of work has many benefits for employees as it provides a safe and appropriate work environment for them through the use of security programs that pertain to their work to prevent intrusions and maintain the integrity of data security and many other scientific benefits, as one of the advantages of the technological system is to get rid of Computer literacy.

References

1. Kamito.; the impact of the challenges of the information revolution on the Irish people and graduates , *Irish academic universities of higher education, Ireland*,**2004**.
2. Bostrom,N.; Technological Revolutions: Ethics And Policy In The Dark,published in *NANOSCALE* , **2006** ,6,7, 129-152.
3. Silbergliitt, A. H. ; Wong, R.; Philip, S.; David, R.; Anny ;The Global Technology Revolution 2020, In-Depth Analyses, *RAND*,**2006**, 79,82,1-314.
4. Conole, D.; Darby.; enhancing technical awareness among students and government employees, *British Academy of Higher Education, United Kingdom*,**2007**.
5. Al-Otaibi, A.A.; the impact of the use of information technology on the performance of human resources: a field study on the Australian International Academy, *Arab British Academy for Higher Education, Britain*,**2010**.
6. Robert, O.O.; Information And Communication Technology Awareness Among Technical College Teachers In Benue State, Nigeria, *International Journal of Vocational and Technical Education* ,**2011**,3 ,6, 75-80.

7. Richard ,H.; Robert, H.; Tora, K.; C. Richard, N.; The Global Course of the Information Revolution: Recurring Themes and Regional Variations, *rand corporation*, http://www.rand.org/pubs/monograph_reports/MR1680.html,**2012**.
8. Muhammad, H.; Fawzi, T.; a proposed program to develop awareness of scientific and technological innovations and the ethical values associated with them among secondary school students in the city of Tabuk, *Journal of the College of Education between them, Sudan*, **2013**,*93, 1*, 246-208.
9. Robbey.; information technology since ,**1986**, 3-31.
10. Hosnia.; the definition of information technology,**1998**, 141.
11. Pham,Q.T.; Increasing innovative working behaviour of information technology employees in vietnam by knowledge management approach, *Computers*, **2020**, *9,3*, 61.
12. Lambropoulos, G.; Mitropoulos,S.; Douligeris,C.; Improving business performance by employing virtualization technology: a case study in the financial sector. *Computers*, **2021**,*10,4*, 52.
13. <https://mawdoo3.com/>. training definition, **2022**.
14. Lazzarotti, V.; Bengtsson, L.; Manzini, R., ; Pellegrini, L.; Rippa, P.; Openness and innovation performance: an empirical analysis of openness determinants and performance mediators, *European Journal of Innovation Management*,**2017**, *20,3*, 463-492.
15. Arciénaga, M.A.; Nielsen, J.; Bacarini, H.; Martinelli, S.; Kofuji, S.; García, J.; Díaz, J.; Technology and innovation management in higher education Cases from Latin America and Europe, *Administrative Sciences*,**2018**, *8,2*, 11.
16. Bollinger, S. R.; Creativity and forms of managerial control in innovation processes: tools viewpoints and practices, *European Journal of Innovation Management*,**2019**,*2*, 214-229.
17. Dillerup, R.; Kappler, D.; Oster, F.; Improving the management of innovation risks-R&D risk assessment for large technology projects, *Journal of Management and Strategy*,**2018**, *9,1*, 31-52.
18. Florkowski, G. W.; HR Technology Systems: An Evidence-Based Approach to Construct Measurement, *In Research in Personnel and Human Resources Management Emerald Publishing Limited*,**2018**,*8*, 197-239.
19. Hassan, M. H.; Lee, J.; Policymakers' perspective about e-Government success using AHP approach, *Process and Policy*,**2019**, *13,1*, 93-118.
20. Ma, Y. ; Research on Technology Innovation Management in Big Data Environment, *In IOP Conference Series, Earth and Environmental Science IOP Publishing*, **2018**, *113, 1*, 012141).