Creating a Digital Learning Space: Strategies for Developing Visual Imagination

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Abstract

The current study aimed to investigate the establishment of a digital learning space Strategies to develop a visual imagination, determine the visual imagination skills required for educational technology students, and define the criteria for the program based on a digital learning space to develop visual imagination skills. The sample of the study is a group of 22 students, from the second year students, Department of Educational Technology, Faculty of Specific Education. The study's important findings are as follows: 1) there is a statistically significant difference between the mean scores of the experimental group in the pre and post application of the achievement test in favor of the post application. 2) There is a statistically significant difference between the mean scores of the experimental group in the pre and post application of the visual imagination skills assessment card in favor of the experimental group.

Keywords: *Digital learning space, Strategies, visual imagination, educational Technology*

Introduction

In fact, the teacher's understanding of his students' learning needs helps determine when to present general, targeted, or individual instructional strategies. For some students, comprehensive instructional strategies may be sufficient to meet their own learning needs. Yet, other students need more targeted instructional strategies which is the starting point for applying the curriculum, and the described strategy is a guide that teachers can use depending on the learning context.

In addition, more multi-strategy intervention programs that are rich in individual educational components need to be developed without having to put them in the mixture and make them too complex for teachers to implement (Woolley, Gary, 2010, 109).

Abdel Moneim, Ahmed (2010,3) asserted that the communication patterns are associated with the extent of the teacher's ability to direct the visual learning processes and train his students to carry

out visual thinking processes associated with imagination. It may collide with self-teaching methods of the teacher that resist the processes of imagination. In addition, creativity occurs when the student practices reach building patterns of imagination his own.

By nature, imagination is preceded by many processes that take place between the mental images of the individual which is the process of imagination that represents free activity or is similar to daydreaming that moves from one subject to another completely without commitment system or laws. It is a break of logical or known boundaries and exit as for the ordinary. imagination is also a free activity, but it is guided indirectly in the meantime towards a specific subject that supports the activity of visual thinking. It is confirmed, supported and deepened through images, memories, impressions and emotions which are gathered around it. In addition, it is a form of memory that has been freed from its ties (Abdel Hamid, Shaker, 2009, 51).

Eicher& Bearley (2009, 9) study showed that when a person thinks, the proportion of what passes through the sense of sight to the brain reaches 80% of the input to

thinking processes, while the proportion of what passes through the sense of hearing may reach 40%, and the percentage of what passes through the emotional senses such as touch, smell and taste may reach 50% of the inputs to thinking processes.

In addition, Brown, A, & Voltz, B.D (2005) confirmed the importance of educational strategies and various methods that contribute to understanding the scientific foundations for organizing the cognitive structure within the learner's mind, and among these foundations:

- That the cognitive structure is found in all sciences, and that there is no meaning for any type of knowledge if there is no building and organization of that knowledge in the mind of the learner.
- That the cognitive structure is important and necessary for a proper understanding of scientific knowledge, as the individual organizes the human mind's perceptions of scientific knowledge, in order to facilitate its understanding and awareness of its various aspects.
- That the cognitive construction is necessary in solving problems, the more there is a strong correlation between the concepts and the cognitive structure of the learners, and this helps them in solving the problems.

Hence the role of various visual stimuli such as pictures, static and animation, and video attract the learner and the growth of his mental processes. Via observing and distinguishing objects, knowing their visual characteristics and identifying the relationships between parts of the scene, this leads to discover their content and compare their components in terms of similarities and differences in addition to deduction, description and inference, leading to sound thinking and achieving meaningful learning for the learner.

In addition, learning environment is the second most important element in the area of the transitional space for learning, so the creative teacher is that teacher who is able to prepare, organize an educational environment that stimulates creativity, and then employ the components of that environment to enrich the educational process in the field of art. The influence of the learning environment extends to the learning levels of students in art from inside the classroom and outside its spatial and even temporal framework. Hauptman (2010), and Al-Qaramiti, A (2008) confirmed that there are factors that contribute to the development of visual imagination in digital learning spaces, namely:

1. Interest of digital learning spaces in representing information and making it visible and audible at the same time helps students to use visualization in remembering the information, which

contributes to their later use of it in forming a vision of the movement of geometric shapes and what it will be in the next step.

2. Learners' response and the meaningful participation of the attractions of digital learning spaces.
3. Teaching using digital learning spaces stimulates students' thinking; as it is a new method and stimulates thinking.
4. Applications for digital learning spaces such as games is favored by young and old people. This leads to students' interest in studying because of their constant sense of a new existence and adding to it from their imaginations, in contrast to the traditional method that makes the student interested in preserving information more than imagining it, which negatively affects his perception of information later.
5. Students' sense that digital learning spaces convey objects and components that are present in a visual and sensory manner. This helped students' perception of information.

El-Sayed, Mustafa (2016) confirmed that digital learning spaces, including blogs, allow learners to express their opinions and ideas by listening to and watching the blogging material at a time that suits them, and acts as the custodian of the learning content, and provides permanent contact between learners and increases their motivation as well as developing various skills among learners due to the increase and diversity of communication and learning opportunities. For learners, this helps in developing the visual imagination of the learner.

Hence, creating positive learning spaces for the classroom brought teachers to design classrooms that foster collaboration and instill a sense of belonging among students. Students gain knowledge easily when the schoolroom conveys warmth, beauty and promotes harmony. Students learn best in environments that allow movement, provide access to learning tools, and enhance students' thinking and creativity, even with limited materials and equipment; a teacher can create a classroom environment to meet the purpose of teaching while developing a community of participating learners.

The teaching process based on the sharpening of the imagination is distinguished by methods corresponding to the various aspects of the activity that the learner is expected to perform, as well as bringing about fundamental changes in the cognitive and psychological processes of the learner and in his attitudes, values and motivations towards learning. The teaching process in this way confirms the developing of the learner's sense and his ability to create and innovate "(Darwish, Zine, 1983, 43).

Accordingly, it is clear that the imaginative ability of students of educational technology. needs a process of continuous refinement and the availability of an educational climate characterized by flexibility to renewal and change and be far from restrictions and rich in incentives and stimuli. In addition, it becomes clear the necessity to search for methods, approaches or teaching strategies that should help students to develop their visual imagination away from the prevailing methods in the current educational institutions, which depend on memorization and indoctrination and do not address the mental abilities of students at the university. Therefore, the idea of the current research, which is to develop some visual imagination skills through a proposed strategy in using digital learning, spaces to develop visual imagination, became a must

Methodology

The Problem of the Study:

The sources for developing the visual imagination varies such as words, signs, lights, and colors which constitute sources for the visual imagination. Therefore, meanings and their transmission tools are represented by the verbal language and the non-verbal language are sources of the imagination as well. Also, digital images and media are sources of visual imagination, as they stimulate students' passion, attract them, make their minds think, teach them ethics, values, tastes and investigate the smallest details, in addition to developing their creative factors by discovering relationships. Therefore, the images and media that are represented in digital learning spaces must be chosen carefully.

It develops the mental abilities of university students, specializing in educational technology, which adds to their imagination, aesthetics and visual human values, but the absence of such strategies in educational technology courses leads to lack of several aspects to achieve a graduate who keeps pace with the developments of the times and skills of the current century and this is one of the requirements of the course on the basics of producing educational fees, so the current research sought to achieve such goals by answering the questions of this research:

"What is the effect of a proposed strategy for designing a digital learning space on the development of visual imagination among educational technology students?"

This main question is divided into the following sub-questions:

1. What are the Visual imagination skills appropriate for their development in educational technology students?
2. What are the steps for implementing a proposed strategy for designing a digital learning space to

develop the visual imagination of educational technology students?

3. What are the components of the proposed strategy for designing a digital learning space to develop the visual imagination of educational technology students?
4. What is the impact of the proposed strategy on developing visual imagination among educational technology students?

The HYPOTHESES of the Study:

1. There is a statistically significant difference between the mean scores of the experimental group on the pre-post visual imagination test in favor of the post test.
2. There is a statistically significant difference between the mean scores of the experimental group on the pre-post visual imagination skills assessment Rubric in favor of the post test.
3. There is no effect of the proposed strategy on developing visual imagination among educational technology students.

The OBJECTIVES of the Study:

The current research aims to:

1. Identify the visual imagination skills appropriate for their development among students of educational technology.
2. Identify the components of the proposed strategy for designing a digital learning space on developing the visual imagination of educational technology students.
3. Identify the steps for implementing a proposed strategy to design a digital learning space on developing the visual imagination of educational technology students.
4. Identify the extent of the impact of the proposed strategy on developing visual imagination among educational technology students.

The Importance of the Study:

The importance of the current research is evident in:

1. Shedding light on the importance of digital media and images for the development of visual imagination, according to a proposed strategy for educational technology students.
2. Shedding light on the importance of developing visual imagination in educational technology courses and enriching it at the university level.
3. Enriching this important aspect of students' lives through media and digital learning spaces

4. Paying attention to one aspect of teaching that is clearly overlooked, which is visual imagery in educational technology.

The Research Terms:

Digital Learning Spaces

The researcher defines it as:

The free use of a set of services, tools, technologies and social software by the learner, which enables him to manage the process of his education and build his knowledge in a visual context by media, digital images using voice notation to build new knowledge and skills to create interaction and participation among learners regarding the content of the course of Educational technology.

Visual imagination

The researcher defines it as the process of imagining of some imperceptible and abstract biological and physiological processes in the course of producing means for students of educational technology, by recalling what has been stored in memory for the purpose of forming relationships and removing ambiguity and confusion in some concepts.

The Strategy of Visual imagination:

The researcher defines it as the ability of educational technology students to interpret and process information in the media elements and transforms it into an expressive production from the imagination in accordance with the steps (introduction - reflection - analysis - challenge - application) by using digital learning spaces, notes in the course of producing teaching aids. To employ the capabilities of the Internet using sensory effects (graphics, animation and sound effects) in blogs to organize and sequence the content. It appears in the form of an integrated presentation for the teacher and is represented by interactivity.

THEORETICAL FRAMEWORK

Digital Learning Spaces:

Digital Learning Spaces is "any digital resource that can be reused to support learning". (D. Wiley, 2000,7) "Learning spaces can be used in a number of ways to support learning in each subject area. For example, in mathematics, to help students practice long multiplication or equations; in the sciences to help students understand formative and other complex concepts; in language arts, to guide creative writing and critical thinking exercises; and in social studies, to clarify concepts in civic education and complex decision-making processes. Countless examples

of learning spaces can also be found in the educational resources for multimedia for online learning and education (Falloon, G., Robin, J. & Annick, J, 2009).

In addition, in digital learning spaces, reusable digital educational resources are being developed and applied in many disciplines and have resulted in significant contributions to effective teaching of programming. These resources range from small activities or small lessons to open applications. Among them are Learning Objects that they are quite effective (Shank, J.D, 2003).

Elements of digital learning spaces:

The elements of digital learning spaces are varied, including learning to display, which is according to Bloom's classification, is represented by two levels (remembering and understanding), and learning elements for training: It helps in learning performance skills and kinesthetic skills and it represents the level of (application) and digital learning elements for simulation. Supporting it (application and analysis) and digital learning elements for relationships. This type is used to develop higher-order thinking skills associated with innovative thinking such as (linking parts, deduction and analysis), and information learning elements. This is achieved by pointing with the mouse cursor on any part of the learning element, then a group of information is displayed that helps the learner to learn, and this type of element may develop skills (collecting, linking and organizing data within the memory). To design this in digital learning spaces, the environment used should include: (Bentley, Appelt, Busbach, Hinrichs, Kerr, Sikkell, Trevor, and Woetzel, 1997).

1. Authentication: People must identify themselves with a name and password before they can access workspaces.
2. Version management: The documents in the workspace can be put under version control, which is especially useful for producing shared documents. An example is Google Drive tools.
3. Discussion forums: users can start a discussion on any topic they like and the system presents the topics in a user friendly way.
4. Access rights: The system contains a complex access rights model that allows, for example, that some users have complete control over an object in a workspace while others have only read access or no access at all.
5. Search facilities: Users can define queries to find objects within digital workspaces, and this is done based on names, content, or specific characteristics such as the author of the document or the date the document was modified. Moreover, queries may be sent to web search

- engines and query result can be imported into workspaces.
6. Document Format Conversion: These facilities allow users to convert the document into a format of their choice, for example, proprietary document format to HTML, before downloading it.
7. Interface for simultaneous communication: Through this interface, users can define concurrent sessions and start their own tools, for example, audio / video conferencing software or shared whiteboard applications.
8. Customization: Through user preferences, users can modify the system interface to some extent, for example, whether or not they want to use the enhanced Javascript or ActiveX interface.
9. 9. Multilingual support: The system interface can be customized for a specific language via direct extensions. Several languages (such as English and Arabic) have been created by system users and are available to students.

The study of Shahin, A. (2020) recommends relying on digital environments to develop educational technology specialists' courses.

Visual imagination development:

The human mind's efficiency and effectiveness will increase, if we allow all its multiple physical manifestations, intellectual skills to work in harmony with each other instead of being separated. Hence, its interest in the visual processing of information is also concerned with the trend towards integration in the processing of information. As a result, one aspect is not neglected at the expense of the other. Brain is divided into two equal and identical halves, and each half in turn is divided into centers and regions that carry out various activities and functions. We find that the left side is responsible for word processing, logic, analysis, as well as lists and sequences, while the right side is responsible for spatial processing, visual information, and imagination, colors, and gestalt (the overall image). Strategies to improve the right-hand side requires the totality, the visual, and the left includes logic and analysis. By integrating both sides of the brain it is possible to fully develop thinking processes, raise many mental abilities and practice many different types of thinking and its different skills (Buzan, T, B, 1994, 12).

The study of Shaimaa, Khalil; Mohamed, Ali. (2018) verify the effectiveness of information graphics in its fixed and moving modes in providing stereoscopic printing skills and visual culture among educational technology students, and present complex data in a simple visual form that is effective through their use of graphics, and the huge

amount of information and huge data. It is imperative for educators to specifically research how learners read each other's ideas and what mental processes happen to them while reading the content of the information graphics presented to them, because it is a very complex matter because it is linked to many factors affecting it. The most important of which is representation. The cognitive representation of information and its translation in memory, where cognitive representation is a cognitive mental process. That depends on the approach, assimilation and accommodation of meanings, and ideas to be preserved to become part of the cognitive construction of the learner to represent a cumulative structure in which the information and knowledge of the learner interact with his direct and indirect experiences. Zainab Al-Ajizi's study (2015) aimed to identify the effect of employing the principles of visual culture in e-learning on developing the skills of digital image production and visual thinking among educational technology students that tolerate or not tolerate ambiguity, and determining the standards for designing the e-learning environment in light of employing the principles of visual culture.

Visual culture among educational technology students is considered fundamental for the development of visual imagination using digital learning spaces in light of the successive technological developments, which publicize thousands of software, applications, technological tools and new technologies daily. Since dealing with technology depends primarily on the sense of sight, it was necessary that we shed light in the field of educational technology on the study of how the eye deals with these digital technologies. Previously, there were numerous studies in the study of visual imagination in its aspects that include learning, thinking and visual communication.

Today in light of the widespread spread of technological technologies, there is an urgent need to study the impact of digitalization on the eye and how the process of learning, thinking and digital visual communication takes place through it, and more precisely than we find it now. Thus, the concept of visual imagination must be expanded to include the study of digital and how learning is done Visual through it.

This allowed the continuous development of digital technologies to exist in a digital environment based on communications, which has also transformed the context of the educational process, and experiences show that digital technologies have affected the method of learning, and thus the method of teaching. Learning in the digital age is a complex process because it is multifaceted and diverse. Data is increasingly important, especially in the

past three years, for research lines related to the Internet, education, visuals, computer programs, learning, digital media literacy, and educational technology (González-Zamar, M. D et al., 2020).

Research Design:

The study follows a multi-modal design (Mills et al., 2010) to help achieve the overall research objective and answer specific research questions. The study used data and systematic triangulation to enhance the exploration of the development of visual imagination in light of the digital learning spaces of the most prominent contributors to the fundamentals of Instructional Production Course.

The Course:

Digital timelines for the application of technology on a large scale in the Fundamentals of Production of Instructional Drawings course is to introduce students and engage them in creating digital course content and enhancing visual imagination in light of the new media age and a catalytic effect in terms of including the task of the digital timeline as part of the curriculum with a focus on elements that meet the principles of visual imagination such as text and images - different types of text method that suit different selections of images and an image (static, animated, etc.) - and considerations Spatial and sequential. The resulting final product is learner-oriented and focuses on the necessary and relevant elements of the various visual materials.

Participants:

The study included 22 male and female students, aged between 19 and 21 years, who were enrolled in the Basic Instructional Fees Production course at the Faculty of Specific Education in one of the universities. The results of the survey at the beginning of the course indicated that students have some knowledge of technically enhanced teaching science, but they lack visual imagination. In terms of developing and implementing educational strategies using digital technologies.

Designing learning spaces

The experimental treatment material consisted in providing graphics and texts related to the course content through the learning platform designed using blogs as a personal learning environment and its space from digital learning spaces, and this was confirmed by the study of Dowling, S. (2011). The instructional design model was chosen according to the following design stages where it can be using blogging to allow breakout sessions that can provide similar benefits, such as working in pairs or small groups in a physical classroom have included a digital learning space.

Figure 1. *Steps of the Designing learning spaces model*
Shape the digital learning space to develop visual imagination

The effectiveness of digital teaching and learning in a blogging environment included student concern, flexibility and a learner-centered approach to teaching. These efforts appear in the classroom or the micro-level of the teaching context, where blogs are a learning space for navigating their digital learning environments. Educators are now seeking more flexibility in using tools, a variety of digital resources, and options for interacting with students outside of traditional LMS channels, which contributes to the ever-increasing choice of specialized tools for student engagement, digital feedback, collaboration, communication and more in the teaching tool list and has adopted a strategy for developing visualizations. Al Basri included:

Figure 2. *Steps Strategic to develop visual imagination*

This paper has provided a conceptual model for visual and performing education to teach visualization as one of the visual arts based on embodied physical practices and learning in a digital environment that allows the development of visual communication competencies. In

addition, the transformative knowledge and the value of aesthetic knowledge are achieved through making and communicating using images and video in the Basics of Instructional Drawings course, especially in light of the use of digital learning spaces that exist in our contemporary mobile lives. It is imperative for every student to develop the ability to communicate using visual imagery. Implementing the strategy required working with (physical) materials: - which links students' physical experiences closely with experiences of seeing and feeling and shaping materials through techniques for the expression of ideas.

The learning environment in digital learning spaces is characterized by trust relationships between students and educators in the joint construction of knowledge, and an understanding of educational practices that support the development of visual imagination through expressive behaviors in technological and physical practices. This is confirmed by Denzin (2005).

Data collection tools:

The data sources for the study included a rubric test and card for visual imagination skills included a knowledge test according to the content decided in the basics of producing educational fees and may include topics related to their courses, namely: 1. Types of educational fees. 2. Steps for preparing educational posters and leaflets. 3. The form of the educational brochure. 4. Programs for producing educational posters and leaflets. 5. Photographers.

The rubric of Visual Imagination Skills:

The environment designed for digital learning spaces included instructions that were accompanied by sound and verbal instruction consisting of words and texts, often before they were written, and aimed at directing the participants' attention to the purpose of generating visual images that precipitated a positive psychological and physiological response, and included increasing the performance and rate of performance of students. The card is composed of the following:

Table (1.) Visual imagination skills

General skills	Sub-skills	Percentage
Image generation.	6	25%
Save the image.	7	29%
Examination of the image.	5	21%
Image transformation.	6	25%
	24	100%

Results

The results are based on 22 respondents who have completed all elements of the course content study. According to the performance evaluation, the size of the sample was determined in the formative evaluation of the small group and the field user test sessions based on the mention of the possibility of using less than 20 participants in the evaluation of small groups and between 22 participants in the "field test". The data retrieved was then tabulated according to the objectives of this survey aiming at identifying the highest and lowest values for the data (Table 2).

Table (2.) Demographic Information of Students

Gender	Number	Percentage
Male	7	32%
Female	15	68%

The levels of engagement provided by the learning spaces and educational activities were measured according to the suitability of these spaces for group discussion, the educational session, and the use of presentations, photos, videos, and group activities on blogs. This was achieved through students' participation during the performance of tasks and activities, the most common time of use. In effect, the results are shown in the table(3).

Table (3) Skills rubric measuring activities and tasks

Levels	Grade	Student performance	Percentage
High.	3	18	82%
Average.	2	1	5%
Weak	1	2	9%
Did not lead.	0	1	5%
Total		22	100%

The answer of the question: "What are the Visual imagination skills appropriate for their development among educational technology students?" was determined through table (4) illustrating the stages of visualization skills used in line with the course Basics of producing educational drawings

Table (4) Stages of visual imagination

Stage	description
Image generation	This involves generating mental images, from memory, from imagination, or a combination of both.
Save the image	This involves intentional sufficiency and preservation of images, without which a mental image undergoes rapid decay and does not remain long enough to proceed to the next stages.
Examination of the image	At this stage, once it is born and maintained, a mental image is examined and explored, worked out in detail, and interpreted in relation to the person. This often involves the scanning process, the person directing attention across and around an image, false shifts in perceptual perspective.
Image transformation	At this stage, the person transforms, modifies, or changes the content of mental images generated, in such a way as to replace images that evoke negative feelings, denote suffering and exacerbate psychological pain, or emphasize helplessness or weakness, for those that evoke positive emotions, and are suggestive. From autonomy, adaptability, increased degree of mental competence and physical ability.

image orientation collectively. It is an integral part of other mind-body interventions that are commonly combined, including music and meditation and is the focus of the strategy used in current research, guided meditation or application, practical notes to memorize or daily self-reflection for students.

The researcher verified that by means of an analogy:

There is a statistically significant difference between the mean scores of the experimental group on the pre/post of the cognitive test in favor of the post test.

Table (5) Pre-post Knowledge test

		Mean	N	Std. Deviation	t	df	Sig. (2-tailed)
Pair	Pretest	7.32	22	0.72			
					55.325	21	0.000
	posttest	20.64	22	0.79			

These results indicate acceptance of the first hypothesis of the study, which provides evidence of the effectiveness of the strategy used to develop knowledge related to the course on visual imagery using digital learning spaces for educational technology specializations in the second year. The general development of students' cognitive test can be illustrated in the following chart:

The formation of the mental, visual and auditory image has been performed, and this is what the environment designed according to the digital learning spaces enabled. For the remaining visual images, many scientific researchers have been conducted on visual imagination and some scientific literature has mentioned the term "visual imagination", but this term is rarely used in a sample, so they used the term "Guided imagery," which is commonly used by research books to refer to the generation, preservation, examination, and transformation of mental images in all modalities and in reference to visual image processing alone and specifically. In addition, some books use the term "visual imagery" interchangeably with "guided imagery". Meanwhile, others refer to the directed imagination in a way including the visual imagination. Often they measure, analyze, and discuss the implications of both visual visualization and

Figure 3: The mean scores of the experimental group pre and post tests on Knowledge.

There is a statistically significant difference between the mean scores of the experimental group on the pre-post visual imagination skills in favor of the post test.

Figure 4: The mean scores of the experimental group Pre-post visual imagination skills.

There is no effect of the proposed strategy on developing visual imagination among educational technology students.

The researcher used the (T) value resulting from the pre and post application to calculate the values of the size of the strategic effect on the performance of students/ members of the sample of visual imagination skills.

Table(6)Pre-post visual imagination skills

	Mean	Z	n	Devatio	t	df	Sig. (2-tailed)
Pai	11.6	22	0.99				
r 1	8				139.0	21	0.00
					6		0
postte	68.9	22	1.65				
st	5						

These results manifest acceptance of the second hypothesis of the study, which provides evidence of the effectiveness of the strategy used to develop pre-post visual imagination skills by using digital learning spaces in developing visual imagination skills for second-year education technology majors. The general development of students' skills can be illustrated in the following chart:

Table(7)Effect size the strategy

Effect size	t	d	n ²	Effect size
Knowledge test	55.325	15.62	0.993	large
Rubric visual imagination skills	139.06	41.73	0.999	large

In light of what I suggested "Cohen that $d = 0.2$ be considered a 'small' effect size, 0.5 represents a 'medium' effect size and 0.8 a 'large' effect size". Thus, it becomes clear that the strategy used to develop visual imagination using digital learning spaces was of high statistical

significance and thus accepts the third hypothesis of the research.

Discussion

Often you measure, analyze, and discuss the implications of both visual visualization and image orientation in a course: Principles of producing educational drawings and working collectively or individually, and in order for students to study the course and benefit from visual imagination, they must be able to understand the course's concepts and special skills. Visual visualization related to students' performance and has been linked to digital learning spaces for comprehension and work with topics including "types of educational drawings, steps for preparing educational posters and brochures, the form of educational brochure, and programs for producing educational posters and brochures, and pictorials." Which worked on the process of processing visual images and the use of cognitive attention resources, and visual visualization as part of a multimedia strategy that combines other interventions in digital learning spaces because these methods can increase students' ability or ability to comprehend, enhance attention control, and replenish the required cognitive resources., Thus increasing the potential efficacy of visual imagination.

Conclusion

In this paper, the researcher sets up the foundation for the most effective design of digital learning spaces according to a strategy. This aims at meeting learning activities and digital tasks to achieve visual imagination. The findings indicate that well-designed digital learning spaces are essential in educational technology departments, where a high percentage of respondents who wish to have a larger learning space were designed using blogs. For future research, we should strive to understand more about the relevance of student time: the amount of time spent at the university using digital learning spaces, the group's amount of time spent on learning activities and in lecture sessions. In addition, this goes in line with the hybrid learning style that universities seek to implement, or digital rotation according to classroom learning styles, or task-based learning that will be the basis for educational aspirations and in line with modern learning systems.

By means of the proper approach, learning becomes easier. Our increasing understanding of how people learn affects the formation of learning spaces and the digital technologies that support them. Thus, the constructive learning model replaces a tool for knowledge transfer as a guide to digital learning spaces, which encourages planning more space to stimulate student thinking, especially the learning supported by digital media that develops the imagination and encourages visual thinking.

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