

EFFECT OF COGNITIVE-VISUAL AIDS IN IMPROVING THE QUALITY OF TEACHING THE SPECIAL SUBJECTS

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ABSTRACT

This research studies the views of teachers on the use of visual aids (e.g., pictures, animated videos, projectors, and films) as a motivational tool in increasing attention of students when reading literary texts. Closed-ended questionnaire was used to gather the necessary data from the research in order to achieve the purpose of research. Data analysis showed that the majority of teachers and students had positive perceptions of the use of visual aids.

Keywords: Visual aids, resources, trainings of teacher, senses of student, graphics, pictures, maps, flannel board, flash cards, bulletin board, and slides.

INTRODUCTION

Education is essential for everyone. Education is very important; a person deprived of education can never live a good life. Teaching and learning is an inalienable element of education. The teacher uses a variety of approaches and strives for a variety of innovative pedagogical technologies for students and their active learning. Methods and technologies that change over time are introduced into the field of education, and the teacher uses a variety of guides to learn effectively.

Visual aids stimulate curiosity of students and help teachers explain concepts easily. Visual aids are teaching aids used in the classroom to engage students in the learning process. According to Burton, "There are those emotional objects or images that support the initiation or interest and learning of sciences based on visualization". According to Kinder, S. James, "Visual is more realistic, more accurate and more active development experience".

Visual aids or tools (pictures, models, graphs, maps, videos, slides, real objects, etc.) helps to understand and learn the lesson more clearly or easily. There are so many visual aids these days. We classify programs based on this cognitive-visual approach as follows, called visual aids that use the sense of sight. For example: models, real objects, graphics, pictures, maps, flannel boards, flash cards, bulletin boards, slides, projectors, etc. These are is a simple accessory to board and chalk. If it is organized with books (textbooks) in the classroom, the instruction will increase when the class is taught. Most importantly, it represents a common phenomenon for integration. Textbooks with audio visual aids serve as an additional or complementary resource for classroom learning activities in the classroom.

Visual aids play important role in education system. Visual aids are devices that are used to keep students in the classroom interested in the learning process and make it easy and interesting. Visual aids are the best means of effective teaching and the best dissemination of knowledge. Cuban researcher (2001) have found that 1% of learned material was gained

through figurative explanation, 1.5% was gained through modeling, 3.5% was gained through mutual discussion, 11% was gained from auditory logic, and 83% was gained from visual learning.

In addition, people usually remember that 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they say and 90% of what they hear and see at the same time. Shundavisa. S. says that there is no doubt that technical devices have a great impact and a dynamic information system.

Importance of research: Visual aids are devices that help the teacher identify, establish and interconnect and coordinate the precision, concepts, and are important for understanding and value, and for make learning more relevant, active, and motivating. The following are results of our research.

Everyone has a tendency to forget. Proper use of visual aids will help maintain more understanding.

- i. Students can learn better when properly inspired through a variety of visual aids on a regular basis.
- ii. Visual aids enhance a clear image when students see and hear correctly.
- iii. Visual aids provide a complete example for conceptual thinking.
- iv. Visual aids create an environment of student interest.
- v. Visual aids help increase students' vocabulary.
- vi. Visual aids help the teacher come one day and make learning continuous.
- vii. Visual aids give students a direct experience.

Purpose of research: to study the use and benefits of visual aids in the educational process of students studying in the oil and gas industry specialty.

Objectives of research

The main objectives of this research are:

- i. To study the views of teachers on the use of visual aids in lessons at professional colleges and institutes
- ii. To describe the differences and similarities in the use of visual aids among teachers.
- iii. To compare teachers' views on the use of visual aids by experience, location, and gender.
- iv. To identify the use of visual aids at the level of professional colleges and institutes.
- v. To know the interest of students in visual aids in professional colleges and institutes.
- vi. Analysis of the effectiveness of visual aids in the educational process of students in professional colleges and institutes.
- vii. To identify problems with the use of visual aids.
- viii. To determine teachers' qualifications through visual aids that help make the learning process effective
- ix. To learn how students become active in the classroom after using visual aids.
- x. To learn how visual aids can help students become good observers.

LITERATURE REVIEW

Learning is a complex process. It can be defined as a change in disposition, relatively constant change in behavior over time and this is done in part knowledge. Learning can occur as a new

outcome of acquired skills, principles, perception, knowledge, facts and information (Adeyanju, 1997).

Education can be reinforced with a variety of teaching / learning resources as they encourage, as well as draw attention of students for a while during the teaching process.

Visual aids stimulate students' interest and help teachers easily explain concepts. Visual aids are teaching aids used to engage the learning process in classrooms. As Singh (2005) defines: "Individualization with vision and sound enhances the practice of mastering the sciences by focusing on the visual quality of audio in addition to what is achieved through any device". Visual aids are used in the classroom. Learning devices are called learning tools such as models, materials, graphics, projectors, radio, television, maps, etc. Visual tools are effective tool that have its place in the relevance. Visual tools prepare students to have real knowledge, to cover them fully. Good development of mental activity through exhibitions. When we used visual aids with the help of cognitive-visual materials, we witnessed the formation of interest and innovative ideas about science (refining technology of oil and gas condensate).

In addition, the use of visual aids can stimulate body movement and strengthen control. (Jain, 2004) There is a famous Chinese proverb "a hundred words don't worth one seeing" is the fact that we acquire knowledge, through our intellects. "When we hear we forget, when we see we remember, when we do we know" means that the use of visual aids makes the teaching process more effective. As Kishore (2003) has mentioned, "Visual aids stimulated thinking and cognition". The process of using visual aids in teaching multifarious values. (2001 Mohanty). Visual aids give speakers more opportunities to perform professionally and consistently. Teaching enrichment is full of endless possibilities, and it will be easy for academic students to consolidate some ideas and learning goals in students' memory. Effective thinking will be needed to ensure that other important learning objectives are met. Visual aids in teacher teaching expand additional ways to enhance lesson plans and help students to process subject information (Kunari, 2006).

Visual aids are unit of knowledge that exists through hearing visual stimuli and learning with a view. They concretize to help make information acquisition and educational practice realistic, active and vital. They complement the work of teacher and help in researching textbooks. Comenius, the popular educator, said that the basis of all education is that perceptions consist of clear goals, and intelligent things can be easily appreciated (Singh, 2005). (Agun et al., 1977) Examples of learning resources include visual aids, audio tools, real objects, and more. Materials designated as visual weapons may be locally made or commercially manufactured. They come in many forms, such as murals, paintings, symbolic materials, and other two-dimensional exhibits. Audio visual aids are also available. These are educational tools such as televisions, radios, and other types of projectors with sound qualities that provide other useful educational resources for television and radio programs. Films are similarly a general education / training resource. Students have important statements, other declarations of educational resources.

When used clearly, they help to succeed and keep attention of students. Visual programs can be very useful.

In this process, the most important perceptions are involved (Burrow, 1986). Teachers need to keep in mind that they are like a salesperson, taking into account a lot of philosophies and best sales practices that attract the attention of potential customers. The main goal of all education

is to enable students to gain as much knowledge as possible, especially the main points of the topic. Often studies have tried to determine how good a study is. Resources serve this purpose. Studies have shown that the cognitive-visual approach is very different from the simple video results that show 10-15 minutes in general specialties. Memorizing the previous topic shows 80-85 percent results. (Burrow, 1986).

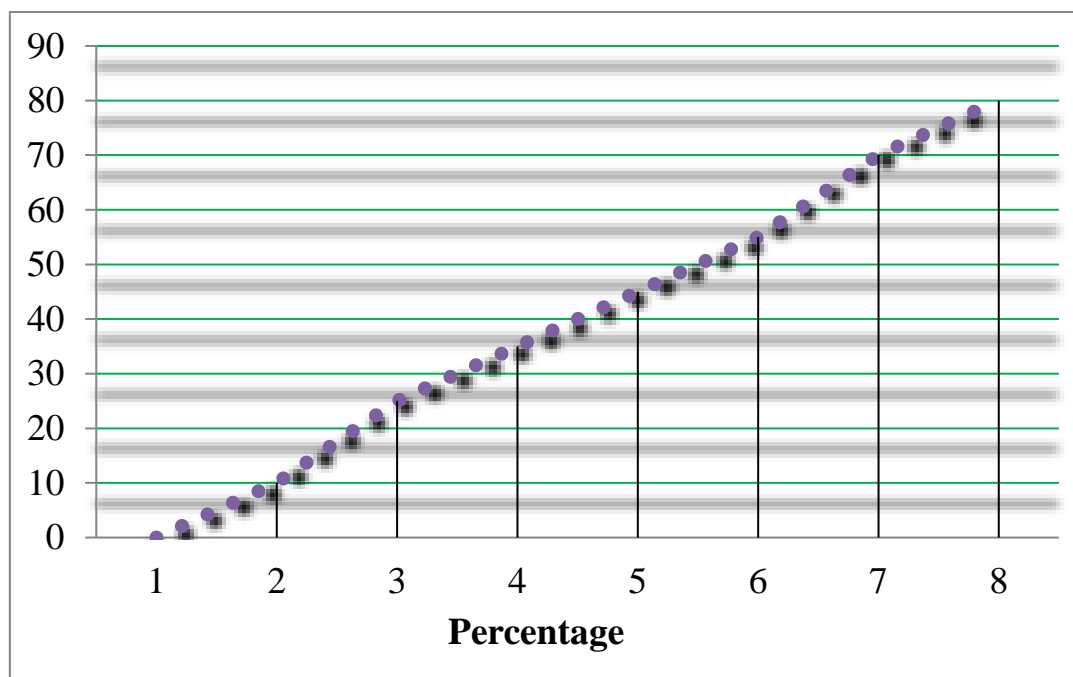


Fig. 1. Diagram of the memory comprehension of the learned topic

Good educational resources can help solve a specific language barrier problem such as providing them with accurate visuals and making learning easier for the student (Chacko, 1981). Another use of learning resources is to identify the relationship between material objects and concepts. Symbols, graphs, and diagrams can also represent combinations of location, time, size, value, and frequency. It is also possible to imagine confusing, abstract relationships by expressing factors. If they are not seen or heard during the process, speech and sound tapes must be certified to the correct size and quality in the actual environment in which they are used (Chorley, 1966). Demonstration weapons should be visible throughout the auditorium. All errors and examples should be large enough for students to easily be seen by the video projector.

Colors should provide clarity and be easily visible when used. Only in this case the efficiency of science may increase.

According to Ranasinghe and Leisher (2009), when the integration of technology into the classroom begins, the teacher prepares lessons that use technology in a meaningful and appropriate way. Technological sciences need support. Ranasinghe and Leisher create a collaborative learning environment. Koc (2005) argues for the integration of technology into the curriculum. Tools for teaching technical subjects and using them as a means of promoting high-level thinking skills of students.

Technology developments have given scope for innovative practices in the auditorium. Practical improvements include the creation of visual aids for the use of the auditorium. There

is positive impact on the learning environment of students in general subjects. The auditoriums of the institute are equipped with technological teaching and didactic tools for students to carry out the educational process. However, the use of the same resources can also be improved only by using software tools on slides, graphics and or chaff methods on chalk, and marker boards. Sorting can be highlighted and prepared precisely using individual colors (Chorley, 1966).

Statement of the problem of research

It is well known that visual aids are one of the most important learning spaces, they are important during teaching, they facilitate and improve the learning, teaching and easily expand the topic. They can create opportunities for visual aids. Cognitive-visual learning is easier for a person to be more productive. During teaching with models and visual aids, students try to identify it, or arbitrarily choose their tasks, and try to have an interpretation of it, to understand its use.

They are encouraged to compare concepts in advance, adapt a new feeling, and understand about it. Therefore, it is a virtue to be active in engaging students or to elicit them in the process of teaching and learning. However, most teachers do not use sufficient visual aids as teaching materials. This can create barriers to learning and directly affect the learning process and learning outcomes.

Hence, the following three main questions are:

- i. What are the views of teachers on the use of visual aids?
- ii. What are the differences between the level of students using visual aids and those without visual aids?
- iii. Are there any differences between teachers and students at the Bukhara Engineering-Technological Institute of about visual aids and their use?

Conceptual foundations

The conceptual framework is defined as the “space” of the network or related models. Analysis of conceptual frameworks constitutes a theoretical procedure for constructing conceptual frameworks based on reasoned theory.

The conceptual basis for the study are

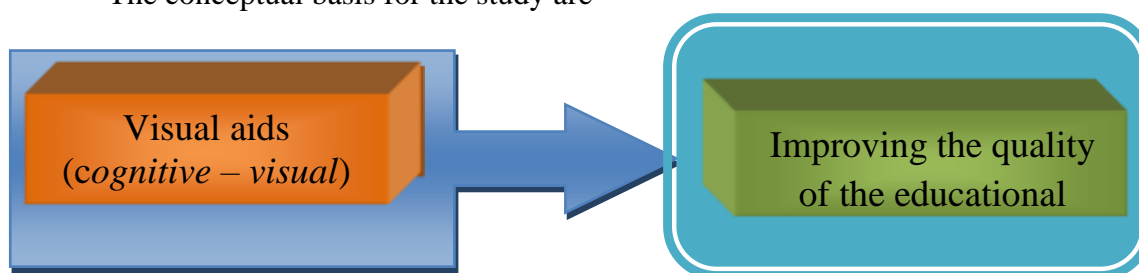


Fig. 2. Scheme of the conceptual foundations of the study

According to conceptual basis, the process of cognitive-visual learning acts as a counter-learner.

The model shows the influencing factors in enhancing the learning process.

Additive model is used here. Let us look at the formula given as an equation to express the models.

$$Y_i = \beta_0 + \beta_i x_i + \varepsilon_i$$

Y_i represents the opposite learners, β_0 represents the constant, β_i represents the independent regression coefficient learners, x_i represents the independent learners, and ε_i represents the random errors.

Thus, given as an equation representing our conceptual basis,

$$ELP = \beta_0 + \beta_1 (VA_s)$$

Equation 1 represents an additive model of the study.

Here, (ELP) represents the learning process that increases the contrast variability, and β_1 (VAs) represents the independent learning and visual aids.

Hypothesis: The following is the main hypothesis formed within the conceptual framework, H1: Visual aids are positive and important by enhancing the learning process.

METHODOLOGY

Random sampling technique is used in this research to collect individual data. Total 150 participants found the solution during the research carried out, among which in the Bukhara Engineering-Technological Institute and students of “Technology of oil and gas industry” direction, students of Karshi Engineering-Economical Institute, Jizzakh Polytechnic Institute and Bukhara technical school participated in the study.

Educational process of students of Bukhara Engineering-Technological Institute, Karshi Engineering-Economical Institute and Jizzakh Polytechnic Institute.

The data is analyzed using a Moodle program.

Data analysis. The data collected are evaluated by percentage distribution and are represented on line graphs.

Motivation. Demonstration tools to help attract teachers and students of the Bukhara Engineering-Technological Institute and students of technical schools of Bukhara. Given as a percentage distribution,

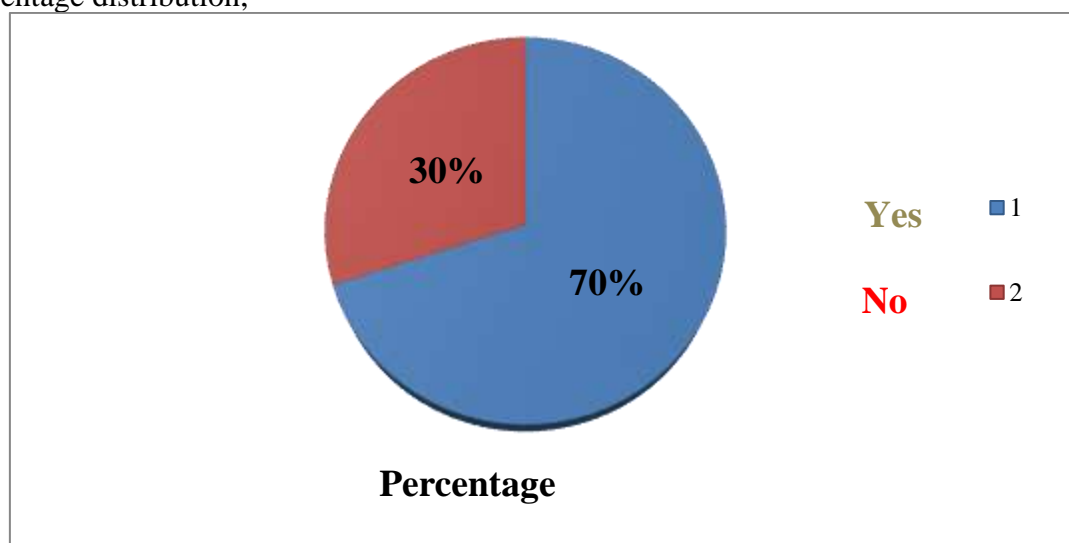


Fig. 3. Diagram of indicators for methodological interests

The analysis of the data shows that 70% of students and teachers are motivated by visual aids, but 30% of students and teachers, students of Bukhara technical schools are dissatisfied with the diagram.

Defining a cognitive-visual approach

The analysis of the data shows that 80% of students and teachers agree that visual aids help in determining the technological parameters and process description. The content of the study, however, was 20% dissatisfied with this statement. Its percentage graphical distribution is given below.

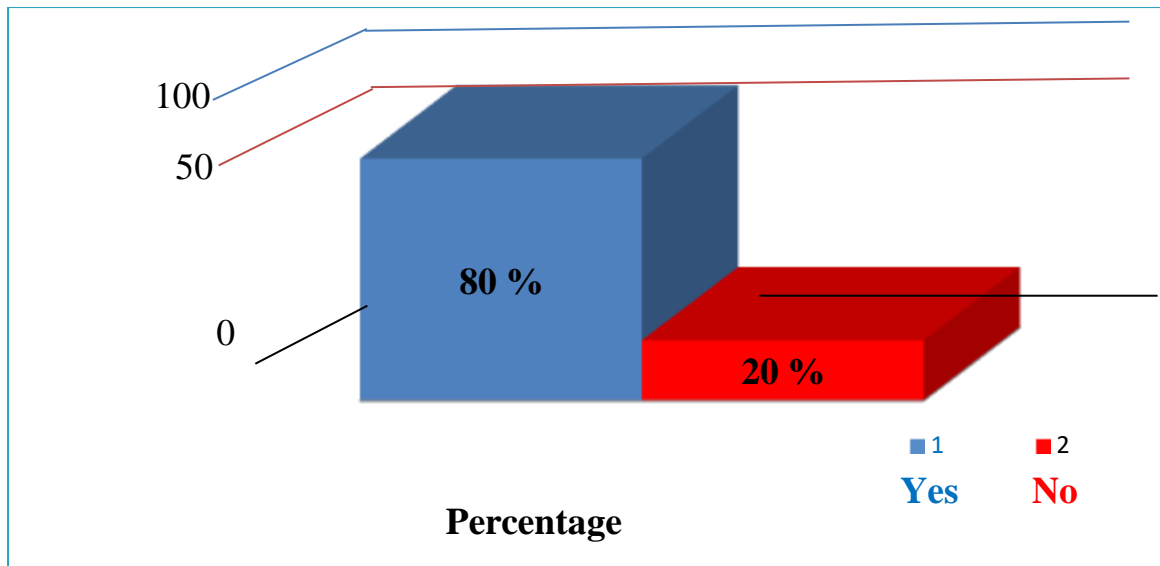


Fig 4. Diagram of identification of cognitive-visual approach

Increased vocabulary. Vocabulary development is one of the independent studies of the role of cognitive-visual means. According to the data collected, 68% of students and teachers agree to increase the vocabulary of visual aids. Given as a line graph,

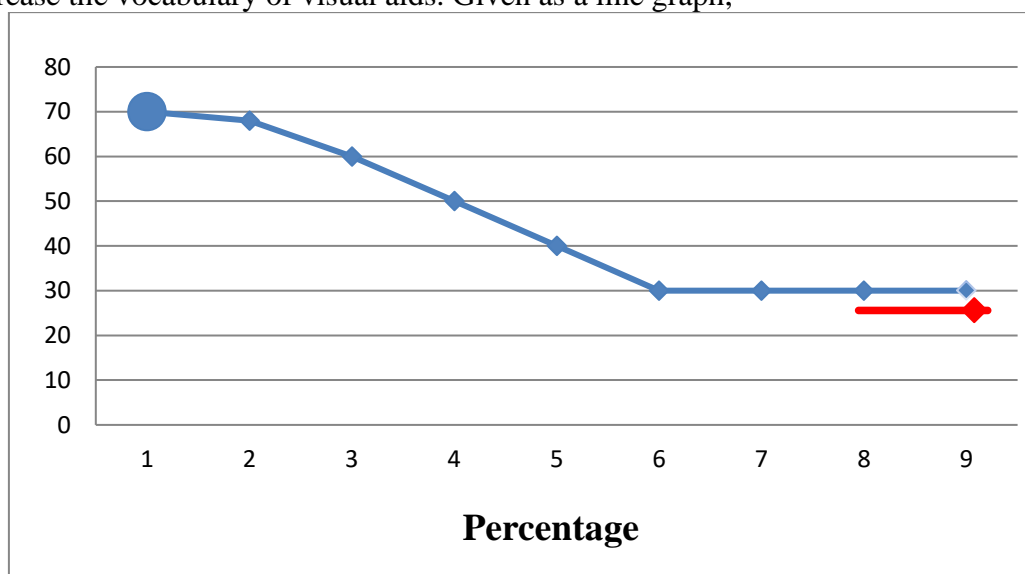


Fig. 5. Diagram representing the role of cognitive-visual means in increase of vocabulary

The above data show that it has a major impact on improving the quality of education through a cognitive-visual approach. Teachers and students of Bukhara Engineering-Technological Institute.

Model conclusion

Table 1

Model	R square	Defined R square Std.	Estimated error
1	0.785	0.822	5.24651

The model conclusion of the Table 1 study is that R_2 in the model is 0.785, meaning that independent researchers can explain the change by 78.5%. Opposite learner. Defined R_2 shows

that 82% of the contradictions between the opposite and independent are the variability in this model.

Anonymous analysis

Table 2

Model		Sum of squares	Df	The answer was square	F	Sig.
I	Regression	6342.651	1	6342.651	43.6	0.000 ^b
	Remainder	201.63	198	25.387		
	Total	6543.714	199			

a. opposite learner: (ELP)

b. Predictors: (constant), VAs

Table 2 shows the data of anonymous analysis of different researchers. The researcher used pedagogical staff and students of Bukhara Engineering-Technological Institute as independent variable and model.

Understanding analysis coefficient

Table 3

Model		Unstandardized coefficient		Standardized coefficient	T	Sig.
		B	Std. error	Beta		
I	(constant)	0.462	1.450		3.504	.000
	Vas	0.351	0.675	0.876	1.382	.003

a. opposite learner: ELP

Table 3. Regression analysis of learners. An independent learning visual with a beta 0.351 and sig beta coefficient .000 makes a strong contribution to explaining the learning process. It has an independent variable effect, significantly contributes to the learning process to increase learning. Applied statistical tests have shown that there is also a strong relationship between independent learners and dependent learners.

CONCLUSIONS

The following conclusions were made according to this study;

Nowadays, the field of pedagogy, as well as other areas that are developing and pursuing their goals, is achieving high quality of education with its innovative development, and the contribution of this scientific work is the development of the quality of education and the results of the study are as follows.

1- the research concluded that the use of visual aids as a teaching method stimulates and improves thinking. Learning environment in the auditorium.

2- the effective use of visual aids changes the audience environment.

3- as students experiment, they develop and enhance personal understanding of the field of study, and a successful and active learning of subjects is achieved in a visualized auditorium.

4- when there is a direct connection to the course content, students gain an understanding of the usefulness and relevance of their lessons through visual aids.

5- in this research, students were given views into their perceptions and opinions about the use of visual aids.

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