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Designing a Proposed Program Based on Artificial Intelligence Applications and Measuring Its Effectiveness in Developing the Positive Thinking Skills of Kindergarten Children

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Abstract

The aim of the research is to develop the positive thinking of kindergarten children through a proposed program designed in the light of artificial intelligence, the research community being one of the 227 kindergarten children. The research sample was limited to a random sample of 30 children divided into two groups, a pilot group (15) and an officer group (15). The results revealed statistically significant differences between the average grades of children of the pilot groups and those in the remote application of the positive child reflection test for the pilot group; statistically significant differences between the average grades of children of the pilot group in the tribal and remote applications to test the positive image of children in the interest of remote application for the total test score, as well as in the four dimensions of the test: (personal consent — positive expectations and optimism — acceptance of difference with others · personal responsibility); which demonstrates the success and effectiveness of the programme in developing the positive thinking of children in the kindergarten phase.

Keywords: artificial intelligence, kindergarten child, positive thinking, personal consent, positive expectations and optimism, accepting disagreement with others, assumes personal responsibility

Introduction

The first years of a child's life constitute the most vital stages of development and the development of his or her ability to learn in a short period of time and intensely; the effects of the care and attention he or she receives at this stage continue throughout his or her life, and the child's ability to learn begins at the moment of birth, and investments in the development of the early childhood stage are paid through activities that develop mental capacities and skills and thinking. (Sheriff, 2014).

Thinking about different spheres of life and developing it is a vital process; with the aim of raising children from a young age to use the mind and thought in all aspects of their lives, to

build the motivation of creativity and to develop their intelligence capabilities. (Mohammed, Ibrahim, 2018, 34)

Affirmative thinking contributes to enabling children to achieve their goals and improve their lives, enabling them to overcome their problems and difficulties, and when children think positively, it makes their minds positive in looking at life issues, actually implementing solutions, and the term positive thinking was first developed by the world of Balla. (Al-Husaini, 2021, 42-43).

Wong, 2012, 77 points out that positive thinking is better and stronger because it is not influenced by time or place, but rather by time, is a continuous habit because it focuses on solution, alternatives and possibilities and always expects the best, and it is the invisible force that helps the learner to trust himself, set his goals and solve problems, and thus achieves personal and social success.

Educators seek to achieve the best possible results through their positive ideas, requiring that every way and means be employed to develop their mental and skilled abilities and to change their negative perception of certain aspects of their lives, as well as to make use of all the possibilities available to them to make their thinking more positive. Most children do not have the capacity to solve the problems they face, because they do not have positive thinking, so this research seeks to develop the skills of positive thinking in kindergarten children.

There are many studies that suggest that positive thinking skills can be developed through programmes, activities and workshops through which children acquire multiple skills such as self-management, skills to deal with others and self-development... Several Arab and foreign studies on positive thinking have emerged, including Lopez & Fux Jager, 2012, Mohammadi and Adam (Mohammadi & Adam, 2013), Chang and others (Chang et al., 2020), Heballah Said, 2022 (Mustafa Abu Jabal, 2021), Adweh Massoud, 2023 (Salah Abu Zeid, 2021), Reza Ishmael, 2019 (Ahmed Zahar, 2017). In their entirety, these studies emphasized the need to develop positive thinking for learners and children.

Given the importance of keeping pace with educational developments regarding radical changes based on virtual reality; educational institutions need to take advantage of these innovations; so it is imperative that education shift from mere conservation and learning to positive learning in which a child learns how to learn and think, to consolidate and strengthen positive thinking in the minds of our future builders.

William 2019 conducted a study on the possibility of designing an artificial intelligence approach; child education, designed to help young children learn through artificial intelligence through programming, training and interaction with the social robot; artificial intelligence approaches were applied and their effectiveness assessed with 80 pre-school and kindergarten children; and the results of the study showed that the use of social intelligence, as learning facilities and a programmable tool, was instrumental in helping young children understand the requirements of the twenty-first century and had the greatest impact on child learning, social skills and self-esteem.

From this point of view, the researcher found the need to develop positive thinking skills — through artificial intelligence techniques — as it serves to provide the child with personal satisfaction, positive expectations and optimism, accept the difference with others, and take the personal responsibility he needs to be able to deal effectively with the information and variables of the future; as an essential requirement of the twenty-first century to meet the challenges of information expansion and cognitive development, and to engage in educational programmes designed in the light of artificial intelligence, which contribute to the development of positive thinking skills for children.

Search Problem

Although children's curricula and educational programmes are concerned with offering many diverse concepts, skills and experiences, they are primarily concerned with academia. Weak interest is noted in developing positive thinking skills that gain them the ability to adapt to change and to cope with the life attitudes to which they are committed. On the other hand, there is little interest in modern technology — artificial intelligence — in the daily programme; a programme based on artificial intelligence needs to be designed to be an effective way of developing positive thinking skills for children in kindergarten.

The problem with research is the following

main question:

What is the effectiveness of a proposed program based on artificial intelligence applications in developing the positive thinking skills of a kindergarten child?

Research questions:

What is the proposed vision of the program based on artificial intelligence applications in developing the positive thinking skills of a kindergarten child?

What is the effectiveness of the proposed program based on artificial intelligence applications in developing the positive thinking skills of a kindergarten child?

Research objectives:

The aim of the current research is to measure the effectiveness of a proposed program based on artificial intelligence applications to develop the positive thinking skills of a kindergarten child.

Searching Duties

The current research sought to verify the following:

1) There is a statistically significant difference between the average grades of the children of the pilot groups and the officers in the remote application of the child positive thinking test for the pilot group.

2) There is a statistically significant difference between the average grades of children of the pilot group in the tribal and remote apps to test the positive thinking of children in favour of remote app for the total degree of the test as well as for the four dimensions of the test: (Personal satisfaction — positive expectations and optimism — acceptance of difference with others, taking personal responsibility).

The importance of research:

a. Theoretical importance:

The findings and recommendations of this research may serve to raise some research issues that could be addressed in future research focused on the use of artificial intelligence in the education of the child and the acquisition of many skills.

- To draw the attention of the planners of early childhood curricula and programmes, and the teachers of this stage, to the importance of developing thinking skills at this stage.

b. Applied importance:

- Train kindergarten teachers on how to carry out day-to-day activities, through artificial intelligence and its use with children.

- Develop programmes for children using artificial intelligence to contribute to the development of positive thinking skills among early childhood children.

Search boundaries:

- Substantive limits: The present research is limited to verifying the effectiveness of the proposed artificial intelligence-based programme in developing the positive thinking skills of the child at the early school stage, and includes the dimensions of positive thinking on: (personal consent — positive expectations and optimism — acceptance of difference with others and personal responsibility).

Time limits: applied during the second semester of school year 2022/2023.

- Spatial boundaries: research has been carried out at the Hilwan School of Official Languages of the Hilwan Department of Education.

- Human boundaries: research is limited to level two children.

Research Curriculum

I used the researcher for the current research.

- Analytical descriptive approach: in the preparation of the conceptual framework for research, as well as in the preparation of the proposed programme and the building of research tools.

- The semi-pilot approach in both categories (officer group and pilot group).

Research variables:

a. Independent variable: the proposed program based on artificial intelligence applications.

b. Dependent variable: positive thinking of kindergarten child.

Society and sample of study:

The research community consists of children from the Hilwan School of Official Languages, one of the Government's kindergartens of the Helwan Department of Education, and there are 227 children.

Search sample:

The research sample included 30 children and children, aged 5-6, who were divided into two groups: a pilot group (15) children and children, and an officer group (15) children.

Preparation of the search tool: a photographic

test to measure positive child thinking skills;

Research sample:

Design of experimental research processing materials: proposed program based on artificial intelligence applications.

Search words:

Artificial Intelligence: a scientific system that includes manufacturing and engineering methods for so-called smart devices and programs, and the aim of artificial intelligence is to produce independent machines capable of performing complex tasks using mirror processes similar to those of humans (Moses, Bilal, 2019, 2).

It is defined procedurally by the researcher as "a set of characteristics and features that simulate human mental abilities, and an educational programme for children is designed using these techniques and the characteristics upon which artificial intelligence depends, so that the programme is implemented to develop positive thinking skills for children."

Positive thinking skills

The Mosri, 2016, 57, defined her as expecting success in solving problems by controlling destructive ideas and reinforcing positive ideas from constructive mental convictions, increasing individual self-confidence.

It is defined by a procedural researcher as: mental activities carried out by preschool children to reflect on the attitudes and subjects involved in the programme, with the aim of controlling destructive thinking practices and directing them in a positive and effective way to overcome problems, and to measure those skills to the extent that the child gets by testing the positive image.

Theoretical Framework, Previous Studies

Axis 1: Artificial intelligence:

Artificial intelligence has become a science that is not modern in the technical arena and that is linked in its development to the development and development of computer science and technology, such as Computer Sciences, Software Engineering, Information Technology, and each branch of those fields. This development has been incorporated into the production of advanced generations of computers and robotics, artificial intelligence not as a branch of computer science, but as an independent science with its various branches, fields and applications. (Ikedinachi et al., 2019)

One of the most important qualities of artificial intelligence is that it has the capacity to deal with non-integrated data and to provide acceptable solutions; artificial intelligence has the advantage of experimental research and the development of possibilities and hypotheses to solve the problem; it requires great storage capacity and high speed to study the possibilities imposed; it is capable of symbolic representation and is able to learn; it is one of the qualities of intelligent behaviour; artificial intelligence therefore depends on automated learning strategies; and the ability to embrace and represent knowledge (Gazelle, 2014).

Artificial intelligence concept:

The term artificial intelligence is a modern term on the listener, and through access to educational literature there are many terms for it despite its civilization, including:

Bashir Arnos (2007, 9) was defined as part of computer science that is interested in smart computer systems; those systems that have the characteristics associated with intelligence, decision-making, and are somewhat similar to human behavior in this field in terms of languages, learning, thinking, and problem solving.

Robert's little dictionary defines artificial intelligence as: "a part of computer science, which aims to simulate a knowledge ability to replace human beings in performing appropriate functions, in a given context, requires intelligence." (Belham & Fathi, 2017, 66)

It is defined procedurally by the researcher as: "a set of characteristics and features that simulate human mental abilities and a programme for children is designed using these techniques and characteristics upon which artificial intelligence depends; through which the programme's activities are carried out to develop positive thinking for children."

Artificial intelligence development:

Artificial intelligence appeared for the first time when a group of computer scientists at the Dartmouth-Darmoth conference in 1956 announced the birth of artificial intelligence, and since then artificial intelligence has been promising a bright technological future for human civilization. (Moses & Bilal, 2019, 31)

In 1956, the dream of artificial intelligence leaders was to build complex machines based on

new computers with the same characteristics as human intelligence, the concept was called "General AI," a machine with all human senses and ideas, the goal being to build a machine that thinks as we do. (Yasin, 2011, 19)

There was an urgent need for parallelism and distribution in artificial intelligence. In 1973, the first system of artificial intelligence for the HEARSAY system appeared to recognize speech. (Labidi & Lejouad, 2006, 02)

Artificial intelligence has expanded significantly over the past few years, thanks to the emergence of GPUs, which can conduct parallel processing in a faster, cheaper and stronger manner, in parallel with already limited storage capacity, as well as the flow of larger data of all types, such as images, financial transactions, map data and so on. (Lozzie, 2012, 20; Caferra, 2011)

Artificial intelligence components:

Artificial intelligence consists of three basic components: (Avi, 2014, 32):

1) Knowledge base: The level of performance of the system is often measured in terms of the size and quality of the knowledge base contained therein, including:

- Absolute facts: which describe the logical relationship between elements and concepts and the set of facts based on experience and practice of experts in the system.

- Methods of problem resolution and counselling.

- Rules based on mathematical formulas.

2) Evidentiary mechanism: These are programmed actions that lead to the desired solution, by linking the specific rules and facts to the line of development and reasoning.

3) User interface: procedures that provide the beneficiary with appropriate tools to interact with the system during the stages of development and use.

Characteristics of artificial intelligence in education:

By familiarizing the researcher with a series of literatures, including (Labidi & Lejouad, 2006, 32; Caferra, 2011, 210-208; Ismail, 2017, 45), **the following features have been derived for the use of artificial intelligence in education:**

1) Artificial intelligence can complete basic activities in education, such as classification and grades in an educational institution.

2) Artificial intelligence systems can adapt educational programmes to students' needs and individual learning.

3) Indicate where courses need to be improved, and identify strengths and weaknesses.

4) Students can get extra support.

5) Programmes based on artificial intelligence systems can provide useful feedback to students and teachers.

6) Artificial intelligence systems change how to find information and interact with it.

7) Artificial intelligence systems can change the role of teachers.

8) Artificial intelligence systems can make learning about experience and error less terrifying; artificial intelligence systems themselves are often taught through the way of experience and error.

9) Data supported by artificial intelligence systems can change how schools find, educate and support students.

10) Artificial intelligence systems will change where students learn and who teach them, and how they acquire basic skills.

In the light of the above, the researcher draws some advantages from the use of artificial. **Intelligence in child education at the following points:**

1) To save time and effort and contribute to the creation of an alternative reality for children, to prepare children for confrontation and to keep pace with modern technology.

2) Artificial intelligence can contribute to the presentation of questions and queries to children in a way that reveals the strengths and weaknesses of each child, the mental preparations of each learner, as well as the pursuit and exploration of the learning methods and the learning style of each.

3) Artificial intelligence helps children to choose well the activities they want to perform, and it's a big space and a distraction from them.

Artificial intelligence applications in education:

Recent trends in education technology have contributed to the emergence of new and advanced systems of education and learning, which have had a significant impact on positive changes and developments in the manner in which students learn and the methods and

methods of communicating scientific information to them, as well as on the content and format of the curriculum tailored to these trends.

One of the systems generated by modern trends in education technology is so — called e-education using artificial intelligence techniques, which rely on the use of computers, the Internet, and multiple interactive methods of various kinds in the teaching process. The digital and dynamic nature of artificial intelligence offers a different area that cannot be found in the typical traditional environment of the school at present; artificial intelligence applications in education will make it possible to discover new learning boundaries and accelerate the development of innovative techniques. Among the applications of artificial intelligence in education, the researcher reviews:

Smart content:

A group of companies and digital platforms are currently interested in creating intelligent content by transforming traditional textbooks into smart books that are relevant to the goal of education. In this context, the company Content Technologies Inc., an artificial intelligence development company specializing in the completion of business processes and design of smart education, and a set of smart content services for education.

For example: Cram101, artificial intelligence techniques are used to help disseminate the content of textbooks through the Smart Study Manual, which contains classroom summaries, correct practice tests and multiple choices, and just TheFacts101 enables specific text summaries to be displayed for each chapter, which are then archived into a digital collection and made available on Amazon.

Other companies are developing integrated smart content platforms with content integrated into practice and evaluation exercises, such as Netex Learning, which allows teachers to design digital curricula and integrate them with sound and image media, as well as the possibility of self-evaluation.

Smart education systems and programmes:

Smart education systems (intelligent tutoring systems) known as ITS are computer systems designed to support and improve knowledge learning and teaching, provide immediate lessons without the need for intervention by a human teacher and aim at facilitating meaningful and effective learning using a variety of computing and artificial intelligence techniques.

According to the Kathye Hafner definition, smart education is a system of educational programmes with artificial intelligence; the system tracks and guides students' work whenever required by gathering information on individual students' performance and can highlight the strengths and weaknesses of each learner and provide timely support. (Yaggi, 2019)

Among these systems are Layer, Aurasma-CIRCSLM-Tutor-ZOSMAT-AutoTutor- LearningApps.org.

The researcher used the application LearingApps.org during the design and implementation of the proposed programme activities with the child research sample; given its ease of application and its ability to motivate children to interact with the activities offered by the programme.

VR and Enhanced Reality (AR):

The virtual reality technique is an interactive simulation that gives the user the opportunity to engage in different experiments, such as participating in a football match, visiting certain places while sitting at home, and the user can be part of this experiment, as well as moving within it, and interacting through special devices that help him to integrate holistically, which are often glasses of virtual reality or control units with motion sensors.

As for the enhanced reality technology (AR), it is different from its predecessor in that it carries scenes with a dual or three-dimensional display in the user's perimeter; these scenes are combined in front of it, to create the reality of a composite display. (Hawknuts & cuffs, 2017)

Some of the studies that took artificial intelligence:

- **A study (Oziurt et al., Özyurt, et al., 2013):** The study aimed at designing an individual e-learning environment that is adapted and smart, based on learning patterns and the expert system and its effectiveness on the learning of high school students of a potential module of the sports curriculum. The study applied to a sample of 18 students in a Turkish city, and researchers used the mixed approach to research by using a combination of quantitative and

qualitative methods to collect the necessary data, and the results indicated that students' views on the proposed intelligent and adaptive e-learning environment were highly positive.

• **A study (Ishmael et al., 2014):** this course sought to try to test an electronic learning environment based on artificial intelligence to solve problems of computer network maintenance. The course used the semi-experimental approach through the use of a diagnostic test to measure the cognitive aspect of concepts of solving problems of computer network maintenance, and a note card to measure the performance aspect of solving these problems. The teaching tools were applied to a sample of 30 students from the Third Division of Education Technology at the Faculty of Quality Education in Vienna. The results of the study indicated that there was a statistically significant difference between the pilot group before and after the telemetry of both the collection test and the observation card, which was in favour of the pilot group; this demonstrated the effective use of the artificial intelligence-based e-learning environment in increasing conceptualization in solving computer network maintenance problems of students in the Education Technology Division at the College of Quality Education.

• **A study (Zander et al., Zander, et al., 2014):** this course aimed to verify the use of differences in individual learning patterns in the design of a personal adaptive e-learning environment that is effectively adapted to the way learning materials are presented in the e-learning system and to achieve the aims of the course; the near-experimental research curriculum has been used. 35 German students took part in courses in university computer science and media programmes. They were learning through their personal computers using the Moodle staff member's study system, and the study reached a range of results; there was no statistical impact of a D associated with the individual learning pattern on the time of study and learning outputs. On the other hand, good or bad harmonization has had an effective impact on the satisfaction and motivation of the learner for achievement and learning. In addition, the indicative effect of any of the tests did not continue when data from balanced learners tending to visual pattern were included.

• **Study (Jion, Kim & Jeon, 2018):** This course aimed at developing an interactive web-based smart learning system for talented primary school students in information science using a virtual teaching and learning environment. The study followed the semi-experimental curriculum, with the study applied to a sample of 34 talented students divided into two pilot and officer groups, and the results indicated that the averages of the students of the pilot group were significantly higher in the dimension. In the light of these findings, the study concluded that the proposed system of smart learning is effective in improving the interest and direction of talented students in information science.

• **A study (Shukhman et al., 2018, Shukhmana et al.)** aimed to describe a draft adaptive system based on some artificial intelligence techniques using petrinets for secondary-school students in the infrastructure curriculum for information technology. The computer portal was designed and the students' identification files stored, information stored on curriculum, training competitions and individual learning paths, user interaction and employment of external educational sources. The results showed that the system contributed to the motivational development of gifted students, increased the effectiveness of self-learning and self-development and helped them to provide opportunities to achieve their interests and maximize their potential.

• **A study (Ochana Fernández et al., 2019):** this course aimed at identifying artificial intelligence and its implications for higher education, and researchers used the analytical descriptive curriculum and questionnaire as a tool for study. The results resulted in significant improvement among university students due to the use of artificial intelligence in education, and researchers recommended the need for vocational training to understand and develop the technological environment with the application of digital language supported by artificial intelligence programmes.

Finally, artificial intelligence has found its way into more and more regions in our daily lives, and there has been an ever-increasing interest in the subject, and it has become necessary to take this step; in order to create a better generation to deal with these technologies, as well as to be better prepared for future functions that will be more available than traditional ones.

Axis 2: Positive thinking

Thinking is a fundamental tool for children to

solve their daily lives, and in order to achieve this, they should improve their levels of thinking, abandon negative ideas and adopt a sound intellectual approach for themselves and their society, so that they can achieve constructive goals and build a better future. (Panama, 2018, 492)

It is therefore of great importance to develop positive thinking skills in educational processes by stimulating further learning and learning, helping children to reduce tension and anxiety, avoiding negative feelings and feelings, and looking at the bright side of life (Kamal & Abdul Samei, 2017, 539).

The concept of positive thinking.

The ability of the learner to focus and pay attention and to have a number of optimistic positive expectations that will help him to succeed, to be responsible, to control higher mental processes and to love learning (Mohammed, 2018, 16).

Abraham, 2019, 101, defines it as an intellectual knowledge process that relies on a range of activities and strategies that help produce positive ideas, making an individual a positive perspective that leads to success, positive expectation of the future and greater responsibility.

And she pointed out (Saleh, 2020, 830) that it is a mental activity that focuses on recognizing the positive, not the negative, aspects of things, and enables it to solve its problems using a scientific methodology, as well as becoming more able to develop social relationships with others.

Mimi Abdellah, 2021 also defined him as a mental process through which an individual can modify and control his ideas so that he can solve his problems, positively accept and establish social relations with others, and the resulting sense of happiness and optimism, self-pleasure and disillusionment (Abdallah, 2021, 351).

It is also known as the beliefs, opinions and methods followed by students in all matters of life, but it will solve all problems and topics faced by students in a positive, optimistic and successful manner (Abd al-Razziq, 2022, 106).

Through the definitions offered, the researcher concludes that positive thinking helps the child to be more optimistic and positive, to gain confidence in his or her ability and readiness, to remove him or her from negative, destructive ideas, and to find solutions to problems.

The importance of positive thinking (Kelly jones, 2016, 3:5, (farm, 2017, 667); Al-Bana, 2018, 511; Abrahim, 2019, 95; AbuZid, 2021, 464; Abattah, 2022, 114) have **indicated that the importance of positive thinking is as follows:**

• Bringing happiness to the learner and coming out of anxiety, tension and distress.

Making the learner more optimistic and enthusiastic, satisfied with himself and others, able to know his weaknesses and strengths, which helps him to change his ideas and behaviours.

• Enjoy a rich social life with friends, more positive energy and better health.

• Development of aspects affecting his or her educated personality, through the development of motivation for achievement, will and the enhancement of his or her positive energy.

To prepare the learner properly in order to be able to cope with the practical conditions of his or her life in which interests are intertwined.

• Setting the goals of future life in order to achieve a better future for the learner.

• The learner's self-reliance and an optimistic view of things, the ability to defend himself and repel the attack that may be coming to him from others.

• A permanent learner's search for value and for the benefit of any work, which in turn leads to the achievement of the desired objectives and the fullest achievement of work and tasks.

Positive thinking skills

The positive thinking skills of pupils within and outside educational institutions must be developed as one of the most important factors affecting the educational process, so that they can master effective organized thinking and thus reach productive life, so they must be helped to promote positive thinking and reduce the negative thinking that affects them and limits their success.

It has been defined by Salam (2018, 102), Kallawi, (2018, 304), Ishmael (2019, 21:23) and Ahmed (2022, 335) in six skills (positive expectations and optimism — emotional balance — satisfaction — acceptance of difference with others — acceptance of personal responsibility — intellectual flexibility).

It was identified (Abd al-Waheb & Abu Jabal, 2021, 446:448) in (Love of Learning and Knowledge Openness — Positive Expectations

and Optimism — Problem Resolution — Personal Responsibility).

It was identified (Abattah, 2022, 115) in terms of developing individual thinking to accept new experiences — reducing self-esteem and self-confidence and acceptance — focusing thinking on reality and developing productive imagination — making good use of time and defining plans and objectives — taking advantage of potential energy — engaging in preparatory activities).

The researcher was limited to the following positive thinking skills:

(Personal satisfaction — Positive expectations and optimism — acceptance of differences with others).

The factors that influence positive thinking are several that affect the process of thinking in general, and positive thinking in particular, because all beliefs, feelings and knowledge are based primarily on ideas within the human mind (Qalawis, 2018, 304).

The factors influencing positive thinking are described in the following paragraphs (Dakar, 2017, 968; Shmael, 2019, 20; AbuZayd, 2021, 464; Abdul Wahab & Abu Jabal, 2021, 343):

• The use by teachers of strategies that help develop thinking skills in general, and how learners benefit from these skills.

• The ability of the learner to have a verbal understanding, cognitive organization and organization of ideas.

• Socialization, stability and security of the family climate, and the level of the educated cultural environment.

• Development of secondary skills for positive thinking.

• Having a positive subjective concept helps to strategically reorganize positive thinking.

• The role of the media, the school environment and the culture of society in guiding the behaviour and thinking of the learner.

• A holistic view of events and attitudes and action within them.

• Conscious practice within and outside the classroom, encouraging learning discovery.

Positive thinking features

The positive thinking of children builds convictions that enable them to solve problems, monitor and evaluate their ideas and beliefs, with the aim of ridding them of all negative and destructive ideas, so it helps them to be more optimistic and confident that they have the convictions and beliefs of an optimistic nature, which equips them for the success of themselves and their future experiences.

Salam (2018, 10), Abdul Wahab & Abu Jabal, (2021, 444) and Ahmad (2022, 139) indicated that the features of positive thinking were as follows:

• Flexibility and the pursuit of new information, whether compatible or not.

• Possession of innovative and new methods that are appropriate to developments that have occurred and are different.

• Consider problems as challenges to innovation.

• Expect positive results and a desire for lasting success and enthusiasm for the successful.

• Permanent consideration of the bright side of events and constant reflection on what is best.

• Giving a natural and realistic view of itself to others.

• Not allowing challenges and difficulties to affect his life.

• Enjoy internal peace, self-confidence and association of positive persons.

• Development from self at all times, learning everything that is new and useful.

The role of kindergarten teacher in developing positive thinking skills:

The kindergarten teacher plays a major role in developing the positive thinking skills of children. The positive teacher transmits his positive ideas to his children by helping them to deal positively with the attitudes or problems they may face in life.

Al-Qa'awi (2018, 306), Al-Bana (2018, 493), Ishmael (2019, 21) and Abdul Wahab & Ahmad Abu Jabal (2021, 449) indicated that the teacher had an important and active role in developing the positive thinking skills of his pupils, and in order to be able to perform this role he should undertake the following teaching practices:

• Encourage children to produce the greatest number of positive creative ideas, develop their responsible skills and address and redress their vulnerabilities.

• Elimination of all negative feelings and attitudes among children and non-use of criticism that diminishes their children.

• Diversify the use of teaching methods and methods that help them develop positive thinking skills in kindergarten children and create a safe, secure and secure environment.

• Use positive promotion methods to encourage children to repeat positive behaviour and not repeat negative behaviour.

• Helping children to get rid of negative feelings and express positive feelings.

• Encourage children to participate in class discussions and activities by giving them freedom of thought, allowing them to differ in views and respecting the other vision.

• Adding activities, tasks and questions in the form of life situations related to the lives of kindergarten children; to develop positive thinking and skills.

Previous studies

• A study (Bana, 2018) aimed at identifying the impact of the use of the Somsroom model on the development of problem-solving skills and positive thinking among middle school students.

• A study (Muhammad Naima, 2018) aimed at identifying the use of thought caps to develop the positive achievement of science for pupils in the second preparatory class.

• A study (Abd al-Majid, Abu Namah, 2020): aimed at identifying the use of a proposed model based on the theory of intelligence that successfully teaches the unit of principles of scientific thought to develop the concepts, positive thinking and scientific trends of students in the first secondary grade.

• A study (Saleh, 2020): aimed at identifying the use of university discussion methods and developing positive thinking among university youth.

• A study (Shimah Ahmed, 2021) aimed at identifying a programme designed to integrate the quadripartite strategic analysis with the performance improvement model for the development of the professional competencies of primary science teachers and their impact on the positive thinking skills of their pupils.

• A study (Alya Hassanin, 2021) aimed at identifying positive thinking and its relationships with mental motivation and psychological flow among university students.

• A study (Mustafa Abdel Wahab & Ahmed Abu Jabal, 2021) aimed at identifying the effectiveness of the Hot Chair strategy in developing some positive thinking and cognitive skills in the subject of social studies among pupils in the sixth primary grade.

• A study (Hanan Abdel Raouf, 2022) aimed at identifying a programme based on cognitive stimuli in the development of positive thinking among secondary school students.

Current research has benefited from previous studies in identifying the problem of research, enriching the conceptual framework and defining its subjects, and building research tools.

Methodological Procedures for Research

I. Preparation of the proposed programme based on artificial intelligence applications (researcher preparation):

The philosophy of the proposed programme:

The child is at the centre of the educational process in the early childhood stage, and therefore respects his or her individuality, treats him or her as an individual with his or her own identity and independence, provides him or her with everything that can help him or her to achieve his or her self-realization, and serves to satisfy his or her basic needs for sound development, including the child's need for self-awareness, organization, empathy and social skills.

Therefore, the researcher has built the activities of the proposed programme on children as a focus of the educational process in the early childhood phase, and the programme has been implemented through an artificial intelligence technique (LearningApps.org).

Building the program:

Building the proposed programme required specific and clear foundations to underpin the development, implementation and success of these activities, including:

1) Set general goals appropriate to the child's age and mental level; this makes it easier and clearer to develop the four positive thinking skills.

2) Take into account the principle of individual differences between children; programme activities have relied on interactive training, games and various stories suited to children's capacities.

3) The objectives on which programme activities are based should be realistic, measurable and achievable.

4. Take into account the implementation of the programme's activities through artificial intelligence techniques (LearningApps.org).

5) Take into account diversity and progressive training and methods; so that the child can absorb them and carry them out successfully.

6) To take into account the characteristics of the child's development, wishes and needs so that the activities are commensurate with the child's level of understanding and awareness at the early stage of the child's childhood.

Objectives of the proposed programme:

1) Empowering children with positive thinking skills (personal satisfaction, positive expectations, optimism, acceptance of difference with others, personal responsibility) through interactive exercises, games and stories applied using an artificial intelligence application (LearingApps.org).

2) The child is accustomed to collective action and enables him/her to establish good social relations.

3) A child's access to social values such as assistance, cooperation, patience, competition and acceptance of others.

4) Helping children express their feelings and ideas in other indirect ways, such as acting and playing roles.

Means and tools used in the implementation of the programme:

Some images, videos, games, interactive competitions and stories have been used and are being implemented through the LearningApps.org programme.

Sources of building the programme:

- Theoretical readings in scientific references and literature concerning artificial intelligence and positive thinking.

Access to previous studies related to positive thinking and artificial intelligence, including the studies of the Dahi (2018), Rashidi (2018), Saleh (2020), Al-Bana (2018).

The content and control of the artificial intelligence-based programme:

The proposed programme included 12 sessions, aimed at developing positive thinking skills.

In addition to the preliminary and final hearings, the programme was presented to the arbitrators. The observations and opinions of the arbitrators concerning the activities of the proposed programme were amended and the programme was finalized.

II. Preparation of a list of positive thinking skills

• Purpose of the list: The main objective of the list is to identify positive thinking skills to be provided to kindergarten children.

• Identification of the sources of the derivative of the list: the following sources have been consulted in the development of the list of positive thinking skills: previous research and studies that have focused on positive thinking, and the survey of specialists in the field of kindergartens.

• Preparation of the list in its preliminary form. The study of previous sources was prepared in its preliminary form for presentation to a group of magistrates in the curricula and teaching methods for the purpose of expressing their views. This step has resulted in the modification of the wording of some of the sub-skills.

• Checklist: In the light of the amendments made by the arbitrators, which have been introduced, the final picture of the list of positive thinking skills has been arrived at.

The final picture of the list: The final picture of the list of positive thinking skills was composed of four key skills (personal satisfaction — positive expectations and optimism — acceptance of difference with others — personal responsibility) and each skill of the chair falls under a set of sub-skills. (Suppl. No. 1)

Preparation of a test of positive thinking skills for children. (Preparation by researcher).

The researcher designed this video test to detect the effectiveness of a proposed artificial intelligence program in developing the positive thinking skills of the kindergarten child, following the following procedures:

1/Target set: The aim of this test is to measure the level of positive thinking of the child in the early childhood stage through the use of photographic attitudes.

2/ Formulation of test paragraphs:

Test paragraphs and content have been formulated based on a number of sources as follows:

- Review of previous literature on the development of positive thinking among children in early childhood.

- Access to previous studies on positive thinking, including: Saleh (2020), Abd al-Rauf (2022) and Hassanin (2021).

- In addition to the scientific facts of the current research literature on the development of positive thinking for children in early childhood.

3/ Final design of the test (test content):

In its final form, the test consisted of 20 questions distributed equally across four fundamental dimensions of positive thinking for each skill: 5 questions: personal satisfaction — positive expectations and optimism — acceptance of difference with others and personal responsibility.

Type of test questions: Test questions have been formulated as multiple selection questions.

Method of submission: The test was presented individually to each child. The question was also presented to the child, accompanied by photocards. The child has to choose the card that reflects the correct answer.

Degree due: After the child has completed the answer, the teacher shall place (1) one degree on each child's correct answer and zero if the child's answer is wrong in the designated place in the response paper.

Test instructions: "Dear teacher, when applying the test to a child, you must follow the following instructions:

- Explain to the child the purpose of the test.

- Ask the baby to listen to you.

- Individual test classes.

- Give the child enough time to answer and don't rush it.

- Test dish at the beginning of the day before the baby gets tired.

- The child must answer all test questions and leave none.

- The child's grades are recorded on his or her stairs monitoring card."

Psychometric properties for positive thinking test:

First of all, the test is true:

The researcher verified the authenticity of the test in two ways:

a. Truth of the arbitrators (provincial):

In its initial form, the test was presented to a group of arbitrators specializing in the field of early childhood. The researcher attached an introduction to the test explaining the purpose of the test. On the basis of the guidance and suggestions of the arbitrators, the wording of some test questions was modified, so that the test became final; it became usable.

b. Validity of internal consistency:

After verifying the prima facie truth of the positive thinking skills test, the researcher verified the sincerity of the internal consistency by calculating the link between the degree of each paragraph and the total degree of the dimension of the paragraph, as well as the correlations between the dimensions of the test and the total degree of the test, as illustrated by the following table:

Table 1. The correlation factors between the degree of each test paragraph and the total degree of skill to which it belongs

The expression number	the connecting factor	the expression number	the connecting factor
Personal consent		acceptance of difference with others	
1	0,576 **	11	0,708 **
2	0,606 **	12	0,702 **
3	0.652 **	13	0,726 **
4	0,707 **	14	0,695 **
5	0,670 **	15	0,708 **
expectations and optimism		taking personal responsibility Positive	
6	0,607 **	16	0,772 **

7	0,780 **	17	0.708 **
8	0,807 **	18	0.609 **
9	0,718 **	19	0.786 **
10	0,675 **	20	0,777 **

A function at 0.01 is lower.

By reviewing the results shown in Table 1, the coefficient values between the degree of each skill of positive thinking and the overall level of the skill of the paragraph are statistically significant at the level of 0.01 and are less positive; this means that there is a high degree of internal consistency and that each skill is linked to its paragraphs, reflecting a high degree of sincerity of the test paragraphs.

Table 2. The correlation coefficients between the degree of each skill of the dimension of the AFP test and the total degree of the test

Test dimensions		linkage factor
1	Personal satisfaction	0,830 **
2	Positive expectations and optimism	0,821 **
3	Accepting the difference with others.	0,770 **
4	Personal responsibility	0.725 **

A function at 0.01 is lower.

The statistical indicators shown in Table 2 reveal that the correlation coefficient values between the degree of each skill of the positive thinking test overall score of the test are statistically significant at the level of 0.01 and are least positive; this means that there is a high degree of internal consistency and the relevance of the dimensions of the test to its dimensions, reflecting a high degree of sincerity of the test skills.

5/Stability of the test:

The researcher verified the persistence of the test in two ways: Alfa Kronbach, mid-division, and the following table shows the consistency of the search tool:

Table 3. Explains the alpha-crew lab values to test the positive thinking photographer and remove him

Dissipation of the positive thinking test of the photographer		Number of questions	Persistence values	
			Alpha Kronbach	mid-segment
First dimension	Personal satisfaction	5	0,752	0.707
Second dimension	Positive expectations and optimism	5	0,807	0.725
Third dimension	Accepting the difference with others.	5	0,776	0.740
Fourth dimension	Personal responsibility	5	0,814	0,718
General persistence of positive thinking test skills		20	0,812	0,708

The statistical indicators shown in Table 3 revealed that the persistence factors for alpha kro are high, ranging from 0.752 to 0.814, the overall stability of the scale was 0.812, the

half-segment coefficients for the dimensions of the positive thinking test ranged from 0.707 to 0.740, and the overall persistence was 0.708, all of which are high; this indicates that the test is highly stable and therefore can be applied and relied upon as a tool for measuring positive child thinking skills at the early stage of the children ' s diet, and thus obtain reliable results.

Analysis and discussion of results.

Prior to the investigation, the researcher checked the parity of the two groups (experience and officer), the results being as shown in Table 4:

Table 4. Explains the results of Man Whitney's test of two separate samples to compare the results of the pilot and the officer groups in the tribal application

Test dimensions	tribal application	Number	average grades	total grades	U value	Significance
Personal satisfaction	Officer	15	16,00	240,00	105,000	0,630
	Experimental	15	15,00	225,00		
	Total					
Positive expectations and optimism	Officer	15	17,03	255,50	89,500	0.290
	Experimental	15	13,97	209,50		
	Total					
Accepting the difference with others.	Officer	15	13,60	204,00	84,000	0,191
	Experimental	15	17,40	261,00		
	Total					
Personal responsibility	Officer	15	16,43	246,50	98,500	0,512
	Experimental	15	14,57	218,50		
	Total					
Total degree of positive thinking test	Officer	15	15,90	238,50	106.500	0,798
	Experimental	15	15,10	226,50		
	Total					

Through the review of statistical indicators shown in the previous table, there are no statistically significant differences between the control and experimental groups in tribal application, with the significance levels (0.630, 0.291, 0.191, 0.512 and 0.798), all higher than (0.05); indicating that there are no statistically significant differences between the command and test group in the tribal application of the positive thinking test and its skills: (personal satisfaction — positive expectations and optimism — acceptance of difference with others to take personal responsibility). This indicates the parity of the two groups, i.e., that the application and comparison of the commanding and experimental group can be achieved and the study fees verified.

This finding is consistent with the results of the Abraham 2019, which showed that there are no statistically significant differences between the averages of the pilot and the commanding groups in the tribal measurement of positive reflection.

Verification of the first assumption, which reads as follows:

There are statistically significant differences between the average grades of the children of the pilot groups and the officers in the remote application of the child positive thinking test for the pilot group.

In order to verify this assumption, both the manometric researchers and the standard deviation were used, as well as the Man's and Tenny's test for two separate samples (test-Mann-Whitney); to compare the results of the pilot and executor groups in the remote application of the video positive thinking test for children of early children, the results as shown in Table 5:

Table 5. Explains the results of Man Whitney's test of two separate samples to compare the results of the experimental and executor groups in the remote application

Test dimensions	tribal application	Number	average grades	total grades	U value	Significance
Personal satisfaction	Officer	15	8,50	127,50	7,500	0,000 **
	Experimental	15	22,50	337,50		
	Total					
Positive expectations and optimism	Officer	15	10,47	157,00	37,000	0,001 **
	Experimental	15	20,53	308,00		
	Total					
Accepting the difference with others.	Officer	15	10,97	164,50	44,500	0,002 **
	Experimental	15	20,03	300,50		
	Total					
Personal responsibility	Officer	15	10,70	160,50	40,500	0,002 **
	Experimental	15	20,30	304,50		
	Total					
Total degree of positive thinking test	Officer	15	8,67	130,00	10,000	0,000 **
	Experimental	15	22,33	335,00		
	Total					

*** A function at a level of 0.05 and below.**

The statistical indicators shown in Table 5 show statistically significant differences at a level of significance (0.05) in the remote application between the two groups (experience, officer) on the test scale of positive thinking and skills: (personal satisfaction — positive expectations and optimism — accept difference with others) where the indicative levels (0.000, 0.002 and 0.001) are lower than (0.05), with the result being the assumption that there are statistically significant differences at the level of 0.05 between the average grades of the pilot group ' s children and the group's children in charge of the psychic test, and through the averages of the ranks shown in the previous table, the differences in favour of the pilot total are found to be effective in developing the positive thinking of the child in the early childhood phase.

This result is attributed by the researcher to the advantages of learning and education in early childhood through the use of artificial intelligence and information technology techniques, the most important of which is to provide children with the necessary skills to deal with technology, in accordance with their potential and their own capacities, to develop children's self-learning skills, to develop child thinking skills, to stimulate, stimulate and motivate children's ongoing interaction with the e-programme, to improve the concept of self through achievement and to increase positive attitudes towards education, to increase the level of cooperation and communication between children and to enable children to take leadership roles and increase their interaction, and to contribute to raising children's ability to learn, develop thinking skills, solve problems, stripping, acquire and build concepts, thus helping children to have positive thinking.

This finding is consistent with the results of the study (John, Kim & Jeon, 2018), which indicated that the averages of the students of the pilot group were significantly higher in the dimension. In the light of these findings, the study concluded that the proposed system of smart learning is effective in improving the interest and direction of talented students in information science.

He also agreed with the results of the Shukhman et al. study (Shukhman et al., 2018), which showed that the adaptive system based on some artificial intelligence techniques had contributed

to the motivational development of talented students, increased the effectiveness of self-learning and self-development, and helped them to create opportunities to realize their interests and maximize their potential.

It also agreed with the results of the study (Hassenin, 2021), which resulted in the effectiveness of the proposed pilot programme in developing positive thinking on its dimensions: (specific awareness — consent — anger control — social relations) in the pilot group's research sample.

Verification of the second research hypothesis, which reads as follows:

There are statistically significant differences between the average grades of children of the pilot group in the tribal and remote apps to test the positive thinking of children in favour of remote application for the total degree of the test as well as for the four dimensions of the test: (Personal satisfaction — positive expectations and optimism — acceptance of difference with others — personal responsibility)

In order to verify this hypothesis, the researcher used the test and Coxon samples of Wilcoxon Matched-Pairs Signed-Ranks, as well as the average and total grade of the tribal and remote application scores of the pilot group at the total level to test the children's mental intelligence as well as for the four dimensions of the **video test, as shown in tables (6) and (7):**

Table 6. The significance of the differences between the averages of both tribal and remote application levels is illustrated by. For the experimental group, the Z value on the total score of the positive thinking test is the photographer.

Total degree of positive child thinking test.	Application	Number	Average grade	Total level	Z value	Significance level
	Tribal/negative ranks	**0**	**0,00**	**0,00**	**-3,274-**	**0,001**
	Positive grades	**12**	**6,50**	**78,00**		
	Equivalent.	**3**				
	Total	**15**				

A function at a significance level (0.05) below.

Table 7. Explains the difference between the averages of tribal and remote application, and the value of Z on the dimensions of the positive thinking test for children in early childhood

A positive thinking test photographer	Application	Number	Average grade	Total level	Z value	Significance level
Personal satisfaction	Tribal/dimensional negative ranks	0	0,00	0,00	-3,108-	0,002
	Positive grades	12	6,50	78,00		
	Equivalent.	3				
	Total	15				
Positive expectations and optimism	Tribal/dimensional negative ranks	0	0,00	0,00	-2,850-	0,004
	Positive grades	10	5,50	55,00		
	Equivalent.	5				
	Total	15				
Accepting the difference with others.	Tribal/dimensional negative ranks	0	0,00	0,00	-2,751-	0,006
	Positive grades	9	5,00	45,00		

	Equivalent.	6				
	Total	15				
Personal responsibility	Tribal/dimensional negative ranks	1	2,00	2,00	-2,885-	0,004
	Positive grades	10	6,40	64,00		
	Equivalent.	4				
	Total	15				

A function at a significance level (0.05) below.

The statistical indicators shown in Table 6 show that there are statistically significant differences at the indicator level (0.05) between average child grades in the tribal and remote application of the pilot group on the positive thinking test for children, where the values of Z (-3.274) were reached, as well as the significance level values (0.001), which are below (0.05), and by reviewing the results shown in Table 7, there are statistically significant differences at the indicator level (0.01) between average child grades in the tribal and remote application of the pilot group on the dimensions of the positive thinking test: (Personal satisfaction — positive expectations and optimism — acceptance of difference with others to take personal responsibility), with Z (3.108, 2.850-, 2.751, 2.885-) and the indicative level (0.002, 0.004, 0.006), all of which are below (0.0.05), with the second assumption being made that there are differences in the statistical profile of the pilot group and the ratio of the positive ratio to the statistical score of the sample.

In order to verify the above finding and determine the relevance of the statistical differences, the researcher calculated the mathematical averages and standard deviations of children in the tribal and remote application of the total test score and its four dimensions. The results, as shown in the table below, are as follows:

Table 8. Shows mathematical averages and standard child-level deviations in the tribal and remote app at the macro level to test the positive thinking of children and its four dimensions

	Pilot group	Number	Calculating average	Standard deviation
Total degree of positive child thinking test.	Before	15	35,87	3,248
	After	15	38,27	2,604
Personal satisfaction.	Before	15	8,27	1,280
	After	15	10,00	0,000
Positive expectations and optimism	Before	15	7,47	1,552
	After	15	9,33	1,234
Accepting the difference with others.	Before	15	7,60	2,063
	After	15	9,47	1,187
Personal responsibility	Before	15	8,33	976,
	after	15	9,47	1,187

A review of the results shown in Table 8 shows that mathematical averages and standard child-level deviations in tribal and remote application at the overall level to test positive thinking of children as well as the four dimensions of the test show that the differences are in favour of remote application; because remote application has a higher mathematical average than tribal application; this indicates the effectiveness of the proposed artificial

intelligence-based programme in developing the positive child-friendly thinking skills at the early stage of the child.

The researcher attributes this result to the importance of artificial intelligence; these types of intelligent systems play a major role in how to interact with information in personal and professional life; over the past few decades, systems based on artificial intelligence systems have radically changed how to interact with information and with more modern and integrated technology. In the future, children may have very different experiences in learning and searching for facts than children today, and they also provide time and effort and contribute to providing an alternative reality for children. Children are used to confront and keep pace with modern technology. Through artificial intelligence, they can contribute to the presentation of questions and inquiries on children in a way that reveals the strengths and weaknesses of each child, mental preparations for each learner, as well as to pursue and explore learning methods and the learning pattern of each of them, and help artificial scientists to choose the activities they wish to perform well.

This finding is in line with the results of the study (Panna, 2018): the results have resulted in the effectiveness of the training programme in developing positive thinking and problem-solving among children in the preparatory stage of the study sample.

The researcher attributes this result to the importance and role of artificial intelligence in developing positive thinking for children; it is tantamount to providing the child with personal satisfaction, positive expectations and optimism, acceptance of difference with others and personal responsibility, which he needs to be able to deal effectively with information and variables imposed by the future; as an essential requirement of the twenty-first century to meet the challenges of information expansion, cognitive development and attention to the practice of educational programmes designed in the light of artificial intelligence, which contribute to the development of children ' s mental skills.

Recommendations

- Training courses for early childhood teachers on how to use and activate artificial intelligence in education.

- Encourage kindergarten teachers to use artificial intelligence application-based programs in child education.

- The Ministry of Education is adopting a strategy through which artificial intelligence programmes are given special attention in teaching methods and methods at different levels of education.

- The need to develop early childhood teacher training programmes to include courses on artificial intelligence and how to use and activate them to develop positive behaviours and positive child thinking skills.

- Pre- and in-service training courses for early childhood teachers to develop the positive thinking skills of their children.

Children should be encouraged to use positive thinking in their lives to help solve their problems in a non-traditional way.

References

Abdel Fattah, Heballah. (2022). "The effectiveness of the application of active, innovative, creative, effective and enjoyable education in the teaching of social studies in developing positive thinking skills and improving learning outcomes among students of the first cycle of basic education." *Journal of the Educational Society for Social Studies*, (136), 100-141.

Abdel Wahab, Mustafa, Abu Jabal, Ahmed. (2021). "The effectiveness of the Hot Chair strategy in developing some positive thinking and learning skills in the subject of social studies among elementary sixth grade students." *Scientific Research in Education*, Girls' College of Arts, Science and Education, Ain Shams University, (22), 434-485.

Abdelhady, Mohamed. (2006). *Research and its methods in library and information science*. Cairo: Lebanese Egyptian House.

Abdellah, Mimi. (2021). "Use of the Manel and Tennessee model in teaching Arabic to develop in-depth understanding of rhetorical concepts and positive thinking among secondary-school students." *University of Fayoum Journal of Educational and Psychological Sciences, 15*, 342-395.

Abdul Majid, Abdullah, Abu Namah, Hana. (2020). "Use of a proposed model based on the theory of successful intelligence in teaching the Unit of Scientific Thought

Principles to develop concepts, positive thinking and scientific trends for students in the first secondary grade." *Educational Journal*, Faculty of Education, University of Sohaj, (79), 509-609.

Abdul Razak, Hanan. (2022). "A programme based on cognitive stimuli in the development of positive thinking among high school students." *Higher Education Studies Review*, Centre for the Development of University Education, University of Asyut, (21), 102-114.

Abuzid, Salah (2021). "The effectiveness of the inverse segregation strategy in the teaching of geography for the development of some map reading skills and the dimensions of positive thinking among elementary sixth-grade students." *Journal of the Faculty of Education, University of Benny Swife, 18*(107), 426-514.

Afifi, Jihad. (2014). Artificial intelligence and expert systems. Jordan: Dar Amjad for publication and distribution.

Ahmed, Iman. (2022). "The effectiveness of a proposed teaching system based on some educational platforms in teaching mathematics in English to develop achievement, positive thinking and mental vigilance among primary school students." *Journal of Mathematics Education, Egyptian Society for Mathematics Education, 25*(5), 91-191.

Ahmed, Sara. (2022). "The effectiveness of teaching a proposed module in social studies using rapid learning for the development of environmental citizenship and positive thinking among primary school students." *Journal of Research in Education and Psychology*, Faculty of Education, University of Mina, *37*(2), 315-356.

Algerian, deer. (2014). Artificial intelligence. "Psychiatric scrutiny in accordance with positive thinking when applied for by universities." *Faculty of Education for Girls for Human Sciences, 18*(2), 49-52.

Al-Husaining, A.S.A. (2020). The effect of teaching the art of decoration according to the habits of the mind on developing positive thinking skills and a achievements among sixth Grade students in the state of Kuwait. *International journal of education, learning and developing*, 42-54.

Arnos, Bashir. (2007). *Industrial intelligence*. Cairo: Cloud House for Publication and Distribution.

Beckmann, J., Bertel, S., Zander, S. (2014). Adaptivee Learning based on individual learning styles-Performance and emotional factors. Mensch and Computer.

Bhanna. (2018). "The impact of the use of the swom model on the development of problem-solving skills and positive thinking among middle school students in the subject of social studies." *Educational Journal, Faculty of Education, University of Sohaj*, (53), 489-543.

Caferra Ricardo. (2011). Logique pour l'informatique. France: et pour l'intelligenceartificielle Hermes Science Publication.

Chang, S., Shu, Y., Wong C., Chen, M., & Ho, w. (2020). Cyber-entrepreneurship as an innovative orientation: Does positive thinking moderate the relationship between cyber-entrepreneurial self-efficacy and cyber-entrepreneurial intentions in Non-IT students? *Computers in human behavior, 107*, 105975.

Department of society and human geography. (2011). Climate awareness. Article published Apr. 12, 2011.

Fathi, Arzi. (2017). The contribution of expert systems to improving decision-making in the Algerian Foundation. Revue Maghrébine Management Des Organisations, (1), 2-72.

Hassan. (2019). Using artificial intelligence applications to support university education in Saudi Arabia. *Journal of Arab Studies in Education and Psychology*, 113, 259-282.

Hassanine, Alia. (2021). "Affirmative thinking and its relationship to the practical motivation and psychological flow of university students." Master's Letter, Faculty of Education, Banny Swife University.

Ibrahim, Maha. (2019). "The effectiveness of integrating the strategies of structural theory in the teaching of social studies into the development of positive thinking and self-esteem among pupils in the

preparatory stage." *Journal of the Educational Society for Social Studies*, (115), 93-109.

Ikedinachi, A. P., Misra, S., Assibong, P. A., Olu-Owolabi, E. F., Maskeliūnas, R & Damasevicius, R. (2019). Artificial Intelligence, Smart Classrooms and Online Education in the 21st Century: Implications for Human Development. *Journal of Cases on Information Technology, 21*(3), 79.

Ismail, Abderrauf. (2017). *Artificial intelligence technology*. Cairo: book world.

Ismail, Mohamed; Yuzumi, Gad; Mubarez, Manal. (2014). The effectiveness of an electronic learning environment based on artificial intelligence to solve the problems of maintaining computer networks among students in education technology. *The Journal of Educational Technology, 22*(1), 279.

Ismail, Reza. (2019). "Use the learning station strategy to develop some positive thinking skills and engage in geography learning among students of the first cycle of basic education." *Educational Society for Social Studies*, (117), 1-66.

Jeon, Y., Kim, T. (2018). The development and application of a responsive web-based smart learning system for the cyber project learning of elementary informatics gifted students. *Journal of Theoretical and Applied Information, 96*(5), 1397.

Kamal, Ahmad, Abd al-Samia, Abd al-Aal. (2017). "A proposed programme based on the environmental input in the teaching of social studies to develop the dimensions of tolerance and the positive thinking skills of primary school students." International Conference of the Educational Society for Social Studies, Tolerance and Acceptance of the Others. *Journal of the Educational Society for Social Studies, 1*.

Labidi, Sofiane, Lejouad, Wided. (2006). De l'intelligence artificielle distribuee aux systems multi-agents. Rapport de Recherche. France.

Lopez, J., & fuxjager, M. (2012). Self-deception's adapt live value, effects of positive thinking and the winner effects. *Consciousness and cognitions, 21*(1), 315-234.

Lozzie, Moses. (2012). Artificial intelligence in business. Research presented by the Eleventh Annual Conference on Business Intelligence and Knowledge Economy. Jordan. Faculty of Economics and Administrative Sciences: Olive University.

Mohammadi, L., Adam, B. (2013). Effectiveness of positive thinking skills training on student's happiness. *European psychiatry, 28*(1), 1-7.

Mohammed, Naima. (2018). "Use of think caps to develop achievement and positive thinking in science for second-grade students." Master's message, Girls' College of Arts and Educational Sciences, Ain Shams University.

Moses, Abdullah; Bilal, Ahmed. (2019). Artificial intelligence is a revolution in teaching techniques. Cairo: Arab Group for Training and Dissemination.

Muhammad, Nahed, Ibrahim, Hada. (2018). Social education in the early childhood, Riyadh: Al-Adult House.

Nchwan, Jacob. (2005). *Thinking and Scientific Education.* Amman: Al-Safran House.

Özyurt, Ö., Özyurt, H., Baki, A., & Güven, B. (2013). Integration into mathematics classrooms of an adaptive and intelligent individualized e-learning environment: Implementation and evaluation of UZWEBMAT. *Computers in Human Behavior, 29*(3), 738.

Peace. (2018). "The use of the Adi and Shire model in social studies has affected the development of positive thinking skills and the tendency to participate in the preparatory level." *The Journal of the Educational Society for Social Studies*, (107), 83-137.

Qal Aawi, Abd al-Azz. (2018). "The use of Format 4mat Lakarthi in geography education has affected the development of concepts of sustainable development and the positive thinking skills of middle school students." *Journal of the Faculty of Education, University of Benni Soif, 15*(83), 262-337.

Saleh. (2020). "Use of methods of collective discussion and development of positive thinking among university youth." *Journal of Studies in Social Work and Human Sciences*, Faculty of Social Work, Helwan University, (49), 819-846.

Sheriff, Abdelkader. (2014). *The entrance to the kindergarten*. Cairo: Al-Majarra Publishing and Distribution House.

Shukhman, A. E., Bolodurina, I. P., Polezhaev, P. N., Ushakov, Y. A., & Legashev, L. V. (2018). Adaptive technology to support talented secondary school students with the educational IT infrastructure. Global Engineering Education Conference. IEEE: EDUCON.

Tashtoush, Y. Al-Soud, M., Fraihat, W., Al-Sarayrah, M. & Williams, Randi. Park Hae Won. Oh, Lauren. Breazeal, Cynthia. (2019, July). Popbots: Designing an artificial intelligence curriculum for early childhood education. Thirty-First Conference on Innovative Applications of Artificial Intelligence the Ninth Symposium on Educational Advance. U.S.A. Palo Alto, California: by the Association for the Advancement of Artificial Intelligence.

The cahoots, Ahmed. (2017). Requirements for the employment of artificial intelligence in the educational process in Palestinian universities, the Conference on Smart Learning and its role in community service. Palestine. Open University of Jerusalem.

Yasin, Saad. (2011). Analysis and design of information systems. Jordan: The Curriculum for Publication and Distribution.

Zara, Ahmed. (2017). "Post-knowledge thinking strategies in geography teaching and their impact on the development of achievement, geographic skills and positive thinking among middle-school students." *Journal of the Faculty of Education*, University of Assut, *33*(2), 644-694.