



The Effectiveness of Using Artificial Intelligence Applications through Social Networking Sites in Teaching the Subject of Furnishing and Decoration of Housing for Students of the Department of Home Economics, Applied College, and its Impact on Developing Sustainable Development Skills and Changing Students' Attitudes towards the Environment.

¹Laila Mohamed Elwakeel, ²Naglaa Muhammad Farouk Ahmed

¹Muhayil Asir, Applied College, King Khalid University,

Muhayil Asir 61913, Saudi Arabia

lalwakel@kku.edu.sa

²Associate Professor at the College of Culture and Arts, Department of Home Economics - College of Culture and Arts- Abha - King Khalid University, P.O. Box 3236. Abha,

nalsaiad@kku.edu.sa

Abstract

The aim of the research is to identify the effectiveness of using artificial intelligence applications through social networking sites (WhatsApp), in teaching the subject of furnishing and decoration of the house for students of the Department of Home Economics, Applied College, and its impact on the development of sustainable development skills and changing students' attitudes towards the environment. Through the use of artificial intelligence applications through social networking sites (WhatsApp), and the results of the study showed that artificial intelligence applications and social networks contributed significantly to raising the level of sustainable development skills for the material of furnishing and decoration of the house among students, as well as the formation of positive attitudes towards the environment, and the results also showed the responses of the study community about the attitudes of students towards the use of artificial intelligence applications. The study recommends employing artificial intelligence applications in teaching most curricula and taking advantage of the group service provided by WhatsApp in establishing specialized groups and supporting the trend of teachers towards artificial intelligence applications, and teacher preparation programs include ways to deal with artificial intelligence applications.

Keywords – effectiveness, Economics, Sustainable, Advantage, establishing

Received: 07 July 2024 **Revised:** 27 August 2024 **Accepted:** 09 September 2024

Introduction:

The twenty-first century has witnessed tremendous progress in the field of information and communication technology, and this era has produced many mechanisms for generating knowledge, so it was called the age of knowledge, due to the rapid transfer of information and data and the exchange of experiences in all areas of life, the most prominent of which was the development of the use of computers and information and communication technology, which was reflected in the progress of various fields, especially the aspect of education, as this progress contributed to the development of the educational system and improving its performance by addressing the administrative, technical and aspects The

Academy to achieve efficient and effective educational goals to face the rapid changes in this era (Al-Sharhan, 2003-15)

With the rapid development in the world and the inflation of data in our time, artificial intelligence is one of the most prominent technologies that have had a role in driving growth and prosperity

If the applications of artificial intelligence are important in many fields and fields of military, industrial, economic, technical, medical and service applications, they are also important in the field of education, through which several advantages can be achieved, the most important and most prominent of which is improving the decision-making process, reducing costs, improving quality, and achieving huge profits with the application of its uses and relying on the accurate information and advice it provides and its positive effects in reducing dependence on the human element and labor, which raises the quality of products and reduces spending and other advantages that Directly contributes to enhancing his ability to provide solutions to many problems (Khawald et al. 2019)

At present, no field of study or employment of artificial intelligence applications is free, which places on the shoulders of ministries and educational institutions a great responsibility to develop policies, curricula and strategies to keep pace with the modern artificial revolution, which is a spark that illuminated the way for educators new ideas and innovations in scientific research and studies to enrich artificial intelligence, spread its culture and include it in the stages of school education and higher education theoretically and practically.

Social networks on the Internet are the latest and most popular detachments of the information revolution, and these sites are for social networking with individuals, but their use extended to me all political, social and cultural organizations (Awad, 2011-4).

Social networks are nothing but software designed by skilled and specialized people, allowing people to communicate and interact about a specific idea, topic or goal, and we can even describe social networks as a group of individuals, often called friends who are connected together and exchange ideas that bring them together. (Mohsen Al-Zahrani, 2013- 68).

Therefore, a number of e-learning specialists agreed that social networks represent a suitable environment for modern and advanced education that meets the needs of the individual, and is in line with the global technological revolution.

No wonder, social networks have become widespread among members of society, and this has contributed to the possibility of accessing these networks even through mobile devices that have become widespread among all segments of society, and the spread of Internet networks as well as ease of use. It became a part of their daily lives, so using it as a means of education was a natural thing that did not represent a burden on them, and mixed pleasure with science to reach the desired knowledge. Abbas Sadiq (2008-99).

A number of countries in the world have tended to adopt social networks as one of the most important means of education, if we look at the Chinese experience, we find that it has introduced in many educational institutions in the cities of Chinese provinces, social networks to consolidate the relationship between the teacher and the learner, and "Rongwei Huang" indicates that the experience broke the teaching routine, and the student became more creative . The Chinese educational scheme can bring more benefit to students, as it provides the principle of motivation and encouragement, and ensures access They are most enthusiastic, especially when it comes to lessons that some may see as complex, for example, foreign language lessons, which rely mainly on openness, dialogue, and harmony within the school environment.(Ali Gouda, 2006-66).

Based on the above, the idea of the research emerged, which is to link the use of artificial intelligence in education through one of the social media

❖ **Search problem:-**

Ready-to-use AI can be anything from self-repairing databases using machine learning, to pre-built models that can be applied to a variety of datasets to solve challenges such as image recognition and text analysis. It can help the learning process achieve goals faster.

Artificial intelligence is part of the digital technology ecosystem, as the digital transformation of the printing design industry is affecting its ability to produce and use data that was not technically or financially possible before.

Communication sites and modern technologies directly affect the academic achievement of students and their attitudes towards education if they are used positively, as for their negatives, they consume a lot of their time, and distract them from reviewing their lessons, performing their duties, and the consequent educational problems, such as sleeping during lessons, lack of attention and concentration, and poor language.

Educational technologies in general have received the attention of teachers and learners, especially as they have resulted in a variety of methods of learning, which helped to perform the educational process, which requires the employment of these technologies in various educational environments, and many studies have been confirmed, including (Charp, 2000) (Salama, 2005), (Hussein 2006), (Al-Amoudi, 2010), (Mohsen Al-Zahrani, 2013), (Rasha Awad) , 2014) that providing an educational environment using modern technologies that are not limited by time or place, which increases the motivation of students to learn and cognitive development and raise the level of their academic achievement and provide students with technical skills and develop their tendencies, trends and abilities, and the adoption of modern methods that raise understanding and inquiry in self-learning and spread the spirit of cooperation and participation through the employment of modern technologies in the educational process.

With the emergence of the directions of the Ministry of Education in the Kingdom of Saudi Arabia to prepare an e-learning environment, the frequent uses of artificial intelligence, and the scarcity of Arab studies in this field, the problem of the study is to identify the effectiveness of the use of artificial intelligence applications through social networking sites (WhatsApp), in teaching in teaching the subject of furnishing and decoration of the house for students of the Department of Home Economics, Applied College and its impact on its development Sustainable development skills and changing students' attitudes towards the environment.

❖ **The research problem lies in the following questions:**

1. What is the effectiveness of using artificial intelligence applications through social networking sites (WhatsApp), in teaching the subject of furnishing and decoration of the house for students of the Department of Home Economics, Applied College, and its impact on the development of sustainable development skills?
2. What is the effectiveness of using artificial intelligence applications through social networking sites (WhatsApp), in teaching the subject of furnishing and décor for students of the Department of Home Economics, Applied College , and its impact on changing students' attitudes towards the environment?
3. Is there a correlation between sustainable development skills and students' attitudes towards the environment?

❖ **Research Objectives : - The current research objective is to:**

- 1- Providing an integrated theoretical framework on the applications of artificial intelligence (concept - characteristics - types - pros - disadvantages - role in education).
- 2- Providing a procedural model based on employing artificial intelligence applications and disseminating them through social networking sites (WhatsApp), in teaching the subject of furnishing and décor for students of the Department of Home Economics through effective and active teaching situations.
- 3- Identifying the effectiveness of using artificial intelligence applications through social networking sites (WhatsApp), in teaching the subject of furnishing and decoration of the house for students of the

Department of Home Economics, Applied College, and its impact on developing sustainable development skills and changing students' attitudes towards the environment.

- 4- Upgrading the level of performance of students of the Department of Home Economics through the development of sustainable development skills and the formation of positive attitudes towards the environment. By using artificial intelligence applications through social networking sites (WhatsApp).

❖ **The importance of research: The importance of research lies in the following points:**

1. This research may benefit those in charge of educational programs in creating an interactive learning environment through the use of artificial intelligence applications via social networking sites (WhatsApp) to communicate between academic supervisors, teachers and students of faculties of education and away from the traditional pattern in teaching and learning.
2. This research may contribute to creating a channel for effective and continuous communication between students to exchange experiences among them.
3. Achieving integration between information technology and education to bring about real change and renewal in the quality of learning and teaching.
4. Providing students with technological culture in the field of computers and the Internet through self-learning and research skills to obtain knowledge via the Internet, which has a scientific, mental and cultural impact, thus providing them with the opportunity for self-learning and acquiring mental and sensory skills that enhance their research and discovery skills and obtain what benefits them in acquiring and building the knowledge they need.
5. The importance of the current study is due to the lack of studies that addressed the extent of the use of artificial intelligence applications through social networking sites (WhatsApp) and artificial intelligence applications and electronic social networks in education in general, and higher education in particular, and the impact on the characteristics of students themselves due to the presence of such new technologies in learning methods, and the effectiveness of using artificial intelligence applications through It is hoped that this study will add a new building block in the field of the effectiveness of artificial intelligence applications through social networks in the development of teaching and learning in conjunction with the need to create an educational intellectual system that harnesses this interaction towards the right direction to achieve a safe environment on the one hand, and to develop students' technical skills, and sustainable development skills required by development plans on the one hand.
6. It may help specialists in these fields to provide possible assistance to mitigate the negative effects of this phenomenon, and to employ these technologies and guide them towards their positive use in raising the level of sustainability skills of students to serve the educational process.

❖ **Research Methodology: Follow the following two methodological researches:**

- 1- **Descriptive and analytical approach:** by reviewing previous research and studies related to the topics of the study and the results of those studies.

2 **Experimental Method:** The experimental approach was used in the field experiment of this research, by teaching students using artificial intelligence applications through social networking sites (WhatsApp) in order to

Developing the capabilities and skills of sustainable development and changing students' attitudes towards the environment.

❖ **Research hypotheses: - The research hypotheses were as follows:**

- 1- There are statistically significant differences between the average scores of female students for the control and experimental groups in the sustainable development skills test, in favor of the experimental group.
- 2- There are statistically significant differences between the average scores of female students for the control and experimental groups in the scale of attitude towards the environment, in favor of the experimental group.

- 3- There is a correlation between the attitude towards the environment and the sustainable development skills of female students.

❖ **Search limits: - This search was limited to the following limits:**

- 1- **Objective limits:** This research is limited to verifying the extent of using artificial intelligence applications through social networking sites (WhatsApp) in teaching the third semester (the foundations of interior design with elements that achieve sustainability) of the material of furnishing the dwelling and its décor on the development and formation of positive attitudes towards the material among students.
- 2- **Human limits:** This research was applied to a sample of students of the third year of the sixth level - and their number (50) students were distributed into two groups: -
 - A- The control group numbered (25) students.
 - B- The experimental group numbered (25) students.
- 3- **Spatial boundaries:** Applied College, Muhayil Asir Branch, Department of Home Economics - King Khalid University.
- 4- **Time limits:** The application of the research is limited to the second semester of the year (1445-1446), and the application took a full month.

❖ **Research tools and processing materials: - The research included the following tools and processing materials:**

- 1- Designing videos using artificial intelligence applications and a group on (WhatsApp) to communicate with students to teach the subject of furnishing and décor through them.
- 2- The sustainable development skills test in the third semester (the foundations of interior design with elements that achieve sustainability) is applied before and after the use of artificial intelligence applications and the group (WhatsApp) in teaching it to the study sample. (Prepared by the researcher).
- 3- Environmental Attitude Scale: To identify students' attitudes towards the environment before and after using artificial intelligence applications through social networking sites (WhatsApp) in teaching on the research sample. (Prepared by the researcher).

❖ **Search terms:- The search included a set of terms:**

AI Applications

Winston defined artificial intelligence as the study of computers that make the processes of perception, thinking and acting possible (Abu Bakr and Khairuddin 2020 _ p. 36).

It can be defined when (Moses and Habib 2019 _ p. 19) as the ability of machines and digital computers to carry out tasks that simulate and resemble those performed by intelligent beings, such as the ability to think or learn from previous experiences or other operations that require mental processes.

As for (Abu Bakr 2019), he says that artificial intelligence is a relatively recent field that originated as one of the computer sciences that is interested in studying and understanding the nature of human intelligence and simulating it to create a new generation of smart computers that can be programmed to accomplish many tasks that need a high ability of conclusion, deduction and perception.

There is a set of definitions for a group of researchers (Mahmoud and others 2021 _ p. 746) who defined artificial intelligence as qualities enjoyed by humans and fall within the list of smart behaviors for him that the machine could not have acquired before.

Through the above, artificial intelligence is known as a relatively recent science of computer science that aims to innovate and develop smart computer systems that simulate the method of human intelligence itself so that these systems can perform tasks instead of humans and simulate their functions. Artificial intelligence is a science of computer science associated with computer systems that have characteristics associated with intelligence, decision-making and similar human behavior in some different fields.

➤ **Social Media:**

It is defined as those social networks that allow its surfers the possibility of sharing files and images and exchanging videos, as well as enabling them to create blogs, conduct instant conversations, and send messages, and these social networks topped three important and main sites: "Facebook" "Twitter", and the site of video clips "YouTube". It has become the main means of exchanging information and instant news in following the course and developments of events (Mohamed Mansour 2012-73).

The researcher defines it procedurally: as a group on WhatsApp in which the students of the experimental group share the exchange of information and tasks for the dwelling material, furnishing and décor, and the professor of the subject can supervise and guide the performance of the students .

➤ **Sustainable Development Skills:**

Wikipedia defines sustainable development as development that takes into account the social and environmental dimensions as well as the economic dimensions of the proper use of available resources to meet the needs of individuals while preserving the right of future generations. The world faces the gravity of environmental degradation, which must be overcome while not abandoning the needs of economic development as well as equality and social justice.

The researcher defines it procedurally: it is the extent to which students follow sustainable interior design skills by recycling, and the implementation of balanced housing design patterns, without excessive dependence on natural resources and measured by the degree obtained by the student in sustainable development skills prepared for this purpose.

➤ **Attitude towards the environment:**

Direction is a mental and nervous readiness that is subtle, educated, structured around experience, to respond regularly in a loving or unpleasant way in relation to the subject of direction . (Ibrahim El-Desouky, 2004-152).

Defining the environmental trend as: "the attitude taken by the individual towards his environment, in terms of sensing its problems or not, his willingness to participate in solving these problems, developing better environmental conditions, or his unpreparedness, as well as his attitude towards the rational or unfair exploitation of natural resources in this environment."

And procedurally the trend towards the environment: - is determined by the total degree obtained by the student in the scale of the trend towards the environment and used during this study, and the high degree expresses a positive trend unlike the low degree expresses a negative trend towards the management of curricula.

1- Theoretical Framework:

Artificial Intelligence

Types of artificial intelligence

1_Weak AI (Weak AL)

2_Strong artificial intelligence (Strong AL)

3_Super Artificial Intelligence (Super AL)

The emergence and development of artificial intelligence

The term artificial intelligence appeared in the fiftieth decade of the twentieth century, specifically in 1956, when the scientist Alan Test introduced what is known as the Turing Test, which evaluates the intelligence of the computer and classifies it intelligently in the event that it is able to simulate the human mind, and in 1956 at Dar Mott College (Mahmoud et al. 2021 _ p. 746)

The concept of artificial intelligence was officially announced by John Macarthy (who organized a two-month workshop in which researchers interested in artificial neural networks brought together the

progress in artificial intelligence science at the beginning of the twenty-first century until interactive robots became available in stores (Parveen & Palaniammal 2019 _p514)

After reviewing the author on a number of studies that dealt with the development of the concept of artificial intelligence, such as the study of each of (Al-Subhi 2020 _ Al-Farani and Al-Hujaili 2020 _ and Bilal 2019) >

Miaim & Hodes, 2017)) We find that it passed in seven stages, which are as follows:

The first stage: The first attempt was made in the fifties of the last century to prepare models for a mechanism that can issue simple behaviors such as learning, but these models failed to issue any complex behaviors and these models adopted neural networks

The second stage: In the sixties, a new, conscious and flourishing wave of artificial intelligence began with Alan Newell and Herbert Simon, who said that the correct form begins to describe a person's ability to solve problems when he acquires comparison and analyzes the basic elements of the ability to operate and analyze using instructions and rules and arrange them, but this can only be achieved through puzzles and games, and it is not possible to deal with the complex situations that humans face every day.

The third stage: In the seventies of the last century, the first step in knowledge engineering began with a team at the Stanford Research Institute led by one of the most famous artificial intelligence scientists, Edward Vision Day, who was a member of the Robotics Society at the University of Edinburgh in 1973, the team developed a vision to identify the model and assemble it. In 1979, Stanford developed the first computer-controlled car.

The fourth stage: In the eighties, the machine learning movement began, and the programming process began to acquire and extract knowledge and put knowledge in the machine, i.e. the machine gained the ability to see and move.

Fifth stage: In the nineties, due to the tremendous development of computers in terms of speed and storage capabilities, as well as the development of psychology in the field of intelligence, scientists returned artificial intelligence to neural networks and the development of neuroscience networks

Sixth stage: Since 2000, artificial intelligence has entered a new phase of development and achieved greater successes that changed the fate of humanity, as artificial intelligence has developed

Seventh stage: Since 2011 until now, the most important development has come, as artificial intelligence has entered advanced and prosperous stages and has been applied in various areas of life widely

Artificial intelligence is still a futuristic technology and is in continuous development to this day, as every day there is a development in the software, techniques and applications of artificial intelligence that play a growing role in several fields.

Artificial Intelligence Goals

One researcher believes that artificial intelligence aims at several goals, including Nath 2012_35).

- _ Understand the nature of human intelligence through the work of computer programs capable of simulating human behavior characterized by intelligence
- _ Processing information more closely to the human way of solving problems
- _ Understand the best nature of human intelligence by deciphering the depths of the brain so that it can be simulated

The importance of artificial intelligence

Due to the importance of artificial intelligence, many researches and studies have emerged that highlighted its importance, including (Majid 2018 - p. 151) (Mahmoud 2020 - p. 189)

_ The contribution of artificial intelligence in maintaining the accumulated human experiences by transferring them to smart machines

_ Artificial intelligence benefits humans in many aspects and situations through the computer simulates the intelligence processes that take place within the human mind so that the computer becomes the ability to solve complex problems and make quick decisions in a logical manner

_ The possibility of education and self-development through artificial intelligence programs such as education, logic, self-correction and self-barring

While (Al-Juhani 2019 _ p. 6) believes that artificial intelligence is of great importance, perhaps the most prominent of which are:

_ Artificial intelligence contributes to enabling humans to use human language in dealing with machines instead of computer programming language, which makes machines and their use accessible to all segments of society

Artificial intelligence plays an important role in many sensitive fields such as assistance in diagnosing diseases, prescribing medicines, legal and professional consultations, interactive education, and security and military fields

Smart systems contribute to the areas in which decision-making is made in these systems and enjoy independence, accuracy and objectivity, and therefore their decisions are far from error, bias, racism, prejudice, or even external or personal interference

_ Smart machines relieve humans of many risks and psychological pressures and make them focus on more important and more humane things by employing these machines to carry out hard and dangerous work, explore unknown places and participate in rescue operations during natural disasters

Each of (Musa, Abdullah, Bilal, Ahmed Habib, 2019 _ p. 126) adds several points to the importance of artificial intelligence :

_ Maintaining the accumulated human experience by transferring it to smart machines

_ Man can use natural language in dealing with machines instead of computer programming languages, which makes the use of machines accessible to all segments of society

_ Smart machines relieve humans of many risks and psychological pressures by employing these machines to do hard and dangerous work that is complex and needs mental focus, mental presence and decisive and quick decisions that do not tolerate delay or error

_ Smart systems contribute to the areas in which decision-making is made, as these systems enjoy independence, accuracy and objectivity, and therefore their decisions are far from error, racism, external and personal interference

_ Assistance in diagnosing diseases, prescribing medicines, legal and professional consultations, interactive education, security and military fields

Applications of Artificial Intelligence in Education

There are many smart applications that have spread recently and have been integrated into the educational process after they were limited to specific disciplines such as medicine, science and mathematics, and these applications were integrated into language sciences recently, so this contributed to their enrichment, and the entry of these technologies into the educational process led to providing fruitful education characterized by efficiency and effectiveness due to the role played by these technologies of diversity in the presentation of educational material and for the fun and suspense it adds

The concept of artificial intelligence in the field of teaching and learning has made a great leap due to its reliance on a set of principles of science and disciplines related to the educational process and the

integration of these technologies recently into the educational process contributed to solving the challenges faced by the educational system

(Darwish and Laithi 2020)

Experts agree on the importance of artificial intelligence in education in the twenty-first century, where tens of millions of students in the past few years have used a form of artificial intelligence in education, whether through special education programs outside the school such as Scorel programs, through digital learning platforms, or even in classrooms (Qashti 2020).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) stressed the importance of disseminating artificial intelligence technologies in education with the aim of enhancing human capabilities, protecting human rights, promoting sustainable development and improving livelihoods .

(UNESCO 2019)

Literary studies show the use of artificial intelligence technology in education in various aspects, including the automatic grading system, interval reminders, feedback, virtual teachers, smart campus and distance study (Yufeia et al, 2020).

The most prominent applications of artificial intelligence that are appropriate to employ in the educational process can be summarized according to what has been reported by many studies and literature as a study (Al-Subhi 2020, pp. 40_342)

And (Qashti 2020, pp. 80_82) and (Shaaban 2021, pp. 11_15) and Yufia and others

Yufeia et al 2019 ,p 31)) Hao&Liu 2019,p 47))) Goksel & Bozkurt) 2019,p31)) Holmes al 2019 ,p 231_232))

☒ Social Networking Sites:-

.(Internet) Social networking sites refer to social and professional sites spread on the World Wide Web which allow its users to create personal pages that allow social networking operations, publish ideas, information and experiences and exchange them through those pages and on these sites, form virtual friendships, and send public and private messages, with the possibility of allowing their news to be displayed or blocked, and this is done within a virtual environment in one of the social networking sites such as Facebook .and others ,Weblogs ,LinkedIn ,(Twitter) Twitter ,(Facebook)

.(Danah m. boyd, Nicole B. Ellison ,2007- 210)

Social networks are distinguished from other sites on the World Wide Web by several advantages, most notably:

- 1- The goal of social networking sites is to create an atmosphere of communication in a virtual, technical community, which brings together a group of people from different regions and countries on one site whose destinations, levels and colors differ, and their technical language is consistent.
- 2- The meeting is on the unity of purpose, whether acquaintance, cooperation, consultation, or just for entertainment, forexploration and discovery.
- 3- The person in this community is an active member, that is, he sends, receives, reads, writes, participates, hears, and speaks, his role here is to overcome the negative role of listeningand reading only, and the role of the owner of the site (administration) in these networks is the role of the censor only, that is, reading, and trying to direct the site to positive communication.
- 4- Contribute to the transition of education from the stage of competition, to the stage of integration, requires all learners to participate in dialogue and information gathering.
- 5- Make teaching and learning more fun , energetic, and experienced around the clock.

- 6- Participating in the challenge where the teacher can involve his students in the implementation of projects related to the promotion of their educational institutions, with the aim of measuring their talents and enriching their abilities and self-confidence.
- 7- Introducing new methods that encourage the presentation of ideas and enhance the spirit of participation and communication among learners.
- 8- The teacher was able to set for himself office hours (face hours) through which students can communicate with him, ask questions and receive answers (Olivier Serrat, 2012, p1).)

Among the most important characteristics that contributed to the spread of these sites on a large level, what was pointed out by (Al-Tayeb 2012-26) in his research on knowledge and electronic social networks, are the following:

- ❖ **Universality:** By abolishing spatial and temporal boundaries, where the people of the East communicate with the sons of the West with high fluidity.
- ❖ **Interactive:** The user interacts with others through dialogues through social media pages, sending and receiving posts.
- ❖ **Diversity in use:** The uses of the sites are diverse, such as education, dissemination of ideas, acquaintance, reading, following events and news of friends, companies and institutions.
- ❖ **Ease of use:** It uses symbols, words, images and videos that help interact between users.
- ❖ **Savings and economic:** As these sites are free to subscribe and register, and any individual can configure his personal page without restrictions or fees.

- The educational roles of social networking sites: -

Social networking sites are one of the interactive contributions to the development of education, and the transformation of the educational institution from an educational environment confined to its walls to go outside its walls, so that education transcends the limits of time and place, in addition to involving all parties to the educational process with society with its parents and various institutions, and giving the social aspect to the education process.

Social networking sites increase the possibility of communication opportunities, raise the level of communication and dialogue skills of students, and they also work to raise the levels of social growth among students, through the student's participation of all social groups in his virtual community within social networking sites, and eliminate the problems of shyness and introversion, through the real opportunity for virtual communication, and the development of student social skills. (Sherry Turkle, 2011-56)

Social networking sites have become one of the important educational and social electronic institutions that play an important educational role in educating students and providing them with sound scientific knowledge, customs and traditions if well managed.

It also contributes to the development of various aspects of the student's personality, whether academic, social or psychological, as the educational process is not just indoctrination or a book to be taught, but rather an interactive participatory science aimed at building the integrated personality of this student. (Laat,Lally,Lipponen&Simons, 2007)

The virtual community is characterized by a set of the following features:

1- Flexibility and the collapse of the idea of the reference group in its traditional sense, as the virtual community is not determined by geography, but by common interests that bring together people who did not necessarily know each other before meeting electronically to communicate with them in virtual communities around the clock.

2- Virtual communities are not based on reparation or obligation, but rather on choice.

- 1- In virtual communities, means of regulation, control, and rules to ensure privacy and confidentiality may be imposed by those in charge, and individuals themselves in those communities may practice blocking or reporting inappropriate or unacceptable interventions and materials (Bahaa El-Din, 2012).

Uses of the electronic social networks in the education:

Electronic social networks are one of the technologies that have been used in education in general, if it is possible to play a big role in changing the educational method recognized at the present time, through interactive video, the teacher will not need in the future to stand in front of students to deliver his lesson and the student does not need to learn by going to school.

Among the most important services : -

1- Email Uses :

Teaching students to use e-mail is the first step in the use of the electronic social network in education, and Boyd Watson stated: The use of the electronic social network helps the teacher to use the so-called mailing lists for one semester, as it allows students to dialogue and exchange messages and information among themselves (Boyd & Ellison, 2007)..

2- The use of mailing lists in education (Mailing list):

Mailing lists are specially known as the list and they consist of mailing addresses that usually contain one mailing address that converts all messages sent to it to each address in the list, and the use of mailing lists in education helps to support the educational process. Among the most important areas of application of mailing lists in education are the following:

-  Establish a list of students in one class as a mediator for dialogue between them, and through the use of this service all students in similar classes lie in a group to exchange opinions and points of view.
 -  Directing teachers and students to register in the general international lists (by specialization) to benefit from specialists, know what is new, as well as benefit from their salaries, and ask about what is wrong with them. Al-Fahad and Al-Hashemi, 2012 (Al-Moussa, 2005)
- 3- **Use Net** Newsgroups are the most popular uses of the Internet, which are all the places where people gather to exchange opinions and ideas, hang public announcements, or seek help, and what distinguishes these groups is that they are hierarchically arranged to make them easier to find.

4- Uses of Internet Relay Chat in education:

Internet Chat (IRC) is a system that enables the user to talk to other users in real time. Many professors, university students and school teachers use Internet Relay (Chat) for free. (Wang, Scown, Urquhart & Hardman, 2012).

Al-Moussa et al., 2005 mentioned the most important applications of Internet Relay Chat for conversation programs in education as follows:

-  Using the conversation system as a means of holding meetings using audio and video between members of the same material, no matter how far apart they are in the world, using conversation programs.
-  Broadcasting from schools, centers, ministries of education, universities and colleges to anywhere in the world, i.e. the proceedings of a lecture can be transmitted live at no cost.
-  Using this service (chat programs) in distance education and using it in times of admission and registration in universities locally and internationally.
-  Using the chat service to host a scientist or professor from anywhere in the world to meet him, and give his lecture to teachers and students at the same time and at the lowest cost (Al-Moussa, 2005), (Al-Hashemi, 2012).

- ✚ Wang, Scown, Urquhart Hardman (2012-155) stated that scientific courses can be held via the electronic social network where a student, teacher or any individual can follow that course from the comfort of his or her home and then receive a certificate at the end of the course.
- ✚ Holding video meetings where students can hold meetings with their colleagues from around the world to discuss certain topics, discuss a book or a good idea in the field, discuss the results of a research and exchange the use of this service to present some scientific experiments such as medical operations as well as practical experiments in chemistry, biology, physics, and the like.

- The positive and negative effects of social networking sites: -

First:- The positive effects:

There is no doubt that the technology of social networks and communication sites has added a new positive dimension to the lives of millions of people by bringing about cultural, social, political and economic changes in the lives of entire societies, **and the most important of these positive effects are:**

- **A window overlooking the world:** Millions of foreign and Arab peoples in particular have found in social networks a free window for them to learn about the ideas and cultures of the whole world.
- **Self-promotion opportunity:** If you do not have the opportunity to create an independent entity in society to express themselves, when you register on social media and fill in personal data, you become an independent entity globally.
- **More open to others:** Communicating with others, whether that is different from you in religion, belief, culture, customs and traditions, color, appearance and inclinations, you have acquired a friend with a different identity than you and may be in the room next to you or thousands of miles away on another continent.
- **A platform for opinion and other opinion:** One of the most important characteristics of social networking sites is the ease of editing their pages, as well as the freedom to add content that expresses your thought and beliefs, which may conflict with others, as the field is open to freedom of expression, which made social networking sites a powerful tool to express tendencies, trends and personal orientations towards the nation's fateful issues. (Jamal Maatouk and Sherihan Karim, 2012-60).
- **Reducing the clash of civilizations:** Social networking sites may enhance the phenomenon of cultural globalization, but at the same time they work to bridge the cultural and civilizational gap, through a common culture of communication between the users of these sites, as well as clarifying and clarifying Arab concerns to the West without the falsity of the media and the hypocrisy of politics, which ultimately eliminates intellectual convergence at the level of people, groups and countries.
- **It increases the closeness of the same family:** Today, with the development of communication technology, it has become easier for families to follow each other's news through social networking sites, especially since it is cheaper than their counterparts from various means of communication.
- **It offers a great opportunity to restore old friendship bonds:** through these sites, you can search for study or work friends whose news has disappeared due to distance or the concerns of life, and these sites have helped in some cases families who lost their children either due to adoption, kidnapping or clandestine immigration, so children are found. (Musa al-Musawi et al., 2011-47).

Second: Negative Effects:

Just as there are positive effects of social networking sites, it also has negative effects, as it is a double-edged sword, and among those negative effects:

- **Reduces personal interaction skills:** With the ease of communication through these sites, this will reduce the interaction time on the personal level of individuals and groups using these sites, and as it is known, personal communication skills differ from electronic communication skills, in normal life you cannot create someone's conversation immediately and cancel him from your circle of communication with the push of a button. (Wael Fadl, 2011-20).
- **Wasting time:** With its entertainment services to subscribers, it can be so attractive that it forgets time.

- **Addiction to social networking sites:** Their use, especially by housewives and retirees, makes it - due to the void - one of the main activities in the individual's daily life, which makes leaving or replacing this activity very difficult, especially since it is ideal in terms of entertainment to fill the long free time.
- **The lack of use of social networking sites for non-entertainment by our Arab societies.**
- **The loss of the Arab cultural identity and its replacement with the global identity of social networking sites:** Cultural globalization is one of the negative effects of social networking sites in the eyes of many.
- **Lack of privacy:** The majority of social sites face the problem of lack of privacy, which causes a lot of moral and psychological damage to young people and may sometimes reach material damage, as the user's file on this network contains all his personal information in addition to the worries he broadcasts, and problems that may easily reach the hands of people who may exploit them for the purpose of abuse and defamation.
- **Friendships can be exaggerated or overwhelming at times:** all the people you know on social media we add as friends, which is an inaccurate title, because friendship is formed with time and not immediately, it is a kind of hypocrisy.
- **Impersonation:** The real source behind social network users remains anonymous, sometimes pushing its users to blackmail, impersonate, spread misinformation and defamation, or in crime such as prostitution, theft or kidnapping. (Mohamed Ajam, 2010-12).
- **The decline in the use of classical Arabic in favor of colloquialism:** The use of a mixture of Latin letters and numbers instead of classical Arabic letters, especially on the networks of acquaintance and conversation, turned the letters of the Arabic language into symbols and numbers became the Haa "7" and the eye "3". (Al-Mazahera Al-Hilal 2012-24).

Among the studies revealed the negative role of social networking sites, as in the study of Sangari, Limayem & Rouis (2011), whose results indicated that Facebook does not have an important role on students' academic performance, and the results of the study of Lei & Wu (2007).), which revealed the positive correlation between psychological isolation and the high number of hours of Internet use, and the results of the study of Al-Omari (2008), which showed some of the negative effects of addiction to the Internet, the most important of which are: sleep problems, depression and sadness when away from the Internet, the tendency to isolation, distance from contact with others, and lying in dialogue and chat.

– **Conclusion:**

There is a vast and tremendous progress in technology, artificial intelligence applications and social networks, which created the need to think about new and innovative teaching methods in order to keep pace with this development and to meet the requirements of the student who has become ambitious for knowledge of technology, artificial intelligence applications and social networking sites are a double-edged sword, and we can take advantage of their huge potential by directing their use;

Through the above, it is clear that the teacher must activate artificial intelligence applications and social media because of their clear impact of interaction, exchange of opinions, discussion and experiences about the study material, as it is a fun, easy and available everywhere if well used. Hence, we direct attention to schools and universities towards the use of Facebook in education due to its positive aspects that have opened a wider field for the circulation of various knowledge to its users, but we recommend To exploit Facebook in a beneficial and good way and to maintain values and behaviors.

2- Research Procedures:

First: Preparation of materials for research:

- **Preparation of the third chapter (foundations of interior design in the light of sustainability) of the material of furnishing and décor of the house using videos of artificial intelligence applications through social networking sites (WhatsApp):**

- The researcher used artificial intelligence applications to explain and clarify the third chapter (the foundations of interior design in the light of sustainability) using the Groups feature on (WhatsApp) to communicate around the clock with her students in teaching the third semester (the foundations of interior design in the light of sustainability) of the material of furnishing and décor of the dwelling.
- The researcher created a virtual group on WhatsApp, a group "the material of furnishing and décor of the dwelling", where communication with students is available around the clock in a way that makes them able to ask questions to the professor of the subject and add comments, links, articles and videoclips designed with interactive relevance.
- Also, the group "the material of furnishing the dwelling and its décor" is used to break the barrier of fear and fear among students and to immediately and self-evaluate all activities and assignments of students.
- The group site "the material of furnishing and décor of the dwelling" is also used to display lecture dates, display lectures and designs for the material using artificial intelligence applications, and PowerPoint presentations for the material, which is a very useful tool for the subject professor to get to know his students closely face to face through their pictures and dialogue with them on the site and know their performance and interaction, especially when the number of students in the class is large.

Second: - Preparation of research tools :

To achieve the objectives of the research and carry out its procedures, the researcher used in the current study two tools:

1- Sustainable development skills test for the third semester (foundations of interior design in the light of sustainability) of the material of furnishing and décor of the house .

☒ **This test aims** to measure the sustainable development skills for the third semester (the foundations of interior design in the light of sustainability) from the material of furnishing and décor of the house before and after the use of artificial intelligence applications through social networking sites (WhatsApp) in teaching on the research sample by comparing their scores in the pre-application and the post-application of the test. (Prepared by the researcher).

☒ The vocabulary of the sustainable development skills test included a knowledge part that includes the concepts and principles of sustainable development and interior design consisting of (25) single by (10) single true and false, (10) single multiple choice, (5) vocabulary write the appropriate scientific term, and a skill part for the work of interior design that achieves the elements of sustainability.

☒ Quantitative estimation of test scores and correction key:-

In the first part of the test, the cognitive aspect developed a score for each correct answer and the total number of scores of the questions (25 degrees), and in the second part of the test and the skill side, two degrees were placed for each element of sustainability in the design and the total number of degrees of the second part II (20 degrees), A model was made for the correct answers to the test questions, explaining the grades of each individual and the elements of sustainability that must be available in the design.

☒ Test Settings:-

A- Honesty:

The subject of the validity of the test is related to what the test measures and to what extent it succeeds in measuring it has been determined the sincerity of the test through logical honesty by presenting the test of sustainable development skills for the cognitive component of the third chapter (the foundations of interior design in the light of sustainability) of the course furnishing and décor of the dwelling on a jury of professors specializing in home economics, curricula and teaching methods In order to ensure the ease and clarity of its phrases, the appropriateness of the question to measure the goal at the level of knowledge specified for it, the arbitrators have unanimously agreed on the validity of the test for application with some proposals to delete some questions, and modify the wording of some questions.

B- Stability:

Stability is intended to be a coordinated application in what gives the results, and the stability coefficient of the sustainable development skills test has been calculated for the cognitive component of the third semester (foundations of interior design in the light of sustainability) of the decision to furnish and décor the dwelling in the following ways:

B-1- Stability using half segmentation:

It was confirmed that the stability of the sustainable development skills test for the knowledge component of the third semester (the foundations of interior design in the light of sustainability) of the course of furnishing and décor using the half-segmentation method, and the value of the correlation coefficient was 0.796 – 0.955 for the cognitive component of the sustainable development skills test for the cognitive component of the third semester (the foundations of interior design in the light of sustainability) of the housing furnishing and decoration course, which are significant values at the level of 0.01 to approach the correct one, which indicates the stability of the test.

B-2- Stability of the alpha coefficient:

It was found that the coefficient of alpha = 0.905 for the cognitive component of the third semester (the foundations of interior design in the light of sustainability) of the decision to furnish the dwelling and its décor, which are high values and this is evidence of the stability of the sustainable development skills test for the cognitive component of the third semester (the foundations of interior design in the light of sustainability) of the course furnishing and décor at the level of 0.01 for approaching the correct one. The following table illustrates this.

Table (1) Stability of the sustainable development skills test for the knowledge component of the third semester (foundations of interior design in the light of sustainability) of the home furnishing and décor course

Half Hash		Alpha coefficient		Stability of the sustainable development skills test
Significance	Correlation values	Significance	Correlation values	
0.01	0.955 – 0.796	0.01	0.905	The cognitive component of the third semester (the foundations of interior design in the light of sustainability) of the course of furnishing and décor of the dwelling

- Exploratory Experience:

The application of the sustainable development skills test was tried on a sample of third-year students, the sixth level at the Applied College, Department of Home Economics, different from the research sample, in order to identify the appropriateness of the test for the level of female students, the clarity of its instructions, the ease of formulating its words, and determining the appropriate time for conducting it; In the light of the opinions of the arbitrators and the results of the exploratory experiment, some amendments were made, thus reaching the final picture of it.

- Calculation of ease and discrimination coefficients for test paragraphs: .

The discrimination coefficient was also calculated for each of the test items by applying the following equation :

Discrimination coefficient = number of correct answers in the top group – number of correct answers in the lower group

Table (2) Discrimination coefficients for each test item

Discriminatory Factors	M	Discriminatory Factors	M	Discriminator y Factors	M
0.70	33	0.60	17	0.40	1
0.60	34	0.50	18	0.60	2
0.40	35	0.30	19	0.30	3
0.30	36	0.50	20	0.50	4
0.50	37	0.30	21	0.70	5
0.60	38	0.50	22	0.60	6
0.30	39	0.60	23	0.50	7
0.60	40	0.70	24	0.30	8
0.50	41	0.50	25	0.25	9
0.60	42	0.60	26	0.40	10
0.50	43	0.60	27	0.35	11
0.60	44	0.50	28	0.45	12
0.30	45	0.30	29	0.50	13
0.50	46	0.25	30	0.35	14
			31	0.30	15
			32	0.50	16
0.50		Discrimination coefficient			

It is clear from the previous table that the discrimination coefficients for the test items ranged between (0.25-0.70) with an average of (0.50), and therefore all test items were accepted, as they were within the reasonable limit of discrimination.

- **Determining the time it takes to answer the test :** It was found that the appropriate time to perform the test is (80) minutes, by calculating the average between the time of the first student who finished the test and the last student who finished the test

2- Scale of attitude towards the environment: -

☒ **Determine the objective of the scale :**

The scale was prepared to identify students' attitudes towards the environment before and after the use of artificial intelligence applications through social networking sites (WhatsApp) in teaching on the research sample.

☒ **Determine the vocabulary of the scale:**

The scale of the trend towards the environment included two axes: the first axis (environment), and included (13) phrases, **and** the second axis (sustainable development of the environment) and included (45) phrases, thus the total number of phrases of the scale (58) phrases.

☒ Quantification of scale items:

The phrases of the scale were formulated in the form of self-report phrases answered by students by choosing the appropriate alternative for each phrase from among three responses (OK - neutral - disagree) and the degrees of responses are monitored in the positive phrases respectively as follows (3 - 2 - 1), but in the negative phrases are monitored in order as follows (1 - 2 - 3), and the number of positive phrases (34) phrase and thus the maximum end of its degrees (102), the negative phrases have reached (24) phrase and thus be the maximum end of its degrees (72), and thus the total total of the degrees of the scale (174) degrees. The following table shows the positive and negative statement numbers of the scale of attitude towards the environment.

Table (3) shows the numbers of positive and negative statements of the measure of orientation towards the material

Ferry numbers	Phrase Type
2-3-4-6-10-11-13-14-15-17-18-19-20-21-23-24-27-29-30-31-33-34-35-38-39-40-42-43-49-51-52-53-57-58	Positive phrases
1-5-7-8-9-12-16-22-25-26-28-32-36-37-41-44-45-46-47-48-50-54-55-56	Negative statements

☒ Scale adjustment:

A- Believe the scale :

The validity of the scale was determined by logical honesty by presenting it in its initial form to a jury of professors specialized in home economics, curricula and teaching methods in order to ensure the ease and clarity of *the instructions of the trend scale*, the appropriateness of the scale phrases for students of the third year - the sixth level, *the appropriateness of the linguistic formulation of the scale phrases, the extent to which the phrases are related to the goal for which they were placed in the scale*, The arbitrators unanimously agreed on its validity for application with some proposals to amend the wording of some phrases, and to delete some phrases to repeat their content with other phrases.

☒ Sincerity of internal consistency :

Honesty was calculated using internal consistency by calculating the coefficient (Pearson's correlation coefficient) between the total score of each axis (environment, sustainable development) and the total degree of the scale of the trend towards the environment , and the following table shows that:

Table (4) Values of correlation coefficients between the total score of each axis of the scale and the total degree of the scale

Significance	Link	Scale axes
0.01	0.841	Environment : First Theme
0.01	0.772	Sustainable Development : Second Theme

It is clear from Table (4) that the correlation coefficients are all a function at the level of (0.01) because they are close to the correct one, which indicates the sincerity and homogeneity of the scale's axes.

B- Constancy:

Stability means the accuracy of the test in measurement and observation, and its non-contradiction with itself, and its consistency and consistency in providing us with information about the behavior of the

examinee, which is the ratio between the variation of the degree on the scale that indicates the actual performance of the examiner, and the stability was calculated by:

1- Alpha Cronbach laboratories

2- Split-half method

Table (5) Values of the stability coefficient for the axes of the trend scale towards the material

Half Hash	Alpha Coefficient	axles
0.777 – 0.840	0.817	Environment :First Theme
0.887 – 0.957	0.925	Sustainable Development :Second Theme
0.768 – 0.831	0.803	of the scale of attitude towards the Stability environment as a whole

It is clear from the previous table that all the values of the stability coefficients: alpha coefficient, half fractionation, function at the level of 0.01, which indicates the stability of the scale.

- Exploratory Experience:

The experiment was done to apply the scale to a sample of students different from the research sample in order to identify the extent of its suitability for the level of female students, the clarity of its instructions, the ease of formulating its words and determining the appropriate time for its conduct;

- **Scale time: The** result of the exploratory experiment showed that the appropriate time for the scale is (50 minutes), in addition to five minutes for the scale instructions, i.e. the total time of the scale is (55 minutes). (

3- Applying the research experiment to determine the effectiveness of using artificial intelligence applications through (WhatsApp) in teaching the third semester (the foundations of interior design in the light of sustainability) of the home furnishing and decoration course on sustainable development skills and attitude towards the environment:

The search experiment went according to the following steps:

1- Providing a procedural model based on employing artificial intelligence applications through social networking sites (WhatsApp), in teaching the third semester (foundations of interior design in the light of sustainability) The course of furnishing and décor of the house through artificial intelligence applications simulated via WhatsApp for the students of the research sample.

2- Selection of research sample: -

The research sample consisted of students of the third year, sixth level - Applied College, Department of Home Economics, and their number is (60) students divided into two groups:

A- A control group of (30) students: which were taught using the traditional method.

B- An experimental group of (30) students: which were taught using artificial intelligence applications from the social network (WhatsApp).

3- Application of research tools in advance on the research sample: -

The equivalence of the two groups was ensured by conducting a pre-test to measure the sustainable development skills of the students, as well as conducting a measure of attitude towards the environment before conducting the experiment .

The pre-sustainable development skills test and the scale of attitude towards the environment were applied to all members of the sample, students of the experimental group and the control group, in the second semester of the academic year (1444 AH-1445 AH).

The following table shows the arithmetic averages and standard deviations (T) values for the degrees of pre-application of the study tools on the control and experimental groups in both (sustainable development skills test and environmental attitude scale).

Table (6) Arithmetic Averages and Standard Deviations Values (T) for the degrees of pre-application of the study tools on the control and experimental groups in both (sustainable development skills test and the scale of attitude towards the environment)

Significance	Value (v)	Standard deviation	Arithmetic mean	nun	The Collection	Tool
Non-function	313,0	3.95	14.36	30	Adjuster	Sustainable Development Skills Test
		4.06	15.66	30	Experimental	
Non-function	0.332	3.56	14.69	30	Adjuster	Scale of attitude towards the environment
		4.84	15.50	30	Experimental	

It is clear from the previous table that there are no statistically significant differences between the averages of the scores of the experimental and control groups in each of (**sustainable development skills test - scale of attitude towards the environment**) in the tribal application, which indicates that there is equivalence between the students of the two groups in the dependent variables of the study.

4- Application of the search experience on the search sample: -

The experimental application of artificial intelligence applications simulated through the social network (WhatsApp) began teaching by following the following :

First: - The researcher taught students of the third year - the sixth level (control group) third semester (**foundations of interior design in the light of sustainability**) **the course of furnishing the house and its decoration** in the traditional way .

Second: - The researcher created a page on WhatsApp under the name "Group of the decision to furnish and decorate the house" and was communicating with the members of the study sample (experimental group) through the **following:**

- A- **Announcement:** The researcher made an announcement that included the link to the WhatsApp group's account, e-mail and the researcher's mobile number, and it was placed in clear places so that all students can access it.

B- Mobile messages: The researcher used mobile messages to send the link to the WhatsApp account, and urged all students to participate in the study.

- **The researcher met with all members of the sample:** where the researcher met with the students of the experimental group before starting to apply the experiment in order to explain the following points:

A- Introducing simulated artificial intelligence applications through the social network (**WhatsApp**), their purpose and how to use Facebook in communication between the parties involved in learning During the meeting, she stressed the confidentiality of their data.

B- Clarifying how to play the available videos using artificial intelligence simulated on the social network (**WhatsApp**), how to register, write comments, respond to them, implement the required skills and send them to the WhatsApp group and using the PowerPoint presentation.

Clarify (**the foundations of interior design in the light of sustainability**) and its importance and interior design skills that achieve sustainability.

C- Urging students to take the initiative to participate and cooperate in order to learn.

- All the sample members who responded to the WhatsApp group were added, and the process of communication between the researcher and the students, and between the students and some of them.
- Teaching to the students of the experimental group using artificial intelligence applications simulated through the social network (**WhatsApp**): so that the basic points of the lesson are determined in the face-to-face meeting, and the students of one group must publish and discuss among themselves and implement the required tasks and present them to the yard for evaluation.

5- Application of research tools dimensionally on the research sample:

After completing the teaching of the third semester (**Foundations of Interior Design in the Light of Sustainability**) in the course of furnishing and decorating the dwelling using artificial intelligence applications simulated through the social network (**WhatsApp**) for the students of the experimental group, (Sustainable Development Skills Test - Scale of Attitude towards the Environment) was applied. After me on the students of the experimental and control groups, and monitor their grades, and process them statistically to ensure the validity of the hypotheses, and display the results, analysis, and interpretation.

6- Monitoring, organizing and then analyzing data statistically:

Averages and standard deviations were used, and the test "t" test was used to calculate the significance of the differences between the average scores of the total research before and after, and to calculate the adjusted gain percentage and the square of ETA η^2 to identify the effectiveness and size of the impact of using artificial intelligence applications simulated through the social network (**WhatsApp**) in teaching the course of furnishing and décor of the house on the development of sustainable development skills, and the trend towards the environment.

The following is a presentation of the most important results reached to answer the questions of the study and verify the validity of its hypotheses:

☒ **Results related to the first question and the first hypothesis : -**

The first question of the research: What is the effectiveness of using artificial intelligence applications simulated through the social network (**WhatsApp**) in teaching the course of furnishing and décor of the house on the development of sustainable development skills among students of the Applied College, Department of Home Economics?

The first hypothesis: There are statistically significant differences between the average scores of female students for the control and experimental groups in the sustainable development skills test, in favor of the experimental group.

To answer the first question and ensure the validity of the formulation of the first hypothesis, the researcher used the statistical program (SPSS) and conducted a "T-test" test for the difference between the averages of two independent samples of the scores of the students of the experimental and control groups in the post-application of the test sustainable development skills and the results were as shown in Table (7).

Table (7) The value of "T" for the difference between the average scores of the students of the control and experimental groups in the post-application of the sustainable development skills test

Significance	Value "T"	Standard deviation	Arithmetic mean	nun	The Collection
Function at the level of 0.01	30.8	7.58	76.37	30	Adjuster
		14.96	152.25	30	Experimental

It is clear from Table (7) that there are statistically significant differences at the level of 0.01 between the average scores of the students of the control and experimental groups in the post-application of the achievement test in favor of the experimental group, and this indicates the superiority of the experimental group that studied using artificial intelligence applications through WhatsApp in teaching over the students of the control group who studied in the usual way in testing sustainable development skills.

Thus, the first question has been answered and the first hypothesis of the research has been verified, and the applications of artificial intelligence simulated through social sites (WhatsApp) have proven their effectiveness in teaching the third semester (the foundations of interior design in the light of sustainable development) of the course of furnishing and décor on the development of sustainable development skills for students of the third year - sixth level - Applied College, Department of Home Economics King Khalid University.

Through the previous results, it is clear that the use of artificial intelligence applications simulated through social sites (WhatsApp) in teaching the third semester (the foundations of interior design in the light of sustainable development) of the course of furnishing and décor of the house had an impact on provoking the motivation of students towards learning and increasing the level of their sustainable development skills, as the researcher noticed great enthusiasm from students during the application of the experiment, and The students' keenness to learn by collecting information from various sources and searching the global information network to write posts and comments, unlike the students of the control group who studied in the traditional way

- ✚ This result is consistent with the findings of the study (Hussein) 2006, which aimed to identify the effectiveness of the use of the Internet in teaching the course of methods of teaching mathematics to students of the College of Education within the framework of the distance education system and its impact on achievement and the development of their attitudes towards its use, where it found that e-learning provides an educational environment that is not limited by time or place, which increases the motivation of students towards learning and cognitive development; The study sample has better than the study in the traditional way.
- ✚ This result is also similar to the study (Salama) 2005, which aimed to find out the impact of using the Internet on the academic achievement of students of Al-Quds Open University in the course "Computer in Education", where the results of the study resulted in statistically significant differences in the total arithmetic mean on the achievement test in favor of the experimental group, that is, the experimental group was better performing than the control group.
- ✚ It is also similar to the study (Junco, Heiberger, Loken, 2010), which aimed to find out the effectiveness of the use of Twitter (microblogging and social networks) in educational purposes on the participation of students in college and grades, where the results showed that the experimental group was more interactive and involved than the control group, and a rise in the rates of the experimental group, Blogging and communication analysis showed that students, faculty, and staff go beyond the activities of the traditional teaching method.
- ✚ It is also similar to a study (Kosiak, 2004), which aimed to find out the impact of asynchronous e-learning and cooperative education on facilitating the solution of algebra course problems and on achievement, where the study reached a number of results, the most important of which is the superiority of the experimental group over the control with significant differences from the level of 0.05 in achievement.
- ✚ This result is also similar to a study (Rasha Awad 2014) to find out the effects of the use of social networking sites (Facebook) on the academic achievement of children in Tulk Governorate from the point of view of housewives, and the study found that social networking sites are positive on the academic achievement of children in Tulkum Governorate, in the case of positive use of these sites in the service of the educational process, and under the sight of parents and their guidance.

☒ **Results related to the second question and the second hypothesis: -**

The second question: What is the effectiveness of using artificial intelligence applications simulated through the social network (**WhatsApp**) in teaching the course of furnishing and décor in changing the attitudes of students of the Applied College, Department of Home Economics, towards the environment?

The second hypothesis: There are statistically significant differences between the average scores of female students for the control and experimental groups in the scale of attitude towards the environment, in favor of the experimental group.

To answer the second question and ensure the validity of the formulation of the second hypothesis, the researcher used the statistical program (SPSS) and conducted a test "T-test" for the difference between the averages of two independent samples of the degrees of students of the experimental and control groups in the dimensional application of the scale of orientation towards the material, and the results were as shown in Table (8).

Table (8) The value of "T" for the difference between the average scores of the students of the control and experimental groups in the dimensional application of the scale of attitude towards the environment

Significance level and direction	Value of t	Degree of freedom "D.H"	Number of sample members "N"	Standard deviation "P"	Arithmetic mean "M"	scaling	Axis
0.01 In favor of the dimension	13.629	31	30	1.302	17.316	Adjuster	environment
				4.186	40.258	Experimental	
0.01 In favor of the dimension	18.025	31	30	2.514	27.153	Adjuster	Sustainable Development
				4.625	60.269	Experimental	
0.01 In favor of the dimension	29.629	31	30	1.023	44.469	Adjuster	Scale of attitude towards the environment as a whole
				5.081	100.527	Experimental	

It is clear from the previous table the following:

- The value of "T" is equal to "13.629" for the first axis: **the environment**, which is a statistically significant value at the level of 0.01 in favor of the post-application, where the average scores of students in the post-application were "40.258", while the average scores of students in the pre-application were "17.316".
- The value of "T" is equal to "18.025" for the second axis: sustainable development, which is a statistically significant value at the level of 0.01 in favor of the post-application, where the average score of female students in the post-application was "60.269", while the average score of female students in the pre-application was "27.153".

- The value of "T" is equal to "29.629" for the total amount of the scale of attitude towards the material , which is a statistically significant value at the level of 0.01 in favor of the post-application, where the average scores of the students in the post-application was "100.527", while the average scores of students in the tribal application was "44.469", thus answering the second question and verifying the second hypothesis of the research.

☒ Results related to the third question and the third hypothesis: -

Third question: Is there a correlation between the attitude towards the environment and the development of sustainable development skills among students?

The third hypothesis: There is a correlation between the attitude towards the environment and the development of sustainable development skills among students.

To verify the validity of this hypothesis, a correlation matrix was made between the achievement and the students' attitudes towards the subject , and the following table shows the values of the correlation coefficients:

Table (9) Matrix of correlation between sustainable development skills and students' attitudes towards the environment

Scale of attitude towards the environment as a whole	Sustainable Development	environment	Sustainable Development Skills Test
0.785**	**0.737	**0.854	Sustainable development skills as a whole items

** D at 0.01 * D at 0.05

It is clear from Table (9) that there is a direct correlation between sustainable development skills and students' attitudes towards the environment at the level of significance 0.01, 0.05, the greater the trend towards the environment through its main axes "**environment** ", "sustainable development", the greater the level of sustainable development skills acquired, thus achieving the third hypothesis of research.

Table (9) The significance of the differences between the average scores of second-year students in the pre- and post-measurements of the test Sustainable development skills for the cognitive component of the third semester The foundations of interior design through sustainable development and the scale of attitude towards the environment for the experimental group

Significance level and direction	Value of t	Degrees of freedom "D.H"	Number of sample members "N"	Standard deviation "P"	Arithmetic mean "M"	Effectiveness
0.01 In favor of the dimension	44.196	31	30	6.319	337.387	Tribal
				9.111	755.482	Post

It is clear from Table (9) that the value of "T" is equal to "44.196", which is a statistically significant value at the level of 0.01, where the average scores of female students in the post-application were "755.482", while the average scores of female students in the pre-application were "337.387", which indicates that there are real differences between the two applications in favor of the post-application.

:To find out the size of the effect, the ETA equation was appliedt ,value (v) = 44.196 = df degrees of freedom = 31 =

$$n^2 = \frac{t^2}{T^2 + DF} = 0.984$$

Calculating the magnitude of the effect, he found that $n^2 = 0.984$

$$d = \frac{2\sqrt{n^2}}{\sqrt{1-n^2}} = 15.71$$

The size of the effect is determined whether it is large, medium or small as follows:

0.2 = Small effect size

0.5 = Average Effect Size

0.8 = Large effect size

This means that the size of the impact is large, and thus the applications of artificial intelligence simulated through social networking sites (WhatsApp) prove their effectiveness in developing the level of sustainable development skills of students, as well as developing their positive attitudes towards the environment.

The researcher attributes the previous results to the following:

- 1- The immediate feedback that students receive during the learning process using artificial intelligence applications through the social network WhatsApp contributes to its effectiveness for learning.
- 2- Ease of use of artificial intelligence applications for the social network WhatsApp .
- 3- The use of artificial intelligence applications for the social network WhatsApp provided opportunities for communication and discussion between students and with the teacher greater than what happens in the classroom using the traditional method, so this had a clear positive impact on artificial intelligence applications through the social network WhatsApp in education.
- 4- The researcher helped the students during the application in facilitating the process of uploading videos of artificial intelligence applications that include the content of the profession, as the communication was the WhatsApp group and private messages in the social network.
- 5- The students' keenness to collect, organize and record information in the social network WhatsApp, had a role in developing sustainable development skills, and the students' access to websites and forums contributed to increasing the academic achievement of the students of the experimental group, unlike the control group, which was limited to the information of the subject professor and the book of furnishing and décor of the house.
- 6- Re-writing students' posts had an impact on motivating them to blog and continuous research.
- 7- Artificial intelligence applications and social networks have had great repercussions on the rules of freedom of publication and expression and the strengthening of democratic thought, human rights and other political, commercial, academic and social concepts that spread and formed around them groups, taking advantage of the ease of use and participation in them without the need for technical expertise or

material costs, to the point that some believe that they will lead to the emergence of (planetary thought) that works to change the world.

In light of the above, the results of the study showed that the applications of artificial intelligence and social networks contributed significantly to raising the level of sustainable development skills for the material of furnishing and decoration of the house among students, as well as the formation of positive attitudes towards the environment, and the results also showed the responses of the study community about the attitudes of students towards the use of artificial intelligence applications.

- **Research Recommendations:**

Due to the importance of employing technical innovations in learning, and the growing use of these means in different learning environments, and based on what has been reviewed in this research, and the results it indicated, and to activate the use of the social network in the educational process, **the research recommends the following:**

- 1- Employing artificial intelligence applications in teaching most curricula and benefiting from the service of groups provided by Facebook in the creation of specialized groups and supporting the trend of teachers towards using the social network Facebook and teacher preparation programs include ways to deal with social networks.
- 2- The characteristics of AI applications, especially their interactive and participatory capabilities, and their low cost, make them a great opportunity for Arab educational institutions, whether schools, institutes, universities or libraries. These networks should be made the most of by students, teachers and administration, provided that this is done in a thoughtful and planned manner that can avoid all the negatives and risks of technology and social networks on students, and to achieve this, it is necessary to start teaching students computer materials, the Internet and artificial intelligence applications from the stages of primary education and introduce them to how to use them, their advantages and risks. For universities and colleges, the use of artificial intelligence applications brings great benefits, regardless of the academic specialization, as it is a means that allows continuous interaction between the student and the subject professor, as well as the establishment of the student group and gives students an opportunity to communicate and interact with many experts and specialists who were not easily accessible before, in addition to many other benefits that make it necessary to make artificial intelligence applications an essential part of the educational process.
- 3- Holding training workshops for students to introduce them to how to apply artificial intelligence and employ it in the educational process, and work to spread awareness about the concept of how young people use electronic social networks for academic scientific use.
- 4- Providing infrastructure and laboratories for female students in the departments of the College of Education to support the use of artificial intelligence applications by students through electronic social networks in order to deal with the technology of artificial intelligence applications in the educational process.
- 5- Providing incentives that push students of the Applied College, Department of Home Economics, to use artificial intelligence applications.
- 6- Conduct more research on the reality of students' use of artificial intelligence applications.
- 7- Study the obstacles and problems faced by students when using artificial intelligence applications.

- **Future Research :**

In light of the objectives of the current study and its findings, the researcher proposes to conduct further research and studies in the following areas :

- 1- Conducting a study on students' attitudes towards using artificial intelligence applications through the social network WhatsApp in education.
- 2- Conducting a survey study on the opinions of teachers in the use of artificial intelligence applications through the social network WhatsApp in education, its pros and cons.
- 3- Studying the effectiveness of using artificial intelligence applications through the social network WhatsApp on developing design and recycling skills.
- 4- Conduct studies similar to the current study on other areas.

Acknowledgments

"The authors extend their appreciation to the Deanship of Research and Graduate Studies at King Khalid University for funding this work through Large Research Project under grant number RGP2/436/45"

- References:

- 1- Ibrahim Al-Muhsen and Khadija Hashem (2003): E-learning is a luxury or a necessity, a working paper presented to the Future School Symposium, Riyadh .
- 2- Ibrahim Abdo El-Desouky (2004), Means and Methods of Mass Communication and Social Trends, Dar Al-Wafa Al-Andna, Printing and Publishing, Alexandria.
- 3- _ Abu Bakr, Khawald and Khairiddine Bouzareb. (2019) Modern Artificial Intelligence Applications in the Face of a Virus.
- 4- _ Abu Bakr, Abdel-Gawad and Taha Mahmoud. (2019) . Artificial Intelligence: Its Policy, Programs and Applications in Higher Education from an International Perspective, Journal of Education, Al-Azhar University - Faculty of Education, p. 184, vol. 3, p. 383.
- 5- Ahmed Mohammed Salem (2009): Means and Techniques of Education (Concepts - Innovations - Applications) Riyadh: Al-Rushd Library.
- 6- Ahmed Mohammed Salem (2013): Educational Technology System, Riyadh, Al-Rushd Library
- 7- Ahmed bin Sadiq Al-Tayeb (2012): Knowledge and electronic social networks. Towards a Knowledge Society, Series published by the Center for Strategic Studies, King Abdulaziz University, Riyadh, Saudi Arabia, Issue (39).
- 8- Amani Jamal Mujahid. (2014): The use of social networks in providing advanced educational services. Journal of Information Studies. p 8. May .
- 9- Amal Al-Otaibi – Sarah Al-Huraishi (2015): Search for Facebook in Education, Monday, December 14. Quoting http://mycv11.blogspot.com.eg/2015/12/blog-post_14.html
- 10- Al-Mazahera Al-Hilal (2012): Communication Theories, Dar Al-Masirah for Publishing and Distribution, Jordan, 1st Edition 24
- 11- Amina Adel Suleiman, Heba Mohamed Khalifa (2012): Social networks and their impact on education: a comprehensive study of the presence and use of Facebook. Research submitted to the Egyptian Association for Libraries and Information. The Thirteenth Conference of Library and Information Specialists in Egypt. July 5-7.
- 12- _ Farani, Lina and Fatani, Hania . (2020) . Embedding Artificial Intelligence Applications in Middle School Schools from Adaptation to Accreditation Comprehensive multi-knowledge electronic journal for publishing scientific and educational research (MECS 2013)
- 13- Subhi, Eid morning. (2020) The reality of faculty members at Najran University using artificial intelligence applications in education. Journal of the Faculty of Education, Ain Shams University 44(19), 319_368.
- 14- Bushra Jamil Al-Rawi (2013): The Role of Social Media in Changing / Theoretical Introduction - University of Baghdad - College of Mass Communication - Media Researcher Magazine - Issue (18).
- 15- Bahauddin Mohamed Mazyad (2012): "Virtual Communities as an Alternative to Real Societies / The Book of Faces as a Model", United Arab Emirates University.
- 16- Jamal Al-Sharhan (2003): Teaching aids and developments in educational technology. Riyadh : King Fahd National Library

- 17- Jamal Matouk and Sherihan Karim (2012): The Role of Social Media in Refining the Behaviors and Practices of Individuals in Society, International Forum on Social Media and Social Change, Biskra, 9/10 December.
- 18- Gates Bell (2008): Informatics after the Internet, The Way of the Future, translated by Abdul Salam Radwan, Kuwait, National Council for Culture and Arts .
- 19- Hosni Awad (2012): The impact of Facebook use on self-esteem among young people in Tulkarm governorate. Al-Quds Al-Arabi Newspaper, 47, Sunday, May 6.
- 20- Helmy Khader Sari (2008): The Impact of Internet Communication on Social Relations (A Field Study in Qatari Society), University Journal, Damascus, Vol. 24, First Issue.
- 21- Khawald, Abu Bakr, et al. (2019) Applications of artificial intelligence as a modern trend to enhance the competitiveness of business organizations. (I1) . Berlin, Arab Democratic Center for Strategic, Political and Economic Studies.
- 22- Rasha Adeeb Mohammed Awad (2014): The effect of using social networking sites on the academic achievement of children in Tulkum Governorate from the point of view of housewives - Al-Quds Open University - Tulkarm Branch - Faculty of Social and Family Education.
- 23- Richard E. Mayer (2009): Multimedia Learning, translated by Laila Al-Nabulsi, Riyadh, Obeikan Library.
- 24- Salima Rabhi (2012): Electoral campaigns and social networks in Algeria between new media of communication and traditional modes of communication, International Forum on Social Networks, Biskra, 9/10 September.
- 25- Shaima Zulfiqar (2004): Trends in Shaping Public Opinion, Egyptian-Lebanese House, Cairo, 1st Edition
- 26- Abbas Sadiq (2008): New Media: Concepts, Means and Applications, Dar Al-Shorouk for Publishing and Distribution, Amman, 19-Dennis McQuayle.
- 27- Shaaban, Amani Abdul Qadir. (2021) . Artificial intelligence and its applications in higher education, Educational Journal: Sohag University - Faculty of Education, vol. 84, pp. 1-23.
- 28- Abdul Hafez Salama (2005): The impact of the Internet on the academic achievement of students of Al-Quds Open University - Riyadh Branch in the computer course in education. Journal of Educational and Psychological Sciences.
- 29- Abdul Razzaq Mohammed Al-Dulaimi (2011): New Media and Electronic Journalism, Wael Publishing House, 1st Edition, Jordan.
- 30- Abdel Rahim Darwish (2006): Introduction to Communication Science Nasi Library Damietta: Egypt
- 31- Abdullah Al-Mousa, Ahmed Al-Mubarak (2005): E-Learning Foundations and Applications, 2nd Edition, Riyadh, Data Network Foundation.
- 32- Abeer Suleiman Majed Hussein (2006): The effectiveness of using the Internet in teaching the mathematics teaching methods course for female students of the College of Education within the framework of the distance education system and its impact on achievement and the development of their attitudes. Published doctoral thesis. Department of Curricula and Methods of Teaching Mathematics, College of Education for Girls, Jeddah.
- 33- Essam Obaid (2010): Facebook in Education. A study presented at the Arabic Content Conference on the Internet entitled: Challenges and Ambitions, held by the College of Computer and Information Sciences at Imam Muhammad bin Saud Islamic University during the period 5-7/11/1432 AH.
- 34- Ali bin Hanfan Al-Omari (2008): Internet addiction and some of its psychological and social effects among secondary school students in the Department of Education in the Hail Educational Governorate. Unpublished Master's Thesis, King Khalid University, Abha, Saudi Arabia.
- 35- Ali Judeh (2006): The Electronic School, Reality or Fiction, Islamic Call Magazine, Riyadh.
- 36- Ghada bint Abdullah Al-Amoudi (2008): Social Software in the Web-Based Learning System: Social Networks as a Model. Working paper participating in: The First International Conference on E-Learning and Distance Education, Kingdom of Saudi Arabia - Riyadh.
- 37- Kamel Mahmoud. (2018) . Applications of the Fourth Industrial Revolution in Business Organizations, Beirut, Dar Al-Qalam.

- 38- Firas Mohammed Odeh (2014): The role of social networks in the educational process The electronic magazine of the Center of Excellence and e-Learning - a periodical issued by the Center of Excellence and E-Learning - Islamic University of Gaza - quoting
<http://elearning.iugaza.edu.ps/emag/article.php?artID=3>
- 39- Maher Ismail Sabry (2010) From teaching aids to educational technology .Riyadh: Al-Shaqri Library
- 40- Majid, Ahmed. (2018) Artificial Intelligence in the United Arab Emirates. Department of Economic Studies and Policies, Ministry of Economy, United Arab Emirates.
- 41- Majd Al-Hashemi (2012): Mass Communication Technology, Osama Publishing House, Amman, 1st Edition
- 42- Mohsen bin Jaber bin Awad Al-Zahrani (2013): The role of social networking sites in solving the problems facing students of practical education and their attitudes towards them - PhD thesis - unpublished - Kingdom of Saudi Arabia - um Al-Qura University - College of Education
- 43- Mohammed Al-Mansour (2012): The impact of social networks on the audience of recipients, a comparative study of social sites and websites "Arabic as a model" Master Thesis - unpublished, Council of the Faculty of Arts and Education, Arab Academy in Denmark.
- 44- Muhammad Ajam (1432): The Internet and modern technology reveal the isolation of young people - a virtual world that connects to reality and is separated from it, Asharq Al-Awsat newspaper, issue 11704, December 10, 2010 corresponding to 8 Muharram.
- 45- Mahmoud Zakaria Al-Astal and Magdy, Said Akl and Iyad, Mohammed Al-Agha. (2021) . Developing a proposed model on artificial intelligence and its effectiveness in developing programming skills among students of the University College of Science and Technology in Khan Yunis, Islamic University Journal for Educational and Psychological Studies, 29(2),743_772.
- 46- Mahmoud Abdul razzaq Mukhtar. (2020) . Artificial intelligence applications: an introduction to the development of education in light of the challenges of the Corona pandemic (COVID_19). International Journal of Research in Educational Sciences International Foundation for Future Horizons 3(4): 171_224.
- 47- .Mahmoud El-Kady (2013): Awareness is a weapon in the information age (social networks, risky opportunities)
[http : //www.luxorlink.com/bank39html.2013/3/7h20 :05.](http://www.luxorlink.com/bank39html.2013/3/7h20:05)
- 48- Marwa Tawfik Zaki (2009): The effectiveness of a proposed educational strategy on the Internet on the development of thinking and attitudes among students of educational technology, PhD thesis, Faculties of Specific Education - Ain Shams University
- 49- Mariam Ghazal, Nour Al-Huda Shaoubi (2014): The impact of social networking sites on the development of political awareness among university students - Kasdi Merbah University - Ouargla Faculty of Humanities and Social Sciences.
- 50- _ Moussa, Abdullah, Bilal, Ahmed Habib (2019) Artificial Intelligence is a Revolution in the Technologies of the Age, Arab Group for Training and Publishing.
- 51- Mohab Nasr (2010): "Facebook" The image of the intellectual and his modern biography, the faces of the intellectual on Facebook Do you reproduce his image or make a horizon cemeteries? Al-Qais Kuwaiti Daily Newspaper, Issue 13446, November 3
- 52- Musa Jawad Al-Musawi and others (2011): New Media Development of Performance, Means and Function, Community Media Library, Baghdad, 1st Edition.
- 53- Wael Mubarak Khader Fadlallah (2011): The Impact of Facebook on Society, National Library for Publishing, Khartoum, 1st Edition.

:Second: - Foreign References

- 54- Brewe, E., Kramer, L., & O'Brien, G. (2009). Investigating Student Communities with Network Analysis of Interactions in a Physics Learning Center. AIP Conference Proceedings, 1179(1), 105-108.

- 55- Danah m. boyd, Nicole B. Ellison (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication* Volume 13, Issue 1, pages 210–2.
- 56- Goksel, N&Bozkurt,A. (2019) . Artificial Intelligence in Education: Current Insights and uture Perspectives. In S Sisman-Uger, &G. Kurubacak (Eds) , *Handbook of Research on Learning in the Age of Transhumanism*, 224-236,Hershey PA: IGI Global.
- 57- Hichang Choa, Geri Gayb, Barry Davidsonc,and Anthony Ingraffead Social networks,communication styles, and learning performance in a CSDL community *Computers & Education* Volume 49, Issue 2, September 2007.
- 58- Holmes, W, Bialik , M.&Fadel , C, (1019). *Artificial Intelligence in Education , Promises and G Implications for Teaching and Learning* ,Boston Center for Curriculum Redesign.
- 59- Joseph P. Mazer, Richard E. Murphy & Cheri J. Simonds (2007): *I'll See You On "Facebook": The Effects of Computer-Mediated Teacher Self-Disclosure on Student Motivation, Affective Learning, and Classroom Climate*, *Communication Education*, 56:1, 1-17.
- 60- Junco, R ; Heiberger, G ; Loken; E.(2011). The effect of Twitter on college student engagement and grades . *Journal of Computer Assisted Learning*, 27(2),
- 61- Kalpidou, M., Costin, D & Morris, J. (2011). The Relationship Between Facebook and the Well-Being of Undergraduate College Students, *Cyberpsychology , Behavior and Social Networking*, 14(4).
- 62- Kosiak, J.(2004) *Using Asynchronous Discussions to Facilitate Collaborative Problem Solving in College Algebra . Montana state University . Bozeman Montana.*
- 63- Laila Alhuraishi (2014). *Study about ESL learners' Motivation and Collaboration*, Washington State University, College of Education, Pullman.
- 64- Lederer, K., (2012). *Pros and Cons of Social Media in the Classroom*. Retrieved from<http://campustechnology.com/Articles/2012/01/19/Pros-and-Cons-of-Social-Media-in-the-Classroom.aspx?Page=1>.
- 65- Lee, E., Lee, L & Jang, J. (2011). Internet for the Internationals: Effects of Internet Use Motivations on International Students College Adjustment, *Cyber psychology. Behavior and Social Networking*, 14, (7-8)
- 66- Lei, L & Wu, Y. (2007). Adolescents paternal attachment and internet use, *cyber psychology & behavior*, 10(5).
- 67- Lomicka, L., & Lord, g. (2009). The Next Generation: Social networking and online collaboration in foreign language learning. *CALICO Journal*. 36-58.
- 68- Maarten de Laat, Vic Lally, Lasse Lipponen and Robert-Jan Simons(2007):*Investigating patterns of interaction in networked learning and computer-supported collaborative learning: A role for Social Network Analysis* *International Journal of Computer-Supported Collaborative Learning*. Volume 2, Number .
- 69- M C Pettenati, M E Cigognini. (2007) *SOCIAL NETWORKING THEORIES AND TOOLS TO SUPPORT CONNECTIVIST LEARNING ACTIVITIES TOWARDS AN E-LIFELONG-LEARNING EXPERIENCE*. Volume: 2, Issue: 3, Publisher: Citeseer, Pages: 42-60 Nick Zepke, and,Linda Leach. *Improving student engagement: Ten*
- 70- Nath,R . (2012) *Philosophy of Artificial Intelligence: A Critique of the Mechanistic Theory of Mind . Universal Publishers.*
- 71- Olivier Serrat, (2012), *Mining the Social Web: Analyzing Data from Face book, Twitter, LinkedIn, and Other Social Media Sites*. USA/UK O'Reilly Media; 1 edition.
- 72- Reinhadt, J.& Zander, V. (2011). Social networking in an intensive English program classroom: A language Socialization Perspective. *CALICO Journal*. 28, 326-344.
- 73- Sangari, E., Limayem, M & Rouis, S. (2011). Impact of Face book Usage on Students' Academic Achievement: Role of self-regulation and trust. *ElectronicJournal of Research in Educational Psychology* 9, (3).pp. 961-994.
- 74- Sherry Turkle, " Together(2011): Why We Expect More from Technologies than from Each Other Alone", New York: Basic Books.

- 75- Shih, R.C. (2011). Can web 2.0 technologies assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning. *Australian Journal of Educational Technology*, 27(5), 829-845.
- 76- _Parveen , N . A , Palaniammal, V . S . (2019). A Study on Artificial Intelligence in Human Resource Management Today and T omorrow . *International Journal of Research and Analytical Reviews (IJRAR)* ,6(1), 513-516.