The Importance of Exhibition Based Visual Technologies in Education of Children

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Abstract: The article explores different visual technologies used for demonstration and their effects on the representational thinking of pre-school learners. It highlights how these technologies can enhance the cognitive development and educational growth of young children. By examining various tools and methods, the article shows how visual aids can make learning more engaging and effective for pre-schoolers. It also underscores the importance of integrating these technologies into early childhood education to foster better understanding and creativity. Overall, the article emphasises that the thoughtful use of visual technologies can significantly improve the learning experience and cognitive abilities of pre-school learners, setting a strong foundation for their future education.

1 INTRODUCTION

Visual technology is the engineering discipline dealing with visual representation of the audio, video, textual, graphical and animation effects used for conveying necessary information and teaching materials to learners.

The word “visualization” is derived from Latin word visualise “of sight” and means “perceptible by sight” or “expository”.

Visuality is the general term used for the methods of seeing, observing, and analysing digital information or a physical phenomenon.

2 LITERATURE REVIEW

A. A. Verbitsky, the Russian educational psychologist, presented the following remarks on visuality: “Visuality is decreasing of thinking process in the visual representation, and it is when the perceived image (representation) serves as a tool for broad thinking and various practical actions”- Verbitsky (1991). This definition allows us to distinguish between the concepts of “visual”, “visual aids” and “demonstrative”, “demonstration aids”.

The concept of “demonstrative” as a pedagogical concept is based not on the inner plans of a person, but on the presentation of specific outside objects, processes, events etc. that are mainly based on displaying a completed image. It helps to reveal the image of thoughts, that is it demonstrates the development of the mental image in the production of inner image letting to come outwards. This projection is built on the process of interaction of the subject and objects of the material world, which is based on the mechanisms of thinking and is reflected in various forms of education (Verbitsky, 1991).

So, Verbitsky was the creator of the concepts of “demonstration” and “visualization” in pedagogy. The main difference between demonstration and visuality (visualization) is that the demonstration aid is an object that represents a particular image, and the visual aid is an outcome (a final product) of a human mental activity which leads to some result.

T. T. Sidelnikova defines the term visualization as “a pedagogical method based on the principle of demonstration, in which schemes and images represent content, process, function, structure and stages of any phenomenon on the base of various symbols”.

According to A. P. Malkina, this process gives an opportunity to “increase the internal activity of the receiver, his/her semantic perception of visual aids such as drawings, diagrams, tables, pictures, photographs, etc. and data processing”.

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In his research, D. R. Boboeva claims that visualization helps children learn, remember, and memorize things easily and effectively that directly affect their senses, especially their vision - Boboyeva (2001). The proverb “It is better to see once than to hear a thousand times” is valid evidence for that.

In her research, D. R. Boboeva notes that children are more likely to remember what they see (pictures, slides, educator's actions, or stories with a series of illustrations) than they hear (Boboyeva, 2001).

3 ANALYSIS

It is necessary to point out that the systematic organization of children's education at pre-schooling stage is very important. Visual-imaginative thinking serves as a foundation for the education and upbringing of pre-school learners.

Visual-imaginative thinking emerges in the child when solving new demands and practical tasks. In this process, the child tries to know the truth and searches different options.

Visual-imaginative thinking is the process of having various images in the human mind while dealing with problems.

One of the effective ways of active learning is a method of visualization of educational materials, which has an extensive educational value and meets the modern teaching requirements. Visualization is relied upon the principle of demonstration.

The principle of demonstration is one of the leading principles in pedagogy. It is one of the principles that is known and understood by all and has been utilized since ancient times. The principle of demonstration is predicated on the following regulations:

- First, the information obtained through seeing and hearing has different effects on the brain and stores differently. That is, eyes receive five times more information than we hear it with our ears, and consequently, the level of its storage in the brain is also higher.
- Second, the information received by the eyes does not need to be processed.

Pedagogical practice has developed several guidelines for the implementation of this principle:

1. What learners see in the process of learning is assimilated several times faster than what they hear, and this information is stored in their minds longer.

2. Children always think through shapes, colours, feelings, and sounds.

3. Children are able to think on the base of imagination, seeing, remembering, and hearing.

4. Demonstration shouldn’t be a primary goal. It should serve not as a goal, but as a means to an end.

5. In the process of teaching and turning it into children’s skill, we should understand that all concepts and abstract notions can be perceived by them only through various facts, evidence, examples, symbols and images.

6. Visual aids shouldn’t be used only for demonstration the things, but also to form different case studies.

7. Visual aids serve not only for the provision of information, but they also help to create a clear imagination of what is being studied.

8. To demonstrate visual aids according to their appropriate order will lead to positive results.

9. During the demonstration of visual aids, first, we should present them as a whole picture, then, we have to deal with its parts and again we should come back to the whole representation.

10. It is good to use a variety of visual aids, but their quantity should not be excessive because they can easily distract children’s minds.

11. During the demonstration of visual aids, we should take an effective use of children previously acquired emotional state.

12. It shouldn’t be forgotten that the best visual aid is the aid prepared by children themselves, therefore, if possible, prepare the visual aids together with children.

13. Never show children something you don’t know well.

14. Before using new technical facilities such as television, videos, computers etc., pedagogues must master them first.

15. When using visual aids educators should master their learners in developing their concentration, thinking culture, constructive thinking and interest in reading.

16. Pedagogues should use visual aids to able their learners to combine theoretical knowledge with their life.

17. When using the cabinet system, the possibility of using the demonstration method expands, for that reason, the order of demonstrating visual aids should be thoroughly planned beforehand.

18. Educators should take the age characteristics of learners when using various visual aids.

19. Visual aids are very powerfully influencing tools as they strongly attract learners’ minds. They also might distract them from the main objective of a lesson.

20. The excessive usage of the visuals can also hinder the development of learners’ abstract thinking (Ziyomukhammedov, 2006).

Many ideas have been put forward by pedagogical scholars on the use of the principles of demonstration of visuals in the system of education and upbringing of various learners. According to the philosophy of the great scholar Abu Nasr al- Farabi, disciples(learners) are divided into three categories: the first group of learners can study the materials independently; the second category of learners should be forced to learn the things; the third group of learners can master the learning materials under the guidance of their instructors (Al-Farabi, 1993). The use of the principles of demonstration of visual aids in the process of pre-school education will help learners to accelerate their learning practice and easily master the teaching materials. The effective use of demonstration methods and tools at the right time will always lead to positive results.

The outstanding Czech pedagogue Jan Amos Comenius, the founder of pedagogical science, spoke about the importance of demonstration of visuals and its impact on the educational process and learners' visual-imaginative thinking in his famous work "The Great Didactics". He presents the following ideas in his work: "Human emotions can be affected, and everything that is visible, audible, fragrant, and tasteful can be felt through the senses. If an object is surrounded by several emotions at a time, our emotions can perceive them all at once" (Comenius et. al., 2009).

The active use of various tables, diagrams and charts helps to quickly remember and understand the material being studied. Taking into consideration the modern technical opportunities, we can notice that the demonstration of visual information in the learning process will obtain new features.

In a broad sense visualization can be defined as the process of presenting information in the form of an image to maximize the ease of comprehension for learners. The technology of visualization of educational materials is based on the importance of a person's visual perception and the leading role of figurative cognition in the process of awareness; it also serves to increase the ever-needed readiness of a person and his/her consciousness to the conditions of the visualized world.

The technology of visualization of educational materials functions as a current pedagogical technology and is widely implemented by a number of pedagogues in modern educational institutions. The visualization of educational materials is a system that includes the following aspects:

- A set of educational knowledge.
- Visual methods of their demonstration.
- Visual and technical means of information transmission.
- A set of psychological methods of applying and developing visual thinking in the process of learning.

The technology of visualization of educational materials is based on the rules of importance of visual perception in the process of knowing the world, the leading role of the image in the process of human perception and understanding and the need to prepare a person's visual perception.

On the basis of educational visual technologies, it is possible to simplify the content of education, modernize the learning process, creatively activate the learners, and in that way update and accelerate the forms of education for pre-school learners. The functions of accelerating the education of preschoolers on the basis of educational visual technologies are usually reflected in the following:

- The presentation of the content of teaching materials.
- Ensuring psychophysiological and psychological convenience of learning.
- The provision of secretive diagnostics of teaching effectiveness.
- There are a number of advantages of the implementation of visual technologies in teaching preschoolers.
- The visual technologies benefit learners to properly organize and analyse the information; they help them to acquire various schemes, diagrams, charts, cognitive maps etc. that contribute to the assimilation of large amounts of information. These technologies also help to facilitate learners' memory and observe the connections between blocks of information.
- Visual technologies allow learners to connect the received information to the complete image of the certain event or object.
- Visual technologies help learners to quickly acquire the large amounts of information.
- Visual technologies permit learners to review and reconstruct various processes and events.
- Visual technologies make the educational materials more interesting and memorable.

The systemic mental activity of a person is characterized by various signs such as verbal, symbolic and graphic. Different types of models used to express knowledge in a compact form correspond to a person's ability to think with the help of images. Studying the text, assimilating, and thinking are considered the processes of schematization the information and the organization of the material in the

mind. If necessary, a person can restore the whole text and expand it.

The principles of visualization of educational materials include the following:

- Learning materials compacted in a particular system are better acquired by learners.
- Separation of stronger semantic points of the learning materials help learners to memorize them effectively.
- Short and compact materials benefit learners to study the oral information more profoundly and to answer various questions related to the learning materials.
- They help to develop learners' imagination and fantasy.
- They determine the nature of individual perceptions and processing of educational information.
- They activate learners' cognitive interests.
- They help learners to focus on important things and shift their focus to other objects.
- They stimulate certain associations.
- They help to develop the ability to analyse and compare.
- They support learners in increasing their attention and observation.
- They form learners' ability to draw logical conclusions.
- They develop critical thinking.
- They help to integrate new knowledge.
- They help to control over the completeness and assimilation of information provided by the educators.
- The obtained information is linked to a complete description of a particular object or event.

The principle of visualization emerges from certain psychological laws. According to the principle, assimilation efficiency increases when visualization performs not only a visual but also a cognitive function in the process of learning, i.e. using cognitive graphic learning elements. At the same time, the foundations such drawings, diagrams, models etc. that present a compact content contribute to the structure of knowledge because it is all the time difficult to remember a large number of materials for learners.

In early ages, only visually effective and visually imaginative forms of thinking are widely applied and that ensure the understanding and assimilation of specially selected and age-appropriate information.

L.S. Vygotsky, a well-known Soviet psychologist, found that a preschool child can have an imagination about the creation of things and the universe as well as the connections and relationships between them (Vygotsky, 1982). According to L.S. Vygotskyat this stage of life a child can draw certain conclusions not only about individual things, but also about how they can relate to each other. This principle is widely applied in the educational process (until the beginning and end of the academic year) through the use of a systematic program.

According to N. N. Poddyakov, visual-imaginative thinking develops rapidly in the process of solving numerous problems at preschool age. There are several ways of representing the being through imagination: the complexity of the depiction of existing things, the enrichment of properties due to the practical activities or by other means; the emergence of the ability to communicate with other objects through imagination in the process of knowing objects.

Children who perceive the world through visualization better understand and remember what they see. They can look at pictures for hours, and in their speech, they can quite often use the phrases such as "I saw, I looked at, I glanced at, I paid attention to" etc. The child not only remembers the plot of the film, but also describes in detail the costumes and clothes of the personages as well as course of events. For that reason, the colour background is so important for their perception. Through visualization, the child learns to distinguish different shapes, sizes, colours of objects and can easily repeat previously seen actions or movements.

A traditional education and upbringing system based on the principles of visualization and description is very suitable for preschool learners as, in fact, everyone perceives 85% of the world visually.

It is well-known that in recent years we have witnessed young children watching various cartoons, videos etc. on their mobile phones. It is praiseworthy that some children of Uzbek families are learning another language, for example Russian, through videos and audio materials.

In preschools, visual learners are usually very diligent and attentive, they try to absorb any information they receive in the classroom very well. As it was mentioned above, 85% of people have a high level of visual perception and children with this psycho type can learn any rules or poems very easily if they have presented them in the form of diagrams, pictures and illustrations. The demonstration of various cartoons and the creation of different posters, diagrams, collages, and other visual aids for the lessons will significantly facilitate children's mastery, comprehension and learning.

Among preschoolers, the number of visual learners is more dominant than others. These learners differ from others in the following ways:

1. Children of this category always use verbs that mean “see” when they talk about something.
2. Visual learners are very hardworking; therefore, it is difficult to distract them and force to switch to something else. They can spend hours on the activities they like.
3. When communicating with visual learners, one can notice that they always look directly at the face of a person or up. Also, even if such children sit in an unnatural position during the lessons, it does not mean that they sit without listening to the instructor; on the contrary, it means that such learners have intensive mental work at that time.
4. Visual learners often prefer silence because peaceful atmosphere creates a comfort zone for them and their work.
5. If visual learners cannot see, they also stop hearing. They prefer to observe the things from a distance to get the full information about something, and the longer the distance, the better for the learners. Such learners do not try to keep themselves away from their teachers, but they try to figure everything out as well as possible.
6. Visual learners find it very difficult to get information from their mobile phones. Such children prefer face-to-face communication over technical devices and gadgets.
7. Often, such children pay great attention to their appearance and the way of clothing.

4 CONCLUSIONS

Based on research and observations by psychologists, it is clear that visual aids play a significant role in demonstrating the mental abilities of preschool learners. Visual tools can effectively capture the attention of young children and facilitate a more organised and systematic transfer of knowledge. By using a variety of visual technologies, educators can present information in ways that are engaging and accessible to preschoolers. This approach not only makes learning more enjoyable but also helps children better understand and retain the information being taught.

Visual aids are particularly useful in shaping the early perceptions and understanding of existence and being in young children. These tools help them make sense of the world around them by providing concrete examples and illustrations. For instance, picture books, educational videos, and interactive games can introduce complex concepts in a simplified manner, making it easier for preschoolers to grasp. Visual representations can also aid in the development of critical thinking and problem-solving skills, as children learn to interpret and analyse what they see.

Moreover, the use of visual technologies in early childhood education fosters active learning and participation. When children are engaged visually, they are more likely to be curious and ask questions, leading to a deeper understanding of the subject matter. Interactive visuals, such as touchscreens and augmented reality, can encourage exploration and hands-on learning, making the educational experience more dynamic and immersive. By incorporating visual aids into the learning process, educators can create a stimulating environment that supports the cognitive and emotional development of preschool learners.

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