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Effective Audio and Video-Based Learning for Youngest Age

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ABSTRACT

Through this research, various types of e-learning have been discussed and analyses to determine their effectiveness. In Additions, the effective of images, sound, and video on learners, particularly for preschool children under the age of six, has been explored. As children at this age are not yet able to read or write, visual and auditory aids have been relied upon to convey information, aiding in the development of their physical, motor, sensory, and interactive intelligence. This approach also reduces the need for lengthy lectures, as e-learning features can be utilized to minimize the use of paper and pens, thereby promoting environmental conservation. Furthermore, the focus is on developing a child's intelligence in all its forms, achieved through the presentation of specific intelligence questions tailored to the age group in question.

Keywords: E-Learning; Effective Book; youngest age; Learning Management System; IQ Exam; IQ Test; Emotional intelligence; Learning Management System; learning with playing.

INTRODUCTİON

Type of Learning

Every child has an opportunity for get educated, and since a child's intelligence is still developing during these formative years of life, our goal in this research is to find a way to use images, videos, and sound to help children become more intelligent.

There are numerous ways to learn, but e-learning is currently the most popular. Numerous other forms of online education have appeared due to the different requirements for each age group and taking into account student peculiarities. There are different types of online education, including synchronous e-learning with the teacher and asynchronous e-learning without the teacher. There is also hybrid education, which mixes e-learning and traditional classroom instruction.

It should be noted that each type has its advantages and disadvantages, as it requires components and elements specific to each type, and every single type has its own learning resources and media.

Education requires specific learning resources and media. The availability of an e-book, a database, a website, a communication website for at least sending messages, even a digital library are examples of necessary learning tools. On the other hand, a display screen is a requirement for information if e-learning includes direct communication between the student and the teacher. If the interaction is indirect and depends on a computer, we will clearly also need an internet connection and an audio medium, at minimum a phone as a communication tool. From this, some of the difficulties of online learning become apparent to us, as some learners can access them due to their high cost.[1]

It is planned to create an interactive book that enables kindergarten-aged children to have their intelligence level tested in an interesting and active form between the learner and the teacher. The results will be kept in database.

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Another type of learning knowing as **multiple intelligent learning** (IM) This type of learning includes benefiting from visual, logical, sensory, and motor intelligence in general through music, movement, vision, and interaction with details [2].

The level of **learning intensity** and the level of **learning quality**. It is feasible to select a successful method of learning that consolidates knowledge rather than intensifies learning. If the strategy is ineffective, it is difficult to learn or understand the material. If we want a group of students to understand how to grow a plant, it is evident that growing the plant in front of their eyes and sharing the cultivation with them is preferable than explaining. The lengthier one is useless to them, and this is referred to as **interactive education**. They employed sight (visual learning), sound (auditory learning), and sensory education (kinesthetic learning) in this example [3].

The positive benefits of the **interactive book** include developing skills or synchronizing the eye and hand, integrating ethical or scientific concepts, developing thought by listening to the information, and learning new things such as a foreign language [4], colors and shapes, or personal behaviors. We notice here that there is a significant and distinct difference between the interactive book and the traditional book [5][6]. The electronic book and the electronic book vary in that the first offers moving information that captures children's attention to learning [7].

With all of this, **e-learning** is not new, but its condition has developed as is the case of all sciences during this current century with the development of technology and has become an urgent necessity during a certain period. The Internet and without the need to synchronize communication with science and not adhere to a specific number of learners, due to the high cost of schools and the large number of learners, but on the other hand, we need a communication device and a network that provides Internet connection for each party [8][9].

Other features of electronic learning

It is organic to object to such rapid change, but with the passage of time and becoming acquainted with the subject, an increase in the efficiency of learning was noticed because it is more flexible in time and with the provision of methods of communication via messages, which made the matter **more acceptable**. During the use of e-learning, you may encounter some problems, such as student impersonation, entering incorrect information, changing information for this, a request to add a password and passwords for passwords or security encryption to preserve information and the privacy of information is determined by the teacher to determine who enters the programmer to maintain on the main database [10][11][12].

It is recommended to memorize knowledge for past assessments in order to determine what the student prefers. Previous study has revealed that students prefer to use drawings or diagrams (Symbols, diagrams, flowcharts) to explain information and listen to sounds before writing to communicate while learning. In addition, provide a practical exercise or share your experience. It should be focused that this information is kept separate in a database [13].

The **education management system** is an integrated educational system that holds information that learners and teachers may access as needed, and the information is divided up and kept safe. So, to return and receive data, a dependable database is required [14].

According to the research, any **educational system** requires a database to gather information and give a way of net connection and a communication device, and it may take three forms, the first of which is learner models. The student and his fundamental data are generally stored in a **database**, whilst the second component comprises generic information such as tests and is fixed information that does not change. It is new, and it offers more informative training to the learner. It was discovered that learners prefer the second or third kind similar if a flexible structure and a simple user interface are accessible.[15][16] It could be done to include **Clouds** as a means of communication for learners and teachers to communicate simultaneously or asynchronously, as well as other basic components such as a database with a proposed educational platform, teacher follow-up, and basic information for students [17].

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METHODOLOGY OF LEARNING SYSTEM

We can say that the degree of complexity and development of the system depends on the age group that learns, so the early stages system differs from the rest of the age stages, as it does not need a complex system, as they are still in the learning process.

It can be noted that when moving from traditional education within the classroom to e-learning, many students noticed the difference between the presence of a group learning together and a person isolated from his companions in a room, but with the availability of communication platforms and finding ways to speak and solve problems in a broader way by searching for the problem and finding a solution for it [18].after a wall from using the Internet, students adapt to the new education, and this is what is known as the term collective or **group education**.

In order to separate traditional education and modern e-learning, we need knowledge taken from students and a knowledge generator based on the input knowledge to generate more accurate knowledge to come out with a new product and more accurate information that can be benefited from and retrieve information from the human mind smoothly and benefit from it in public life and the workplace in the future because it depends on the learner's effort and how to learn from mistakes and not repeat them.

And after we know the form and types of the educational system, now we need to study the types of intelligence questions and what is the thing that affects the human intelligence acquired during the early stages of life.[19][20]

The intelligence quotient concepts:

A part of human intelligence is acquired from the parents through genetic genes, and a large, not insignificant part is acquired during a person's life, especially in the early stages of children's lives. Since the target group in this research are children, the focus was on **pictures, drawings, and colors**, not writing, because the age of children is below the age of reading and writing. Which helps the test to find those who have intelligence mutations. In general, there are different types of these tests. The first to be associated with this topic are **German** psychologists [32]. The concept of an **intelligence test** differs from an **intelligence exam**, as each of them has a certain number of questions and tests, and the method of calculating results in them differs, and the methods of testing differ as well [34]. Intelligence also has types. It is not only limited to the subject of solving a mathematical problem, but there are measures to calculate intelligence of its types. There are **emotional intelligence, sensory intelligence, auditory intelligence, visual intelligence, and reflexive intelligence** that depends on the speed of returning information from the brain.

But each type can be developed during the stages of life, and intelligence tests can do this by stimulating memory and quickly memorizing information within the human mind [33].

Playing with learning:

playing with learning is an excellent technique to engage pupils in the learning process. It may assist make studying more pleasurable and entertaining, while also giving pupils the opportunity to explore and practice new abilities. Games, simulations, and puzzles are examples of learning play activities. These exercises can help students review previously taught ideas and abilities while also introducing new content. It can also aid in the development of problem-solving abilities, creativity, and teamwork. Students, for example, might collaborate to solve puzzles or complete simulations, which can help them improve their communication and cooperation abilities. Playing with learning may also be utilized to make learning more interesting and relevant for students by allowing them to apply their newly acquired abilities to real-world circumstances.

Learning with playing online gaming

Learning with playing online gaming is crucial for developing reading skills, logical thinking, visual and spatial discrimination, geographical location knowledge, social and rhetoric skills, and family development. However, it is important to consider negative aspects like addiction and aggression when playing online. By engaging in online learning, learners can enhance their social, rhetorical, and family aspects while also fostering a deeper understanding of the world around them [21].

Role - playing

Role-playing is an interactive learning method where children, particularly primary-aged children, engage in teaching and learning by playing roles in activities or speeches. This approach helps them develop their personality, creativity, and confidence, while also involving others in the learning process. By representing shapes and figures, role-playing positively impacts students' personalities and encourages the development of their individual learning skills. This approach also allows for the use of tests and assignments to assess students' progress, fostering a sense of community and fostering a reliable professional experience in social aspects [22][23].

Studies have shown that games positively impact students' learning by involving them in tasks in the English language. This helps them learn new terms and generates previous knowledge, boosting confidence and reducing fear and anxiety. The results show that the first group, which played games with shapes, geographic locations, and specific tasks, performed better than the second group, which took traditional education without providing previous knowledge through games. This is known as providing previous knowledge, which is essential for effective learning and communication [24][25].

SOFTWARE SYSTEM ARCHITECTURE

Without understanding the available memory, data size, processor size, and program complexity, we cannot construct a system without resulting in a system that is different from another in terms of complexity. The world and another that requires permanent copies and another that prioritizes safety and security over productivity lead us to conclude that while the program can be developed in a variety of ways using various techniques, the following are the most important ones [26]:

Pattern of Layered pattern

Typically, this type consists of four components. The first layer is the interface that connects with the user, and the last layer is the database component to accomplish something. There are at least four layers (presentation layer, application layer, business layer, and data layer). The symbols of each layer are isolated from one another, thus changing the symbols in one layer has no impact on the other layers until we move through the four layers and get to the first layer, which is where the information is displayed.

Pattern of Event-Driven pattern

As units added to the fundamental system, single-purpose event processing components operate concurrently in order to occur on the program architecture. Creating a Facebook account or an email account are two examples.

Micro-kernel architecture pattern

It consists of one heart and a number of many software additions, for example adding sound to an application, the additions are more complex laws or cases to the system Router and high order rules.

Micro-services Architecture pattern

Small parts that share together to form a single set of Services components, and information from them is transferred to the user if he requests it.

Space-based Architecture pattern

They are small systems that contain memory and a small processing unit, but they are linked to a larger computer system that has imaginary storage, what is known as (Virtualize ware). see figure .1 for displaying more information about the Software system architecture [27][28].

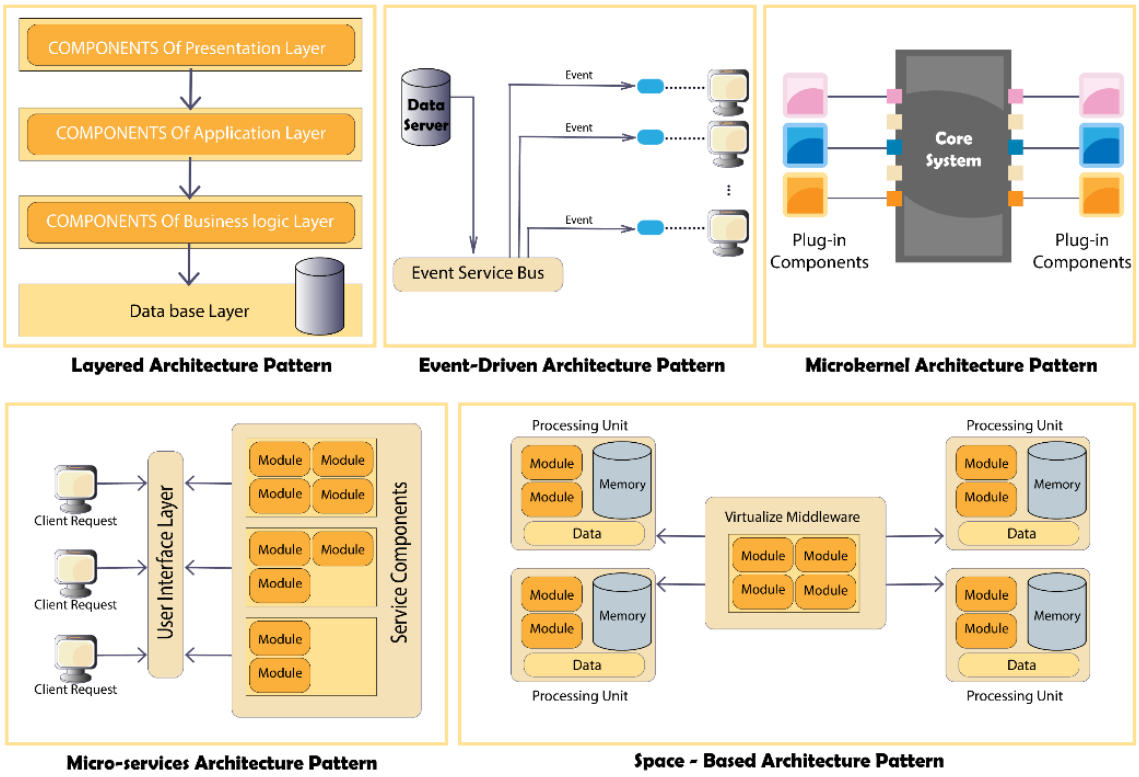

Figure .1:Software system architecture

SYSTEM DEPENDABILITY

System dependability is depending on four elements: Availability, Reliability, Safety, Security. a system's availability, the ability of the system to give the service whenever you need it is known as availability, while fault avoidance refers to the system's ability to continue operating in spite of obstacles and errors. Reliability is the ability of the system to deliver the service as required. Regarding the following component, safety is the ability of the computer system to function even when a particular component or unit of the system fails. The condition of safety is crucial in some systems, such as those that deliver drugs for diabetes or heart disease. The patient's life is impacted when a pharmaceutical dosage is delayed, that is known as High safety and reliability. last but not least the purpose of security is to secure the computer system from any outside intruder who may disturb its operation, particularly when utilizing programs over the Internet. Wide world wide (WWW) It is feasible to keep information secure by adding a login and password or encrypting the data [29][30].

THE DESIGN CONSIDERATION:

When using electronic devices, you see a lot of media, some of which are animated or static, and each of them has different types. The font comes in different types and sizes, in addition to graphics, which are two-dimensional drawings and can be raster or what is known as a vector. When you move them, an animation is formed, which may be two-dimensional or Three-dimensional images. As for the images, they are pixels grouped together to form the image. From a group of images, after moving them, the video is formed. As for the sound, it is a vector signal that is transformed into digital for ease of dealing with it.

Because the research was mainly focused on children under the age of six, it was necessary to take into account the issue of colors and images, the size of the writing, the location of the image, etc., the color difference within the images, how they appear, their speed, and the sequence of questions. The font size was small compared to the image size, so that the focus was on the image, the font color was constant, and the colors of the images changed. And its size, as well as the case for audio and video.[35][36]

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THE RESULT:

The research study started with a concept and two goals. The first goal is to improve traditional education by introducing aspects that make it more flexible and focused on learners, so kids do not feel assessed. The second goal is to focus on the emotional side of learning and try to improve human intelligence in this area.

After reviewing numerous comparable sources, it became clear from earlier talks within the research project that the emotional factor is critical in learning and effectively presenting knowledge. Along with emotions, the manner in which teachers present and convey knowledge is important. Teachers play a role in this process since they have the most power.

To be more precise, there are rare occurrences of self-education, but only in the early phases of life. Education in the early stages is dependent on the instructor to convey knowledge in a huge volume, and according to studies, human intellect develops and acquires throughout the stages of life, and the more learning rises. The amount of information stored in memory has grown. Human intellect is nothing more than a mental muscle. It is trained, and awareness and knowledge grow throughout life.

This is not to say that a person does not inherit some of the genetic genes for intelligence from their family, but it is possible to change the percentage of intelligence during the stages of life by focusing on the quality and quality of education rather than its intensity. students by asking questions.

Individual variances exist between persons, and this is also true in learning. As a result, parents and schools should take note of the inclinations of learners in general, and especially youngsters, to develop what the kid enjoys. We emphasize the necessity of trying everything to learn what the kid enjoys so that it may be developed and worked on later.

The first group testing:

The research's central concept is an engaging educational program for students, and kindergarten-aged youngsters under the age of six have received the majority of attention. In addition to the challenge of pleasing children due of how blunt they are, we think this age is the most crucial for education. Either people engage with the project and accept it, or they just discard it. As a result, it was decided to design a child-friendly interface that is easy to use, straightforward, and colorful with big graphics and little words. The official GUI interfaces were created using the Python programming language, providing a variety of benefits for creating buttons and pictures [31].

Samples were taken from the ages of 3-7, and their results were closer to the older age groups who are over the age of 40. As for the higher age groups, the results were between the ages of young and late youth, according to the following table 4.1:

Sequence	**Name of the age group**	**Age**	**Pictures results**	**Motion output**	**Audio results**	**Feelings results**	**Video results**	**Rate of results**
1	Junior	3-7	6out of11	3 out of4	2out of 4	2out of 4	2out of 2	20-15
2	boy	7-12	9out of 11	3out of 4	3out of 4	4out of 4	2out of 2	22-21
3	youth	22-30	10out of 11	3out of 4	3out of 4	4out of 4	2out of 2	24-22
4	Late Youth	30-40	11out of 11	2out of 4	4out of 4	4out of 4	2out of 2	23-21
5	old people	Older than	6out of 11	3out of 4	2out of 4	3out of 4	1out of 2	20-15

Table 6.1: showing the results of first group testing.

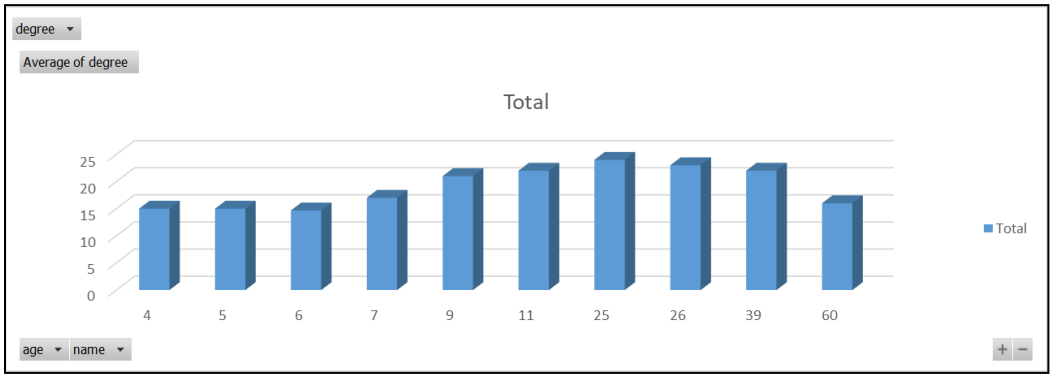

Chart 6.1: showing the results of group testing.

From table 5.1 and chart 5.1 we can say that the human mind, like the rest of the muscles of the body, needs training and practice. The results for those of young ages were similar or closer to the results of those of the elderly, and the mind muscle, like the rest of the muscles of the body, is at its peak in youth and late youth. Let us not forget the genetic factor and the surrounding environment, each of which has an impact on the level of concentration and the speed of a person's intuition, along with a commitment to eating the right way that nourishes the mind. The human mind cannot stop thinking.

One of the most important results obtained was the identification of a number of students with quick intelligence, which helps the teacher follow up on these students in a more correct way to invest in their intelligence. This is the goal of the project, to find differences between students, to work on developing them and reducing their weaknesses.

The second group of testing:

To increase the accuracy of the work, a second group of different ages was tested, starting with pre-school age, and the results were close to the results of the first group, as the human mind is at its peak in youth and late youth, with mutations occurring within the ages of young and old alike.you can see table 6.2 and the chart 6.2 the show the results of the second group.

sequence	**Name of the age group**	**age**	**Rate of results**
1	Junior	4-7	13-20
2	Boy	7-12	15-23
3	Late young	30-40	20-23
4	Old people	40-50	20-21

Table 6.2: showing the results of second group testing.

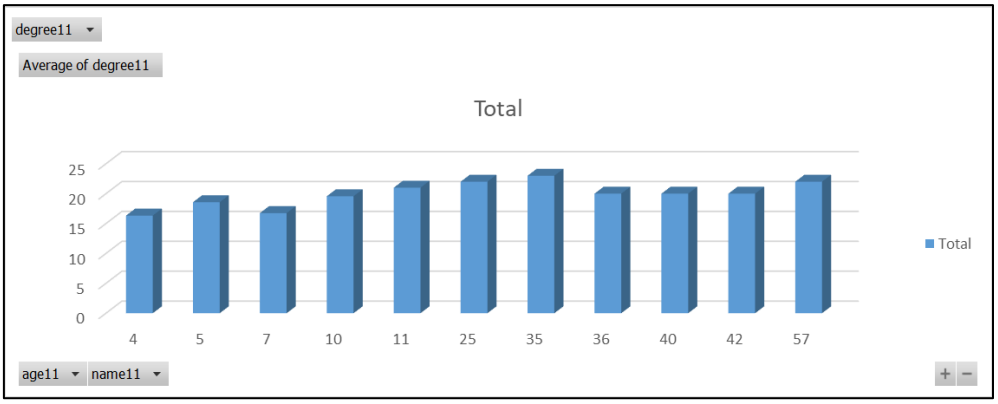

Chart 6.2: showing the results of second group testing.

CONCLUSION

For future work we can also taking more additional samples to increase the accuracy of the results and working to develop the idea of the system in terms of increasing the quantity, quality and number of questions, developing the database and improving the computer interfaces.

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